Joint Annual Meeting of the Ozone Action Networks from

Latin America and the Caribbean

TRINIDA AND TOBAGO

2011

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Background

The first Joint Meeting of the three Ozone Action Networks from Latin America and the Caribbean was held in the year 2007. The Meeting of the Ozone Action Networks from Latin America and the Caribbean (hereinafter "the Meeting") has the purpose of facilitating the exchange of experiences and opinions among the region Ozone National Officers and other key interational, regional and national stakeholders for the implemnetaiton of the Montreal Protocol (MP). In addition it promotes regional cooperation for such subjects as technology transfers and capacity building.

Agenda ítem 1: Meeting opening ceremony

l. Prof. Clement Sankat welcomed all at the head table and his university colleagues: Prof. Lawrence and Prof. Agard at the UWI, all participants from the Caribbean and Latin American and all other UN colleagues, the Ministry of Housing and the Environment and members of the media. UWI welcomes this opportunity on this platform to share on key issues and to build on capacity. He was pleased that the meeting was dealing with the issue of ozone layer depletion because it is an issue that affects all countries. Protecting the environment and at the same time promoting sustainable development is very important for Small Island Developing States due to their high vulnerablility to environment impacts. He thanked the Minister of Housing and the Environment, Dr. the Honorable Moonilal and Ministry for partnering with UWI for this initiative. He indicated that his university is grateful to be able to collaborate with the Ministry and all other stakeholders on this initiative in creating a centre for sustainable development. Especially thankful to UNEP and UNDP with continued support collaboration with The University of West Indies, St Augustine. It is through their support and others that programmes and research are able to continue. Meetings such as this are important for sharing ideas and for providing solutions and will set some clear goals and milestones for delivery.

ll. **Marco Gonzales, Executive Secretary Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol for the Phase out of Ozone depleting substances . Mr. Gonzalez** welcomed Minister Moondial, Dr Marcia Decastro of UNDP Trinidad and Tobago office, Dr Sewly Cavalo Head of UNDP Montreal Protocol, Prof Andrew Lawerence UWI Edulink Program, Ms Miram Vega UNEP Regional office for Latin America and the Caribbean, Paul Horwitiz the Ozone Deputy Secreatriat Montreal Protocol, distinguished colleagues, friends and delegates participating in this meeting. It is in deed a great pleasure to be here in Trinidad and Tobago participating in this important meeting. I have been in your beautiful country several times since 1994 which was the first visit. I only have one regret that I have not come to Trinidad and Tobago or any of the other countries in the Caribbean on a private visit with my family. This is one of the most important things to do on my, to do list, and I hope that this I can do in the coming future. After this personal wish of mine I would like to go into todays programme. I would like to highlight that I have always have a lot of respect for the work that the governments of the Latin America and the Caribbean region are doing under the Montreal Protocol. I am a national of Costa Rica and in that condition I used to come to different meetings in the Caribbean. In the Montreal Protocol this region has a very strong voice and in particular Trinidad and Tobago has been a leader in the region in the implementation of the Montreal Protocol. The University of the West Indies is shedding light like a lighthouse in Trinidad and Tobago and around the region and beyond. And this is part of the reason why Trinidad and Tobago has been in the leadership role with the Montreal Protocol. This leadership role has been already acknowledged by the parties, by the Montreal Protocol and for many others in different forums. It was acknowledged within the Montreal Protocol in 2007 when we were celebrating the 20th anniversary of the adoption of the Multi-lateral agreement of Montreal Protocol. Trinidad and Tobago received a tremendous award in that occasion. In that important meeting in 2007 the parties agreed to accelerate the phase out the use of HCFCs that is why is so important that you are signing this national plan to phase out the use of HCFCs in Trinidad and Tobago today. The baseline of the data for the years 2009 that have already been reported, by all of you and by almost all the parties under the Montreal Protocol have already come to the Secretariat and we are now analysing the data to report to the parties in the coming meeting in Bali in the last week of this November. The parties are already getting prepared to comply with the first measure of freezing the consumption in 23 and that is why is very interesting to be witnessing today the meeting and the signing of this agreement. Actually in the region Latin America and the Caribbean you have been doing very well there are only about 5 pending HPMPs national plans that should be already done and sent to the ExCom and I would like to request to al the implementing agencies here today to do all that they can to increase the effort so that these remaining plans will presented to the ExCom at the first round of meetings next year in March. So this support to all parties is extremely necessary and urgent and I know with the support of the implementing agencies this region the whole Caribbean and Latin America will be in compliance with the first countermeasure in 2013.

16th September we celebrated the adoption of the Montreal Protocol, World Ozone day. Usually the Secretary General would send just a brief policy oriented message to all the world celebrating the adoption of the Montreal Protocol. However, we in the Montreal Protocol family we like to think on the 16th of September as a day to commemorate the successful implementation of the MP and this is really what makes a big difference in terms of the MP and other international environmental commitments. We are very focused in the resource in complying with whatever is the governance of the world that are parties to the Montreal Protocol and as I go along in my professional career, it has never cease to amaze how clear and effective is your work under the Montreal Protocol. In deed consistency of action is what the MP has always stood for in order to obtain this global objectives by all the parties. This year 2011is a decisive year in the life of the MP and lets see why? In 1990 the parties agreed to a major set of obligations that would be reviewed this year. This is related to the 2010 Article 5 party phase out of the three major substances in the Montreal Protocol, CFCs, halons, and carbontetrachloride. And as you would know the final 2010 data was viewed the 30th September this year and we have fully evaluated the status of your efforts in which this momentous milestone and I am humble to report that all the reports from you, are all in compliance in accordance with the results reported to the Secretariat. It humbles me to report this, to inform you about this and I think that all ozone officers here representing different countries of the Caribbean and Latin America do deserve more than a round of an applause which I would like to give to all of you right now because it is very good. While this is truly remarkable and there maybe some cases of non-compliance around the world and however, if we do face some cases of non-compliance it has always been my belief that the presence of such cases also represents an incredible victory for the Montreal Protocol and this has to do with the trust and the confidence that has been developed over the years between all the parties signatories of the Montreal Protocol. And back in the 90's nobody would have taught that a party being in a situation of non-compliance was going to report self non-compliance was difficult to imagine but however, the degree of trust and confidence between each of you has clearly demonstrated that the parties do report whenever they are in trouble and they do it confidently in that the meeting of parties would not use the name and shame option but rather use the lend a hand to help pull the countries in non-compliance to pull them back into a compliance. To me this is a very significant achievement of the Montreal Protocol and I think that this exemplifies very well one of the aspiration of the United Nations. Which is to practice international cooperation and this Montreal Protocol is in deed an example of this. With this I would like to say that the global community should be very proud of that achievement of the Montreal Protocol and this is a prime example of successful international cooperation and based on the principle of common differentiated responsibilities fuelled by this confidence and trust between the different parties. It is well known that the parties of the Montreal Protocol have phased out more than 97% of all ODS and the Ozone Layer is expected to recover in the mid and tropical latitudes by the middle of this century and a few years later in the Arctic and Antarctic zones. Also as you well know that ODS are both in green house gases and the impressive reduction in ODSs has avoided emissions estimated to be around 135,000 gigatons of CO_2 equivalent. If we analysis this in the year of 2010 alone that your efforts would have amounted to 5-6 times the expected reduction with full compliance under the first commitment of the Kyoto Protocol. So what the governments of the world have done is tremendous contribution not only to protect the Ozone Layer but also to protect the global climate system and this is a testimony of the effeteness of your work under the Montreal Protocol. This year we are discussing the meeting of the parties some very important issue it is the 8th replenishment of the MLF the financial mechanism with the MP and this replenishment would have and important implication in the years to come and a second working task on the replenishment is expected to be circulated for you information and consideration next week. This year is also interesting in terms of the consideration of proposals for controlling HFCs under the Montreal Protocol and in parallel with the existing controls under the UNFCCC. If agreed these proposals could significantly enhance the reach of Montreal Protocol and it's very substantial accomplishments in providing climate protection while following the principles that have demonstrated the Montreal Protocol as a model for, multi-lateral and environmental agreement. While there is a clear need for more discussions at different levels on the way forward

for those proposals the fact is that if our parties can take seriously the issue of environmental efficiency and environmental gains to be achieved when moving out of HCFCs and leap frogging to HFCs wherever possible, that is the wise option that is what should be paving the way for any future changes in the Montreal Protocol and the different regimes that are dealing with this hugemongous task of climate change. To the distinguished participants I wish to express my personal inspiration that a successful partnership that have worked so well in the Monteal Protocol. First and foremost the partnership between developed and developing countries based on mutual trust, the partnership between science and policy are the platform for decision making and the partnership between academia, industry and society at large to avoid an disruptions in the process. Those partnerships will continue to keep all governments engaged, committed at the policy level and very important at the implementation level to raise the MP to the challenges that we are still facing in this early third millennia AD. In concluding your Excellency, distinguished participants I wish to express on behalf of all the governments of the world my gratitude to you to your team and to you people of Trinidad and Tobago for hosting us in this beautiful country and to my distinguished fellow colleagues I wish very good discussions and very fruitful meeting. Muchas Garcias

lll. **The Honorable Minister Dr Roodial Moondial Minster of Housing and the Environment of Trinidad and Tobago.** The Minister Welcomes Mr Marco Gonzales Executive Secretary to the Secretariat of Montreal, Mr Paul Horwitiz the Ozone Deputy Secretariat Montreal Protocol, Dr Sewly Cavalo Head of UNDP Montreal Protocol, Dr Marcia Decastro UNDP Trinidad and Tobago office, Ms Artie Dubrie UNEP Montreal Protocol Officer for the Latin America and the Caribbean, Ms Mirian Vega UNEP Regional office for Latin America and the Caribbean, Prof Andrew Lawerence UWI Edulink Program, distinguished delegates and staff of UWI, staff of the Ministry of the Environment and Housing especially invited guests, members of the press ladies and gentlemen. It is always a pleasure to return to this campus where I did spend several years as a student and more years as a teacher. So it is always a good reason to return and this morning it could be no better reason to welcome all of you. On behalf of the Prime Minister the Honorable Kamla Persad Bissessar and the government I wish to welcome all of you also as acting as Minister of Foreign Affairs to this country I hope you have a very pleasant and productive say. I understand that you had a very enjoyable evening at Muscovado Trinicity last evening and though I was invited I know that I would not have been able to attend this morning so I made the choice. I understand that Mr Gonzales is visiting us for the second time and was here in 1994 so welcome back and it is truly a pleasure to meet you. In this business you read quite a bit and a lot of names come over your desk so it is indeed a pleasure to put the face and personality to the name. It is our pleasure to have you in Trinidad and Tobago. Yesterday of course you had the opportunity to meet several of the officials in the country and I trust that you enjoyed the hospitality, the culture and this region it is also noted for rich cultural heritage and a good blend of art forms that incompass our rich people of all races and colours, religions creeds and so on. The co-hosting of this event in the Ministry is a signal event for us we take pride in striving to be an environmental exemplar and in deed we are proud of our achievements under the Montreal Protocol as some of you may be aware that Trinidad and Tobago exceeded to the Vienna convention on the Montreal Protocol on substances that delpete the Ozone Layer on August 28th 1989 and operates under paragraph 1 of Article 5, which specifically refers to developing countries. Since that time Trinidad and Tobago's goal was to ratify all subsequent amendments to the Protocol and through the cooperation of many nationals and experts here this morning this country has been able to meet and exceed out obligations under the Montreal Protocol. You will understand that with much stratification we received the Montreal Protocol implementers' award at the 20th anniversary of the Montreal Protocol celebrations in 2007 in Canada. I wish to are sure you that the Government of The Republic of Trinidad and Tobago will remained focused on all our obligations under the protocol and will continue to our part to save the Ozone layer a critical goal of our time some of the special measures that we have already under taken include establishment of a national Ozone Unit to manage the phase out public awareness programmes, training programes in good refrigeration practices a national program for the recovery and recycling of refrigerants, a freeze and quota system on the importation of CFCs, restrictions

on the importation of equipment, stipulating that all equipment processes requiring the use of ODS be properly identified, training of customs officers, encouraging of retro fitting of existing CFCs based equipment. Conversion of a local aerosol CFC facility to non-CFC, phasing out the use of halons as fire fighting substance, participating in the regional halon management and banking plan, and for us most noteably the ban on CFCs and halons into Trinidad and Tobago on December 31st 2007 two years ahead of the scheduled date for developing countries. I note that the phasing out of HCFCs, hydroflorocarbons will start in 2013. As we did with our phase out programme for CFCs, the plan for the HCFCs phase out was developed through a stakeholder collaborative process. In this regard, I am pleased to announce this morning that this counties HCFCs management plan was approved by the executive committee of the Montreal Protocol in sum of $US 1,000,000. The key components over the HPMP over the next two years to 2013 will include training technicians, workshops, retrofits, equipment provision, for recovery and recycling of refrigerants, and legislative reform. We recogonize that the challenge before us is great. Our import of HCFCs far out reaches our import of CFCs when we started the CFC phase out. Our task however, though daunting is achievable and will require the cooperation of our citizenry. In addition to these efforts the government is also pursuing the phase out of methybromide which is carded to be phased out completely for non-quantraine and pre-shipment uses by 2015. In this regard we are currently implementing a programme to reduce the use of methylbromide in this country and to that end we recently completed a stakeholder consultation on the way forward to achieve this including using the applicable alternatives. As we reflect on our achievements and look forward to the work ahead this meeting is timely in ensuring not only national but regional compliance. This workshop seeks to deliver the skills and resources required to stand national implementation of the Montreal Protocol and as a country we are proud to be part of the Caribbean sub-region which has been the first sub-region to submit national reports for three years running and this has been through the collaborative exchanges such as this workshop. Ladies and gentlemen I am sure that your meeting will embrace a participatory approach allowing of the exchange of experiences discussions and cooperation with the agencies of the Montreal Protocol Multi-lateral Fund. Colleagues from other Caribbean countries and Latin America and colleagues from the neighbouring regions will lend themselves to such enhanced exchanges. I am confident that your deliberations will be productive to the benefit of our citizens throughout the region. In conclusion I would like to thank the University of the West Indies and the UNEP ROLAC for all their efforts to ensure the successful convening of this meeting. Also allow me this special opportunity to extend thank you to our own Dr. Marisa Gowrie who has been sparing heading this countries efforts in this important area. Marisa has worked tirelessly in the planning and execution of this meeting and on behalf of the Ministry of the Housing and the Environment we would like to extend our gratitude to Dr. Gowrie for her work, determination, and the special blend of skills that she brings to these activities. I wish your discussions over the next few days all success in closing I also hope in the coming days and hours apart from having a good appreciation of the conference room and the lunch room, you will have the opportunity many of you to visit Trinidad and Tobago to meet our people and to experience a bit of our local life in whatever facet you do appreciate. So thank you all and may God bless you.

Signing of the letter of intention for the HPMP – Trinidad and Tobago project for the for the phasing out of HCFCs and the signing of the letter of intention between the UNDP and the Government of Trinidad and Tobago commits this country to implementing stage 1 of what is called the HPMP for the period 2012-2020 to meet at target of a 35% reduction in HCFC consumption at a total funding level of about $US1.46 million. This project will be implemented by the national ozone unit of the Ministry and guided by the UNDP. Signing was done by the Minister Dr. Moondial, Mr Marco Gonzales Executive Secretary to the Secretariat of Montreal, Dr Suely Cavalho, Head of UNDP Montreal Protocol and Chemicals Branch, Dr Marcia De Castro UNDP Resident coordinator: Trinidad and Tobago.

IV. **Ms. Vega Regional, Regional Network Coordinator, Montreal Protocol Compliance Assistance Programme (UNEP/ROLAC/CAP)** welcomes all at the head table, ozone officer and experts from participating countries and agencies. She delivered on the successes of the region for example on the complete phase out of CFCs. The

challenge now is to approach the phase out of HCFCs and taking into consideration climate and energy efficiency. New phase of Montreal Protocol gives countries an opportunity to reduce HCFCs and at the same time reduce energy cost and climate impacts. Managing the environment cannot be done in isolation and has to be done in the context of sustainable development.

V. **Mr. Paul Horwitz Deputy Executive Secretary, Ozone Secretariat.** Welcomes all at the head table and representatives and is pleased to be here in Trinidad and Tobago home to Dr Marissa Gowrie and Ms Artie Dubrie to colleagues with the biggest smiles in the region and representative of a country that has done enormous good in protection of the OZONE LAYER. At the 20th anniversary of the meeting of the parties to the Montreal Protocoll Trinidad and Tobago was awarded. Mr. Horwitz then presentation was entitled "**Looking back and looking forward"** He started with looking back first. In 1987 a group of countries agreed to the Montreal Protocol and agreed actual reduction obligations for developing countries Article 5 parties. Could it be done would Article 5 parties with developing counties actually be able to contribute and meet the obligations? Today is October 4th and the deadline for the submission of the data for 2010 has just passed and it is Mr. Horwitz is pleased to that there has been100% compliance by Article 5 parties, 2010 data has been received by every country in the Region expect for one and all of the parties have reported compliance with the total phase out of controlled use of CFCs, Halogens, Brochloromethane and carbon tetrachoride. Methlychoroform, only one party is still using it in this region and the phase out isn't even until 2015. Methylbromide phase out isn't until 2015 but half of the parties in the region who were using methylbromide have already phased out. "Can you do it?" "Yes you can" Mr. Howritz congratulates all the parties and they have demonstrated that with the right support that they are ready, willing and able to contribute to international environmental efforts to protect the globe. The question has arisen by the media and everyone about whether developing countries are going to join in to support the effort to address climate change. Mr. Howritz thinks that developing countries already have by the efforts that they have made so far under Montreal Protocol to phase out Ozone depleting substances which themselves have a high global warming potential has contributed enormous to the protection of the climate system and you have already demonstrated your commitment to addressing climate change.

Looking Forward – There are many challenges ahead for phasing out HCFCs (1) being the selection of technologies that will enable countries to both protect the ozone layer and also protect the climate system and Ms Vega has said that you the parties have this unique opportunity right now to make those choices for the long term benefit of your country and the globe, which can help to protect both the ozone layer and the climate system and that these decisions have to be made soon. As mentioned before HCFC compliant requirements are to begin in January of 2013. The good news is that many countries are already trending downward for HCFCs consumption freeze. But there are many countries that are still trending up and are therefore on risk of sustaining the 2009/2010 HCFC feeze mandate. The implementing agencies to the Multilateral Fund and the Ozone Secretariat stand ready to help countries in this tremendous challenge. The year 2012 will be the 25th anniversary of the Montreal Protocol. Mr. Howritz hopes to be able to celebrate the very efficient progress in meeting the first HCFC deadline and possibly about expanding the Montreal Protocol into different areas such as what Mexico, Canada and US have proposed for HFCs. Regardless what takes place on the amendments the opportunities before the countries are enormous. You have already demonstrated to the world that through the Montreal Protocol can support efforts with global problems environmental, and you can demonstrate that you can take actions that will address climate change. The goal can be for you to address the HCFCs phase out and move forward to have gains in addressing for example that of climate change and other environmental challenges and priorities to this region.

VI. **Dr. Marisa Gowrie Deputy environmental manager of the Environmental Policy and Planning Division of the Ministry of Housing and the Environment and the national Ozone Officer for Trinidad and Tobago.** Dr. Gowrie welcomes all to the meeting. Apologies are sent by the Permanent Secretary; Dr Gowrie indicated that the Honorable Minister would join at a latter time. In her address, Dr. Gowire tabled that Trinidad and Tobago is honored to be able to host such a distinguished event and it is hoped that during the short stay that progress will

now only be made in their work but also that participants will have time to visit some of the stunning parts of the twin island state. Trinidad and Tobago aceeded to the Vienna Convention and the Montreal Protcol in August 28th 1989 and operates under paragraph 1 of Article 5. Trinidad and Tobago has ratified all subsequent amendments to the Protocol. Trinidad and Tobago has managed to meet and exceed obligations under the Montreal Protocol. Some of the special measures taken by Trinidad and Tobago as part of the phase out of ODS process include a series of public awareness programmes, training programmes in good refrigeration practices for trainers and technicians in the air-conditioners and refrigeration industry, training for customers officers on the control and monitoring of ODS imports and exports and phase out of halons as a fire fighting substance and most notably the ban of CFCs and halons into Trinidad and Tobago since December 31st 2007. This was two years ahead of the scheduled phase out date for developing countries. It is to be noted however, that the phase out efforts are not over and as her country has to move along into our national obligations under the Protocol. Trinidad and Tobgo has to address the phasing out HCFCs and which will involve all members of the society. The HCFCs phase out will incorporate training, awareness, equipment provision, legislative reform and exploration and use of new alternatives. It will rely on and be an expansion on the past successes with collaboration between government entities and the private sector. Additionally, the phase out of methylbromide is also on the agenda will be phased out completely for non quarantine of shipment uses by 2015. The Government is currently implementing a programme to reduce the use of methyl bromide in Trinidad and Tobago and just recently completed a stakeholder consultations on the way forward to achieve this, including using viable alternatives. This too will be a highly collaborative effort from both private and public entities. As we reflect on our achievements and look forward to the work ahead. This meeting is timely ensuring not only national compliance but also regional cooperation to deliver the skills and resources required to sustain national implementation of Montreal Protocol. It is hoped that this meeting will embrace a participatory approach allowing the exchange of experiences and discussions and co operations for the agencies of the Montreal Protocol the MLF colleagues from the other Caribbean and Latin America as well as colleagues from our more developed countries in our regions. In conclusion thanks go out to the University of the West Indies and UNEP ROLAC for ensuring the successful role out of this meeting and it is wished for successful and fruitful discussions over the course of the next few days.

VII. **Ms. Artie Dubrie the Policy and Enforcement Officer for the Montreal Protocol for the Region of Latin America and the Caribbean.** Ms Dubrie gives thanks to all at the head table who are present and for sharing their thoughts and messages and hope for the meeting. Thanks to the Principal of the University of West Indies for all their cooperation and the Government of Trinidad and Tobago through the Ministry of Housing and the Environment Thank you very much. There was also a high level of support from UNDP Trinidad office Ms Rosemarie Lall. Ms Vega for all her support and confidence in guiding through the process, Mr. Paul Howritz from the Ozone Secretariat. Behind the scene planning there was a lot of support from MLF, members of the international community, other UN offices. All the countries from LA and Caribbean Thanks go out and looking forward to a productive meeting. Thank you again especially UWI and all academic staff for allowing the meeting to take place on this campus.

Agenda item 3: Logistical Information

3.2 UN Security Briefing- In this regard Ms Dubrie inviteed Ms Catherine Gilbert from the UNDP Trinidad office. Ms Gilbert is in charge of security and proceeds to give all the regional and international particitants the UN Trinidad and Tobago security briefing.

Agenda item 4: Organization of work (UNEP)

4.1 Presentation of the objectives of the meeting - The main objectives are to give participants a medium for dialogue as the region of Latin America and the Caribbean and in preparation for the next meeting of the parties and for discussions on the recent decisions of the Executive committee to the MLF. This meeting will also look at assisting countries for completion

of the HPMP project preparation and to work with those countries that are in implementation of HCFCs management plans. As for linkages, the meeting will give the opportunities and points for consideration on the mobilization of additional resources for HCFCs phase out management strategies in additional to that provided through the MLF.Partnerships are growing and there is potential oppuntities from the finance sector as countries address their HCFCs phase out management obligations. Ms. Dubrie welcomed the new partners to this net-work and including for example GEF-secretariat and the IADB. Finally Ms. Dubrie encouraged that the new National Ozone Officers to embrace this meeting as an opportunity for training and for capacity building.

4.2 Adoption of the objective of the meeting.

4.3 Introductions by all participants in the meeting.

4.4 Elections of the Board of Directors

l. Chair – Dr. Marissa Gowrie, Trinidad and Tobago
ll. Co-Chair - Ms. Niurka Senaida Carvajal Damian, Dominican Republic
lll. Assisting Rapprotuer – Ms.Elizabeth Elena Culqui Diaz, Peru
lV. Assisting Rapprotuer - Ms. Judy Portia George, Grenada

4.5 Adoption of the agenda and the program of the sessions of the meeting

The following were included:

- Grenada and Haiti would like to have bilateral discussions with UNEP
- Colombia requested that an agenda item be included for resource mobilization
- Uruguay indicted that the subject of HCFCs and Climate Change should not have been included in this meeting

Agenda item 5: Mr. Paul Howrtiz Presentation – Situation of the countries of Latin America and the Caribbean (Ozone Secretariat)

5.1 Data Reporting

ODS reporting – As of 1st October, 2011 the Secretariat had received all data from parties in the region except from Bolivia and Peru. Latin America and the Caribbean has been the best region in the world on reporting nearly half of the region reported earlier than the June 30 deadline that was called for at one of the meetings of the parties. Peru had sent a notice to the OS that their report would be late due to the work on HPMP. All countries that have reported from the region have reported zero consumption of CFCs, halon, carbonteracholride, HBFCs and other CFCs, bromchoromethane for 2010 so the region has achieved the phase out of these ODS. The region should be proud of this accomplishment. Only one party reported use of methylchoroform even if though the phase out isn't till 2015. Less than a quarter (seven countries) of the region reported methylbromide consumption.

HCFC trends - Continuing Challenges – HCFCs are clearly a challenge – from the data it can be seen that eleven countries are still trending up in their consumption and six are trending down. It is important to remember for parties to try and start trending down if they are to meet the freeze in January of 2013. So it is being encouraged that all parties meet with their implementing agencies and consider how they will meet the freeze deadline. In review and analysis of the data some national anomalies are noted. The data consumption trends are not uniform and vary from year to year: sometimes there is a a substantial decrease for example for Brazil to a substantial increase as is the case of Mexico. In the Caribbean countries there are five parties that are trending up, seven parties are trending down or are stable. Mr. Horwitz reminded that 2009-2010 it is particularly important for the establishment of mandatory baselines.

Status of licensing **–** In terms of establishing a licensing system – Firstly "Why are they even important?" Parties that have ratified of the Montreal amendment must have a system to license import and export of all ODS controlled under the MP. He explained that the Implementation Committee to the Montreal Protocol looks very carefully to the detailes of the licensing system. Some of the observations made to date are: that a number of countries may not have a system for licensing exports, and a number of countries don't have systems for licensing HCFCs and or methylbromide because of the traditional focus on CFCs. So it is possible in the future that the implementing committee will look at the individual licensing systems and assess if they are compliant with the MP amendment. He encourage strongly for countries to review their

licensing systems and to make sure they include imports and exports of all ODS because they will be looked by the Implementation Committee for the Montreal Protocol in the upcoming meetings.

Reporting status - QPS/Process agents – Parties are required to report on QPS annually as is required by the Montreal Protocol. Traditionally a number of countries have left this reporting field it blank. The Implementation committee to the Montreal Protocol has reported that not completing the required reporting field does not mean zero consumption but it instead it means a non-report. Therefore if you don't report then it can be said that you are not compliance to the Montreal Protocol. Fifteen of the thirty-three parties in this region have reported QPS regularly and eighteen have not reported regularly. The Seceratirat would like to encourage all parties that are not on the list to report a numeric figure for QPS even if this value is 0.0. QPS is exempted from control under the Montreal Protocol but not exempted from reporting. QPS consumption still needs to be reported.

Status of Ratifications – Over the past years the Montreal Protocol has been incredibly successful with reaching global ratification for the MP. This was possible to say until a couple months ago and then there was a new country Southern Sudan and the Secreatrait is trying to work with this new country to have them ratify. In terms of the Latin America and Caribbean Region everyone has ratified the MP as well as the London and Copenhagen amendments, all have ratified the MP amendment except for Nicaragua. In terms of the Beijing amendment the following are missing – Haiti, Bolivia, Eucador, Nicaragua and Peru. Failure to ratify the Beijing amendment can cause a restriction in the trade of HCFCs as of January 1st 2013. The countries Bolivia, Haiti, Eucador, Nicaragua and Peru are in danger of having their HCFCs supply (import) cut off. To demonstrate the seriousness of this subject and that the implementation committee takes the issue very seriously for countries where the Bejing Amendment is not ratified. Mr. Horwitz gave an example that at the last meeting of the implementation committee, there was a case where the EU exported to a non-party (to the Beijing amendment). The EU was brought before the implementation committee for non-compliance for the accidental export. In addition to the compliance risk, the non-parties to the Beijing amendment as of Janury 1st, 2013 will not be able to get imports of HCFCs (legally. The OS would like to again encourage all parties to ratify the amendments as soon as you can.

Process Agents are used as a catalyst in the production of other chemicals. Most of the ODS used as a process agent is destroyed in the process but sometimes there are emissions. The parties decided that even if there is no use of ODS as a process agent Parties have to submit a document at least once to the OS that there is no use. The OS prepared a document for parties to submit to indicate use. This year the implementation committee is going to review the parties that did not send in that letter and they will note any compliance situation. Draft letter on the use of ODS as a process agent and as to be sent to the OS secretariat will be made available to countries so needing .

5.2 Outcomes of 46th meeting of the Impcom-.. At the last meeting they found that the parties in the region who were operating under action plans to get back into compliance were all meeting their action plans. Pending is the status of Bolivia. The Implementation committee has also reviewed requests for baseline changes for Guyana and Barbados and they will be continuing with that discussion. There was also review of exports to non-parties, a review as done on the status of Nepal with the question being that this country is in full compliance with the Copenhagen amendment. Using the argument of Nepal, that if there is the demonstration that even though a particluar country has not ratified the amendment in question but that it is in full compliance with all the requirements with the Protocol, then Parties may grant a one year "grace" on the application of sanction. In this regard, Nepal has requested that one year "grace" and this is specifically gave the opportunity of funding from the MLF. The implementation committee also reviewed the status of licensing, the processing and the issue of decimal places in reporting of compliance. Traditionally, the Secretariat has rounded in accordance with the wishes of the parties to one decimal place, which means if a country imports HCFCs 22 of 0.008 tons this is rounded off to zero (0)- what this means is that if you import below 0.008 tons it will be reported as (0) zero. This has been raised to the implementation committee and they have agreed to consider rounding off to a second decimal point to reduce. This subject is particularly important to very low volume consuming countries and for negiotation of MLF funding.

New web page of the Ozone secretartiat: There is new website and there will be Spanish and French versions by the end of the year.

5.3 Questions and Comments

Colombia – Are there reporting forms for countries that don't use processing agents and how should it be updated?
Ozone Secreatrait – These will be circulated with a draft letter with the required reporting approach. The letter will say that to the best of your understanding you do not believe that you use an ODS as a process agent. If however, there is use that such Party has to report.
Mexico – Will there be any reporting exclusively for small amounts used in the lab?
Ozone Secreatrait – Yes! there is a form that is specifically for that use which is available. The issue of use for certain applications for lab and analytical uses will also be on the agenda for the meeting of the parties.
Venezuela – In the use of QPS what consideration of new imports, and reporting of the amounts?
Ozone Secreatrait – The manadate to report on QPS is an annual manadate so if countries are importing for use for QPS you have to report such amount. If you're using QPS from stockpile you would not have to report it because you would already have reported the prior report.
Guatemala – What about the responsibilities of El Salvador, because of the lack of representation at this meeting? Will El Salvador be notified on the resuts of this meeting?
UNEP ROLAC Panama – At the moment there is no Ozone Officer in El Salvador. All countries of the LAC will be receiving the report of this meeting.
St Kitts and Nevis –Those intermittent reporting of QPS affect a countries QPS status? In St Kitts and Nevis, there is a small use of methyl bromide so it is imported every two to three years. Are parties looking at ending the QPS exemption for Methyl Bromide ending anytime soon?
Ozone Secreatrait -The EU has banned all the methylbromide use for QPS and there have been efforts by that group of countries to initiate discussions in the meetings of the parties and it's clear that not all parties are ready to consider end this exemption. But the EU at the up and coming meeting is putting forward a proposal to gather more information on both the exemption, the applications and the alternatives for its basis for continued discussions on whether further actions should be taken on the exemption.
Panama – It is up to individual countries to interpret the MP. Some countries interpret by saying that if an ODS does not cross the bounds between customs and their commerce into their country it isn't considered an import. If you interpret this to be the case then you can report zero. If the Protocol is interpreted to mean that parties only have consumption when it enters into national ommerce. Then if it is not entering commerce in your country there is no consumption. That consideration is dependent on national interpretation of the Protocol and in line with respective laws in the imports and exports.
Ozone Secreatrait – The Ozone Secreatrait would be glad to assist with the international policitial issue because those are understood and assistance would be given to addressing letters to those that it might be useful too and also that the UNEP ROLAC CAP team would like to participate to work with you to try to craft an appropriate way forward.
UNEP/ROLAC Panama - ORISA is a Regional Central American Agency and they deal with pest control. The Regional Body office and is based in El Salvador. They import and re-export methylbromide to the region of Central America. All importing countries then report what volumes were exported from El Salvador.
Nicaragua – Customs information is received and import licences come from the Ministry. The issue is Panama can't import methylbromide for agriculture purposes. But when it is quarantined it can come into the country and then it would not be recorded by customs because it is not considered fiscal.
UNEP/ROLAC Panama – Suggested that meeting with the Agricultural Minister in Panama would be scheduled together with the national ozone officer
Ozone, Secreatrait – Interperting the MP is up to countries if it is not in commerce then it can be considered zero.
Haiti – Ratification of the Beijing amendment has not been done because the political problems are the issue here.Haiti is doing its best since elections they await the new PM and Government to be put into place

Agenda item 6: Ozone, Secreatrait – Review of decision for the 23rd Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer

This presentation covered issues on the agenda for the 23rd meeting of the parties and the 9th meeting of the parties to the Vienna Convention. The Vienna Convention was the framework convention under which the Montreal Protocol was negotiated. The next meeting of the parties will be taking place in Bali, Indonesia.

There a number of issues that will be discussed one of them being replenishment. Replenishment is done once every three years and initial study by the Protocols Technology and Economic Assessment Panel produced six scenarios for possible needs over the next three years and the scenarios estimated the needs between 245 million and 665USD million. The Deputy Executive Secretariat indicated that China is the one country that will dominate HCFC production. Therefore, larger amount of funding of the MLF funding money will go to China and depending on what the Executive committee decides that can affect replenishment analysis and the range very significantly. The other issue is essential use exemptions – this LAC region is outstanding the level of reductions. In 2009, 9 parties requested 2000 tonnes exemption and now two years later only three parties are requesting 627 tonnes it is an incredible reduction and congratulations go out to parties this region who have done a great job to reduce this ODS. The parties that are still requesting CFCs for metered dose inhalers are Bangladesh, China, Pakistan and the Russian Federation. The Russian Federation is also requesting for selected aerospace uses and Jordan for bromochloromethane. In each case expect the Russian aerospace use, the TEAP is recommending less than the amount that the party requested and ths will be tabled at the next meeting of the parties. ODS as critical uses have also fallen dramatically from 18,000 tonnes 2005 to 705 tonnes. In 2013 the project consumption for critical use have fallen by 96 %. Australia, Canada, Japan and USA A still request, the USA and Canadian request are subject to minority reports from the technical options committee and those will be carefully reviewed by the parties at the upcoming meeting. For quarantine and preshippment as noted earlier is a total exemption but the parties however Parties should try to minimize use and minimize emissions. The EU has banned methylbromide for QPS and other countries including countries in this region they have been concerned about the amount of methybromide in use which is about 12000 tonnes a year and they want to minimize it. The EU will be requesting the TEAP to study trends, they are requesting that the OS develop an information tool to enable all parties to see what are their alternatives, the hope is to increase the QPS information on the relevant issues in a future year and maybe consider banning some of the applications or banning the use for certain applications.

Lab and analytical use exemption –.China is requesting that they need the exemption for another year. The proposed decision will remind parties to report, would request more information on ODS and peculiarly carbon-tetrachloride and would study non-ODS alternatives and streamline the process agent. In looking at the parties present here there are one or two parties of the LAC region that may wish to participate in at contact group such as this.

Destruction technologies are going to be on the agenda. The parties have approached thirteen destructive technologies to date and they have specified that the destructive technologies have to meet a destruction efficiency of 99.9 %. TEAP recommended new destruction technologies and a review of the destruction efficiencies. TEAP also prepared a proposed volunteer criteria verifying ODS destruction. It was suggested that for countries concerned on destruction technologies and efficiencies then thay may want to consider engaging on this issue.

Compostion of the TEAP: There is a discussion going on concern with TEAP nominations and recruitment processes. Some of the issues for considerations and discussions are:

Overviews of some of the major ones are:

- The TEAP should have a balance of expertise and perseptives
- Geographical balance
- Nominations or applications to the TEAP should be for a four year appointments
- After the initial four years a country can nominate a member for additional four years
- Nominations should come from national focal points and governments. If there is a nominee, his/her country should be asked to approve the nominee.
- During the nomination process check would be made on weather that is any conflicts of interest by having based on the requirements of being a TEAP member

- ❖ The meetings of the parties must confirm the nominations and establishment of any temporary subsidiary bodies that last for over a year
- ❖ They would like to make the ex secretary an ex-official member of the TEAP
- ❖ The panels recruitment guidelines to be completed or be more comprehensive
- ❖ They would like the panel to clarify what it needs in terms of additional new members
- ❖ Standardising the information needed for nominations

Status of ODS used to service ships – The EU is reporting that ODS sold (not for servicing in EU terrority) to non EU flagged ships in their ports are reporting it as an export. The questions tabled were: Does it have to be recorded as an import to the respective flagged ship state?; How is this consumption to be treated ? The majority of these regions countries are ocean bound assuming that countries have flagged ships this issue can be a significant one. St Lucia and other Parties put forward a proposal for the OS to request more information for calculating consumption of ODS exported to a ship docked in a party's port for use on board that ship. This question will be looked at in a more robust manner at the next meeting. The OS to date requested information from all parties of the world on how they tread ODS used to service ships.

Alternatives to ODS – ODS alternatives with High GWPs. Parties they wanted more information on HFCs and other high GWPs non-ODS alternatives. It has been requested that this study look at the cost effectiveness of alternatives. Look at the types and quantities that are likely to be phased in during the HCFCs phase out and to look at the impacts of the HCFCs guidelines on the HFCs phase in and various other issues.

Nepal Scenario –Executive committee decision for Nepal is that since they have not ratified the Copenhagen amendment they will not fund their HPMP but will consider funding if the parties take on a decision to say that you're in full compliance with Copenhagen. This will be on the agenda for consideration and the next MOP.

The HFC amendment proposal by Canada, US, Mexico and Micronasia. It was considered last year and parties did not take any decisions on it but they have agreed to take another look at it again this year. There is a proposed decision and amendment. The proposed decision would have to study and fund the phase out of HFC 23 produced as a by-product of HCFC 22 production and the amendment calls for a phase down of HFCs and to be operated under the rules of the Montreal Protocol MLF.

Membership and officers. In the Implementation Committee – St Lucia is its last of its first two year term, in Nicargua they will be starting their second year of its second term two year term. In terms of the MP bureau, Grenada is the rapprauteur of the bureau and Cuba is the VP of the Vienna Convention, this region will need to select a VP for the MP bureau and the Vienna Convention bureau. In terms of the co-chair of the open ended working group the developing countries should have Asia as a co chair this year, Latin America served last year. There will be a review of a special monitoring fund under the Vienna Convention and the recommendation which focuses on supportive studies and investigations of other key areas that look at the Ozone layer.

6.1 Questions and Comments

St Lucia - Flagged ships -This issue was opened and up for discussion at the last OEWG meeting. Countries that still have interest should submit any comments to the OS. It will be raised and discussed at a contact group in Bali. There are still some countries in brackets because their CRPs are being submitted not only by St Lucia but by a few other parties and this region Bahamas and US are in brackets. St Lucia has been in constant contact with the US delegation. Discussions is needed with Bahamas to decide if they would like their name to be considered with this decision the other parties that are associated with it is Belize, Marshall islands, Trinidad and Tobago and St Vincent and the Grenadines. The text is available on the OS website.

Jamaica – This is a reminder for the propopents for the CRP as well as the persons who attended the contact group that the issue needs to be discussed and forward the comments to Mr. Howritz at OS as he is in the process of preparing an information document on the subject matter. So those who attended the contact group in Montreal as well as the propopents if you have comments on the issue please forward them to Mr Howritz.

Grenada – If a country was not a part of the contact group or propopent can they still comment on the issue?

Jamaica – Yes they can. If there are any parties that can assist with any information for the CRP then an email can be sent which has specific questions to be answered. This information is required before the next MOP in Bali.

Agenda item 7: Overview of the decisions on the 64th Meeting of the Executive Committee of the Multilateral Fund and the relevant issues to be considered during the 65th Meeting Alejandro Ramirez Pobon, MLF Secreatrait

Overview of project approved at the 64th Meeting (decisions 64/18 to 64/49) – This last meeting can be considered historical because there was the highest amount of funding that has ever been approved by the Executive committee. A total of US $154.34 million was approved in projects with support costs of US $11.68 million for the implementing agencies: this was comprised of 83 projects in different areas for 45 countries and it included the first tranches of 21 HPMPs including China with funding for US $146,000,000. This is very encouraging and positive as many of the countries operating as Article 5 parties have received assistance to start efforts for compliance to reach first HCFC targets. To date, approximately 80 HPMPs have been approved for Article 5 parties and there are a remaining 60 HPMPs in preparation out of these 25 will be discussed at the next Executive committee meeting. Some of the other approved projects were Demonstration Projects for China, institutional strengthening projects. Tranches for multi-year projects and preparation of the HPMPs for DRP Korea The official of the MLF gave caution on the following: that every country that has submited an HPMP should have also submitted their country programme implementation report and that there is an HCFC licensing system operational. Another important aspect of HPMPs that are of concern is the data consistency. It has been found in several of the submissions that data from the CP report does not match the data from the Article 7 and it does not match the data from the survey. As part of the preparation of the HPMP there should be very clear explanations on why this is happening. MLF understands that some countries have situations and circumstances can explain this variation. It is important to know that when a country discovers during this preparation of HPMP that their data is not correct and decides to request a correction if this correction is involved in the years 2009 or 2010 this is considered a change in baseline. This request for change has to go before the mplementation committee. Communication requests to OS can't result in the change.

HPMPs approved in the Latin American Region in the last meeting: St Vincent and the Grenadines to address the complete phase out of HCFCs by 2025, also Bolivia, Costa Rica, Guatemala, Jamaica, St Kitts and Nevis, St Lucia and Trinidad and Tobago. Trinidad and Tobago was approved at the 64th meeting. Trinidad and Tobago was formerly a LVC and normally for countries that are LVC and because of the comsumption of HCFC they cannot be caterlogued a LVC anymore. If the consumption is totally in the servicing sector they could on an expectational basis by decision 62/11 request funding up to 2020 in the case of Trinidad and Tobago it happened to have a manufacturing component. But due to the specific conditions of HPMP it was approved up to 2020.

For the non LVC in the region the following HPMPs were approved Brazil (decision 64/40) for 2011 to 2015 to meet the 10 per cent reduction Mexico (decision 64/45) For 2011 to 2018 to address 30 per cent of baseline – approval of stage I of the HPMP did not preclude Mexico from submitting, prior to 2015, a proposal to achieve phase-out of HCFCs beyond that addressed in stage I of the HPMP. El Salvador and Uruguay Consideration of the HPMPs (stage I) was deferred to a future meeting.

Policy Issues at 64th Meeting – Several of the countries had to make proposals to reduce HCFC consumption for an amount that is more than 10% of the baseline in order to comply with the 10% reduction target for 2015. This has been occurring since the 62nd meeting. Some of the countries have submitted proposals that reduce 15-20 % or even more. At the 63rd meeting these proposals were discussed in detail and the ExCom decided to include a text in the decision noting that the funds approved for the countries have requested funds for reduction above 10% of the baseline should contribute to the reduction of HCFC and compliance of the targets beyond 2015. In 64th meeting there were several cases that were also analysized on a case by case basis, where specific targets were agreed with the countries beyond 2015 e.g Mexico committed to reduce 30 % of their baseline by 2018, Cameroon committed to reduce 20% in 2017, Indonesia committed to reduce 20% in 2018. So for any case in the future that is committed to proposing reductions beyond 10% of the baseline the ExCom decided to analysize case by case basis.

Another Issue that there is a very small group of countries which have baseline of HCFC consumption between 360 – 400 metric tonnes. Decision 60/44 determines values for HPMP approvals for countries that have consumption up to 360 metric tonnes it is considered on an individual basis and only up to 2015. What was found in analysis of one peculiar HPMP from the region is that some countries that have consumption very close to 360 MT,
the corresponding funding that they could receive will be same as the countries that have the 360 or below. So these cases will be considered by the ExCom on an individual basis also. In this region the only Uruguay has this level of consumption. There are guidelines in the ExCom decisions and the MLF policies that ask the countries to give priority to the manufacturing sector and to the higher ODP value substances. In practical terms most of these might be foams but there are specific cases where for diverse reasons this is not possible.e.g Chile where a project was prepared for addressing the foam sector but it was not possible to further develop the project because of the lack of suitable technologies for small and medium enterprises. So if a project with hydrocarbons was proposed for these companies they will have to contribute with an enormous amount of funding which would make the project unsustainable and the different approaches were evaluated very carefully and it was concluded that in this particular case the most prudent thing to do was to wait to address the foam sector. The project came to the ExCom and it was analysized individually and it was approved by some justification that the Government of Chile gave to address on the first instance serving sector instead of the manufacturing sector. So the policy decision by the ExCom in these cases is to treat them on a case by case basis.
There were also discussions on the flexibility of provisions under the HPMPs in relation to technology changes and funding relocation among sectors this was also thoroughly discussed and it was decided to be postponed to a future meeting and for the moment it will be considered on a case by case basis.e.g in the case of HPMPs there are certain factors that are increasing uncertainty in terms of technology. There are some technologies that are not commercially available in the market. There are some technologies that have an impact on the climate, and it is the process to select that technology at this point in time is very challenging especially for certain sub-sectors. There is a possibility that once having a HPMP improved a country might find out that there is a technology that might be more suitable or has a lower impact on climate and what is saying by this discussion on flexibility is to set conditions for analysing these cases.
The ExCom agreed to continue the establishing practice of the HPMPs containing estimates of HCFCs baselines that will be revised by the OS once the actual baseline is known. This is a case of many HPMPs in the past which were submitted before 2010 data was available so the approval of the HPMPs have a clause that says once the baseline is known the agreement is going to be reviewed accordingly. This is applicable for almost all HPMPs submitted before 2011. There are peculiar cases where data was submitted between the moment of negotiation of the project and the ExCom and there were changes in the data because countries have a grace period to correct the data for various reasons. MLF is in coordination with the OS in order to minimize the effect that this could have in the approval of projects.
Implementing agencies were requested to submit all future proposals for ODS disposal demonstration projects for LVC no later than the 66th meeting.

Consolidated progress report (decision 64/6)

There were several decisions made by the ExCom encouraging countries to complete their RMPs and TPMPs and plans by 2012. Such countries were asked to make every effort to integrate those activities that were pending from previous projects into their HPMPs as in the cases of Haiti, Barbados, Peru and Suriname. Agents were also asked to expedite the signing of the project documents or agreements after the approval of the HPMPs in order to enable the initiation of the approved HPMPs as soon as possible. This is becoming a critical issue in implementation especially now that there are only 14 months to the first targets. The later HPMPs are submitted the more difficult it is going to be to have impact before January 1st 2013 and therefore very expeditious implementation of the agreements is required and creative and fast implementation modalities are critical at this moment. Also countries can used existing partnerships with for example the institutions of training, networks of recovery recycling and reclaiming that have been established and are being strengthen, partnerships with the customs department, there are many common areas from the working CFCs that should be taken advantage of for the implementation of activities in the servicing sector in the HPMPs.

Government of 7 countries were requested to expedite the completion of their individual CFCs investment projects were planned to be completed after 2011 refer mostly to projects of metered dosed inhalers that were approved between 2006 - 2008. The only country at this point is in the region is Colombia. The Implementaing agency to Columbia has informed that the project should be completed in 2011. Two countries in the region have preparatory funding for ODS disposal these are Brazil and Colombia. Mexico's was approved at the 63rd ExCom meeting.

Other ExCom 64th decisions

In the 64th meeting several national phase out plans reports were outstanding. Agencies were asked to provide progress report on HCFC demonstration and investment projects. Every time an investment project has been approved out of or of an HPMP or a HCFC demonstration project has been approved the ExCom has included into the approval a clause that requests the agency to meet on a general basis information on the incremental capital costs on the incremental operational costs and on the experiencing application in applying the technology is being proposed. This very important because of issues discussed earlier on the certainties in the performance of the technologies, commercial availability, costs.

Report on the implementation of projects –t pending projects should be submitted to the 66th meeting and the agencies are requested to provide an update on the use of the guidelines to the Secretariat no later than the 69th meeting. This will give enough time for starting implementation and evaluate the guidelines and a report at the 70th meeting summarizing the experience gained will give future recommendations for future actions. In the meantime the MLF Secretariat will continue using the interim guidelines. Applying them also to pilot projects. In regards to the production sector, the ExCom decided to continue discussions to the upcoming 65th meeting.

Finally there was a decision by the Executive Committee noted an interim report on the strategy and action plan to assist Haiti to return to the pre-implementation level of the Montreal Protocol submitted by UNEP in response to decisions 61/52 and 62/70.

With regards to the Country programme data reporting (decision 63/4). The MLF would appreciate any feedback on this topic in order to take it into account for the web based mechanism for reporting. Also the Secretariat modified CP reporting format for which would be effective for the submission of 2012 CP data due on 1 May 2013. More information is available per request on this peculiar item and any feedback will be welcomed and will be happily taken to the Secretariat. More information on the decisions that the ExCom they can be found on the MLF website.

7.1 Questions and Comments

Canada - The last ExCom meeting was a very positive meeting because of three reasons: The HPMP for China was approved after four negotiation sessions. Given that China is 60% consumption of HCFCs in the world, this is a global achievement that will have benefits for all parties. Additionally there was approval of other HPMPs for other very large countries such as Brazil, Mexico and Indonesia. It was mentioned that though the ExCom is struggling with how to take into consideration the issue of climate with the phasing out of HCFCs, it was fairly successful at the last meeting in ensuring that up to now most of the HPMPs that were approved will have a positive climate impact. There have been some transitions that have been funded to higher GWP alternatives in HPMPs in countries where it was found that no other alternatives or no other sector could be addressed. Many countries are choosing to transition the foam sector to hydrocarbons, when possible. In the case of the refrigeration and air-conditioning sector, China agreed to convert over half of its 32 room air conditioning production lines that it is going to convert to stage one HPMP to hydrocarbons, thereby avoiding HFCs in these production lines. This will provide a very important impetus to this emerging technology. The Fund Secretariat has estimated that, apart from its impact on the ozone layer, the impacts of China's HPMPs stage one is a reduction of 40 million tones CO_2 equivalent per year, so that HPMP by itself will have quite a huge positive impact on the climate. The ExCom has now funded over 80 HPMPs, and the process is moving forward well, but the challenge will now be on implementation. In the case of China, in 3.5 years they would have to eliminate 40,000 metric tonnes of HCFCs, which is a momentous task, as it will be for countries in this region.

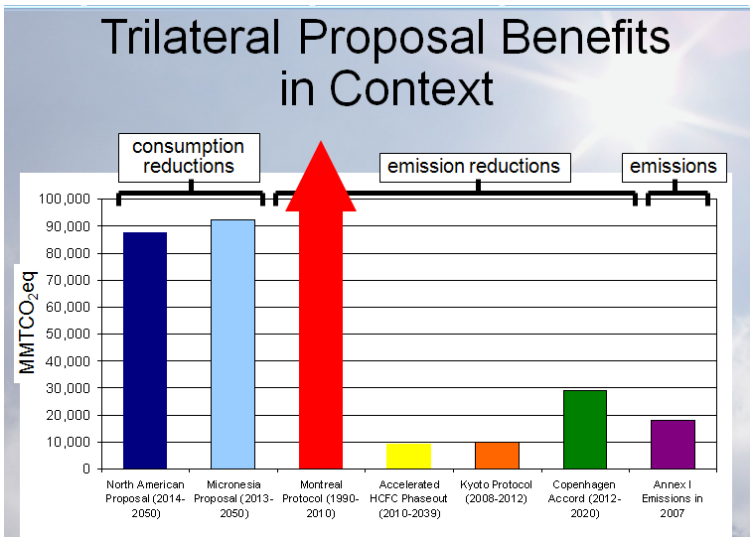
Agenda item 8: Presentation of the Proposal of the Amendment to the Montreal Protocol to include HFCs as controlled substances (Mexico, US, and Canada)

Mexico

This is for the third consective year that this proposal is being presented, which was first proprosed by Micronisa. US, Canada and Mexico made the proposal for including HFCs in MP. USA, Canada and Mexico are proposing to regulate HFCs under the MP. HFCs were introduced on the markets and increased due to action of MP. The proposal includes a phase-down of HFCs and not a phase-out.

Canada

The benefits to the climate that will result in a phase down of HFCs up to the 2050 amount to 88 million tonnes of CO_2 equivalent per year avoided in both Article 5 and non-Article 5 parties. In addition to that, as a result of the HFC 23 by-product emission controls another 11.6 million of CO_2 equivalent will be avoided between now and 205 0. It has been estimated that the MP and up to 2010 would contributed to reduction to 11 gigartonnes annually over twenty years, that is over 200 gigatonnes. To give a sense of comparison the expected impact of the Kyoto protocol if all countries complied with obligations is 2 gigatonnes per year. The MP, by phasing out ODS, has already had a tremendous positive impact on the climate. This have been increasingly recognized and it may not have been evident 10 years ago but from 2005, 2006 and 2007, the climate impact of the MP was given more consideration, including in the important scientific article Gus Velder et al, published in the proceedings of the US National Academy of Sciences. It really became clear to many people around the world what a great instrument the MP is, not only in terms of the protecting the ozone layer, but also in terms of protecting the climate. It is therefore no wonder that many countries and institutions have been trying to see what more can the MP do to protect the climate, without necessarily lessening the importance of the primary purpose MP which is to protect the ozone layer.



It is important to pause and think about the opportunity that all parties have with the MP to have some positive impact on the climate. Some may say that the main business of MP is not climate and that it should not control HFCs, but it must not be forgotten that HFCs are directly linked to phase-out of ODS under the MP; therefore the Protocol does have a special responsibly to address HFCs, and in fact, in practice it been the MP that has examined and taken decisions to study the issue of HFCs historcially, including decisions that go back to 1998 up to the recent decision of the ExCom where it was agreed to provide an additional 25% funding to avoid high- GWP alternatives when phasing out HCFCs in the manufacturing sectors. What is meant by this high-GWP alternatives is: HFCs. It is true that up to know the MP has not controlled HFCs, but it has taken the steps to develop the information and understanding on this issue. Also within the sectors that are using HFCs, we know that the MP has the world's widest body of experience and expertise in A/C, refrigeration, foams, aerosols and other more minor sectors using HFCs. From a legal point of view controlling HFCs can be done within the scope of the MP. Article 2 of the Vienna Convention does provide the parties to take action to address adverse affects that results from actions that modify of the ozone layer. In phasing out CFCs and HCFCs that have modified the ozone layer, an adverse effect on the climate was created. Thus, while the language in Article 2 of the Vienna Convention is a little complicated and ambiguous, we believe and there is scope there to allow the parties to take action to address adverse affects which have been created through the phase out of ODS and in

resulting phase-in of HFCs. Therefore, not only there is the legal scope, but it is incumbent on the MP to address HFCs. This needs to be done in collaboration with the United Nations Framework Convention on Climate Change, but ultimately the atmosphere will not care whether HFCs are primarily phased out on the MP or UNFCCC. If there is an opportunity and there is a good instrument to take action, then we should move forward. Based on discussions at the OEWG meeting in July of 2011, we are of course conscious of the positions of other parties, including the opposition to the proposal by some, but at the same time it has been noticed that there are many more countries that are becoming more interested in the issue of HFCs under the MP. Perhaps, as a way to move forward this year, parties will consider the proposal by Switzerland which calls for a study on alternatives to ODS (i.e. HFCs). If countries are still hesitant about taking action on controlling HFCs this year, perhaps a report by the TEAP to assess HFC alternatives and levels and trends of HFC uses will provide the parties information data for them to consider this issue this next year.

8.1 Questions and Comments

Grenada – The Issue on Replenishment of the Fund, on funding that will be available to very LVC countries in regards to the phase out of HCFCs. Grenada does consider the funding for the HCFCs phase out to be inadequate because most of the funding will be consumed in the early phases of HCFCs phase out. Grenada would like to know if funding will be reviewed at some point in time and with a view of finding an additional amount to phase out HCFs. There is also concern over the fact that most of the funding will be directed to countries involved in production of HCFCs eg China and this means countries of this region would not be able to get enough funds for their phase out projects. Grenada would like to ensure that the funds are adequately and proportionately allocated when the fund is being replenished.

Proposal on HFCs. There is a great challenge to introducing alternatives that will be both climate friendly and ozone friendly. The Caribbean Region in peculiar will have the most difficulties because their size and economies. Most of the countries are willing to go into the Climate friendly alternatives but it is not available. There are considerations to on whether there are alternatives for all applications. When there are alternatives that are long term, economically viable, good for the climate system, and can be introduced in the sectors in the region without much difficulty it would be welcomed.

Uncertainity of the Funding Mechanism. Because there is a struggle with funding for HCFCs already for the additional HFCs to be phased out would required even more funding.

Destruction Technologies. Though it isn't a part of the compliance issue of MP it is a sore point with the Caribbean Region. However this proposal should also be considered that it can contribute to more unused chemicals requiring safe disposal.

Institutional Strenghtening. If the Region is to phase out more chemicals, institutional strengthening will be required which means more funding will be required because it would be HCFCs and HFCs as well as ensuring the alternatives to these are climate friendly.

Secretariat of the Multilateral Fund – Countries will have the opportunity to discuss replenishment at the next meeting of the parties.There will be an opportunity to revise this when the ExCom meets in 2015 to determine future funding for future stages. However this is decided by ExCom. The ExCom decisions in many instances are to collect data on investment projects on HCFCs and demonstration projects where the various costs will require reporting. This technical information is useful because everyone gains to better understand how much the transition cost will entail. This exercise will have to be done in the context of the ExCom Decisions.

Trinidad and Tobago - Trinidad and Tobago supports the principal of the HFC proposal, but there is a concern about the funding as mentioned by Grenada as well as the alternatives for all applications and stakeholders do have a great concern about destruction. Trinidad and Tobago reiterates the point that they support the inclusion of HFCs and climate friendly alternatives and would like to work together to have this addressed.

Venezuela – There is a legal concern on the ammendment the lawyers have assisted with transmission on the ammended Protocol to support the phase out of the other ODS.The lawyers are saying that it needs clarification.

St Lucia - Why a phase down was selected instead of a phase out for HFCs by 2050? Are there additional reasons for it than the fact that it would be more comfortable for countries to adopt the target and allow more time for alternatives?

Canada- The baseline for Article 5 countries would be the average for 2005 -2008 which was 85% (consumption / production) or is it and or production. The phase down would continue 2015 and 2050 and will 2015 be revised to a later data considering that we are in 2011 now.

St Lucia: – How would the HFCs phase out be financed whether it would be under the MLF or would new sources of funding be created, since the MLF is concerned with ODS phase out. The financial mechanism is a huge issue for Caribbean countries in the region if they are to feel comfortable to start the HFC phase out by 2015. The climate benefits are appreciated and St Lucia believes also that MP is the best place for this proposal on HFCs since UNFCCC isn't yet taking any action on this serious environmental matter.

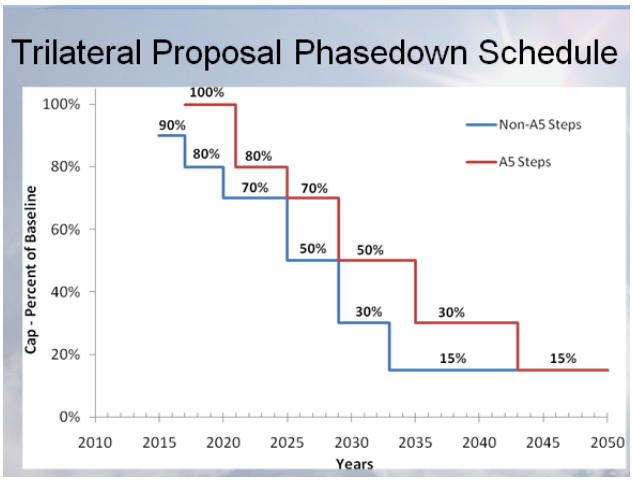
US EPA - The US understands the concerns about the alternatives. The US is currently encouraging companies to develop alternatives by using incentives and they have seen a huge increase in the significant new alternative program called the SNAP programme. A new notice is out with a list of ten new alternatives. Even within the USA it is difficult to know when these alternatives will be phased in and available comercially. There are a lot of interests on alternatives that are low GWP. The USA are also producing fact sheets on alternatives and there are five sectors that are currently available and another sector will be coming out dealing with the refrigerant transport sector.Though it is difficult to predict what the future holds with the alternatives there is clearly a progression on development of alternatives and having it approved by the SNAP programme. USA is also working on a fact sheet on the HFC proposed amendment somewhat of a Q&A.

Canada - In the case of HFCs, the reductions could take place according to sectors because not all the alternatives will be ready for all the sectors at the same time. This should not cause serious problems in the short-term, because the proposal does not call for a 100% or major reduction within 5-10 years. For example, an alternative is coming on stream in the mobile air-conditioning sector, HFO 1234yf, which has already been developed and approved as an alternative in the USA for that sector. In Canada it has been estimated that by transitioning that sector alone, the targets would be achieved up to 2020, so even if there is no other alternatives for the other sectors in up to eight or nine years, we should normally be able to meet the first targets in the proposal. In the next ten years, as shown in the progress reports from TEAP annually, that there is a lot going on in R&D and commercialisations of alternatives in the other sectors. It is not possible to have alternatives for all the sectors ready at the same time. However, when you look at the TEAP report, there is enough information to start taking a modest step forward. The 2015 target is only for non-Article 5 countries and it is only a 10% reduction in 2015. There is no need to delay this by another year. There should be sufficient alternatives available to comply and they will be commercialised first in countries that have their obligations first, that is non Article 5 parties, and then they will be marketed globally.

Mexico – Requested more details on base line schedule, funding and other legal mandate such as licensing system and for Article 5 countries.

Canada – With respect to the legal capacity of the Montreal Protocol to control HFCs, if Venezuela received legal advice that article 2 of the Vienna Convention is not sufficient to provide the scope to control HFCs, the solution would be to propose an amendment to the Vienna Convention in order to provide that scope. That would be a valid legal discussion that could take place. It has been heard once or twice but there hasn't been much discussion about this possibility. If some countries feel that the MP can't control HFCs, and the legal basis of the Montreal Protocol comes from the Vienna Convention, then consideration can be given to amend the Vienna Convention to enable the control of the HFCs under the MP.

With respect to why the proposal includes a phase-down and not a phase-out, it is envisioned that there are certain low GWPs HFCs that perhaps may be continued to be required over the very long term - for instance if HFOs, which are unsaturated HFCs and have a very low GWPs. They can perhaps become permanent solutions or alternatives for the next 100 years. They will still have a minimal climate impact so it would be difficult



for countries to achieve 100% phase out, if HFOs are included within the substances that are controlled. In addition, the continued 15% consumption allowance would enable HFCs to continue to be used in certain applications, where elimination may be very difficult or costly, like in metered-dose inhalers. With respect to the funding uncertainty issue, it is a complex issue and all an amendment can do is amend Article 10 of the MP to make HFCs eligible for funding. In terms of the negotiations of the level of funding itself, it is the responsibility of the ExCom to determine based on the eligible incremental costs what the funding would be and, ultimately, it will result from negotiations between Article 5 and non-Article 5 countries at the ExCom. It is not possible for US, Canada and Mexico to be to say how much funding will be required at this stage; some detailed guidelines will have to be agreed to, and funding will be depend on the cost of alternatives, and the specific quantities of production and consumption that will have to be reduced over time.

UNEP/ROLAC Panama - Implementing Agencies from different countries have different concerns. Alternative issues – cost, training, avaliablity etc. are targeting the large countries like China. Lots of progress on alternatives is coming up. What is envisaged now for smaller countries?

UNDP Trinidad Representative- Some countries perspective may be different from China. Some countries are asking when is this alternatives going to come to my country and be available, how much will it cost, is there a patent, flamability issues, the distribution, the training etc. So basically there are several questions that bring to our attention that makes their concerns to the proposal even bigger unless these things are addressed. It is very clear also that despite of some of the negotiations going on in the climate arena they maybe the ones impeding this to move. It is very clear from an environment perspective that something needs to be done. Basically on the technology a lot of progress has been seen and UNDP is following very closely with the producers of these new technologies. UNDP has funded through the MLF several demonstration projects. But again there are still some issues that need to be resolved in developing countries to ease their concerns. UNDP therefore recommends that the proponents to this amendment reflects on her concerns and maybe look at providing enabling activities to countries or something in this period if this proposal is to actually happen in a way that will benefit countries in terms of reducing climate impact.

Panama – We can reduce consumption and production of HCFs some doubts we wish to know if there are any requests to control these susbstances and what can be contributed by GEF?

Guatemala – What will be the order of discussions on re-financing? What amount will HFCs cost countries? This is the concern and having the commitment.

Grenada – Developing countries would like some consideration be given on destruction of ODS.

Canada - With respect to the issue of countries not able to agree to an amendment to on HFCs, as they need more information on alternatives, related patents etc. Some of the countries saying this have also opposed the TEAP undertaking a study of this issue. The North American partners would also support that a comprehensive study by the TEAP on HFCs, their projected growth, alternatives available, their cost, the options that areavailable to limit growth of HFCs, etc... Every year this has been put out on the table at meetings of the Parties, but some countries have opposed to the TEAP doing this work. If TEAP isn't going to do it, then who will do it and who has the expertise in those sectors to undertake this kind of study. With respect to the next replenishment, if it does not contain funding for HFCs, then the first replenishment that does include some assistance for HFCs will not come before 2015 and by this time, it may or may not be too late for countries to achieve a 20% reduction in 2020. These are issues that definitely need to be looked at very carefully. However, it should be understood that a 20% reduction in the North American proposal is is not a 20% reduction in the consumption of HFCs themselves, but a 20% from a cap- and this cap is the GWP equivalent of HCFC consumption between 2005 -2008. Therefore, what needs to be looked at is actually what that cap means for different countries. This is of course one of the issues that can be discussed and I think that we would look forward to countries' views on this. The proponents are not married to any of the specific targets and are certainly open to hear from other countries on those.

To respond to another question, there has not been any formal request from the Kyoto Protocol to Montreal Protocol to address HFCs. A proposal was made under climate negotiations to confirm that the MP should have the mandate be able to phase out HFCs, but this was never discussed in detail and this was opposed by some countries, so at this stage no there is no formal request. As far as contributions from GEF, it was considered so far that the main source for financial assistance

for Article 5 countries would be through MLF because the obligations would be under the MP. It does not necessarily rule out that perhaps GEF or other instruments to provide assistant.

Agenda item 9: Mexico's experience in Access to Climate Investment Funds - Ms. Dolores Maria Barrientos Aleman UNEP Mexico

Ms. Dolores Maria Barrientos worked 18 years in Mexico's Banking system in charge of international finance and then she was at the IDB as a climate change specialist and just four months ago she moved over to UNEP in the Mexico office.

What is happening in the international financing on Climate Change? The international financing of Climate Change mainly is happening through World Bank and other Multi-lateral development Banks. For Latin America it is the IADB and many of these banks are taking sovereign risks meaning that they are only taking the lines of credit that are guarantee by governments. They are not taking any other types of risk. With respect to international doners funds there are two main programmes on financing one of them is GEF and the other is Climate investment funds (CIF). Then these two types of funding are channelling through World Bank or the Multi-Lateral Development Banks (MDB) in this case for this region it is the IADB. The GEF has other implementing agencies. In case of the CIFs the channelling is done by the World Bank and MDBs. These activities project based normally related with climate mitigation projects. There are policy based loans and these programmes have been running for the last 4-5 years. The World Bank was the first to implement this type of financing followed by the IADB. In the case of Mexico the IADB did three programmes which started 2008 till 2010 and these programmes totalling 1 billion dollars. The government of Guatemala and the Government of Colombia are considering to establish this policy based loans on Climate Change with the IADB as well. This is the general panorama of where the resources are on Climate Change and what are the type of channeling of these resources.

What are the Climate Investment Funds the CIFs? In the case of the Climate Investment Funds it is a trust fund in the World Bank and there are two main windows. The biggest one is the Cleaner Technology Fund as its name says those are related with demonstrating the use and transfer the use of clean technologies and out of the total CIFs the Clean Technology Fund amounts to about 4.5 billion dollars. Then there is the Strategic Climate Fund this is a smaller fund it has about 2 billion dollars and they are related to pilot programmes towards a specific sectors. In this case there is the forest investment programme that is currently running in Latin America and they are considering Brazil, Peru and Mexico as benefinary countries. There is also the Renewal Energy Programme and the pilot programme for Climate Resilence. The weighted average between the Clean Technology Funds for about $US 4.5 billion and the Strategic Fund which is only 2 billion. The Climate Investment Fund considers $US 6.5 billion dollars offered by developed countries to developing countries in order to make or start financing on mitigation projects. The WB acts as a feeder because the funds are in a trust in WB and they decided either WB or the MDBs in our case the IDB will be acting as a implementation agency and the purpose for the CIFs are to fulfil the need for quick financing on mitigation projects and have some urgent actions until the post 2012 if it is defined or not and making or promoting large scale investments on mitigation and these funds are planned to be utilized between a period of 3-5 years.. The donor countries for the CIFs starting with the US has the highest participation with $US 2 billion, UK with $US 1.4 billion, Japan with $US1.2 billion and Germany with $US 800 million totalling $US 6.5 billion dollars. This is the Governance and the CIFs have a partnership forum with a wide participation of all sectors. The potential recipient countries and the donor countries, MDBs, UN agencies, UNFCCC, Adaptation Fund, NGOs and scientific and technical groups. The Governance goals are deeply depending off the fund in this case the Clean Technology Fund. The Trust Fund Committee is formed by these countries Australia, Brazil, China, Egypt, France, Germany, India, Japan, Mexico, Morocco, South Africa, Spain, Sweden, UK and US. This committee has a function of delivery of the money and the utilization of these resources.

One part of the CIFs is the Clean Technology Fund (CTF) - The Clean Technology Fund is the main fund of the CIFs the objectives mainly are for the CTF is providing a skill of financing in countries investment plans for demonstration and transfer of low carbon technologies with significant potential of green house gases emissions reduction. In these cases there are some specific sectors that are valuable for this CTFs one is the power sector including the use of renewable energies, effiences in generation and transimission and distribution of energy. The transport sector as well is important for them (CTF committee) and energy efficency regarding building, industry and agriculture. Other objectives is to support

activities to stimulate transformal national change for CTF for instance to on new initiatives and to try to eliminate some barriers. It is important as well to give institutional strengthening and capacity, engage private sector in new investment in green economy and to compliment additional actions by governments and MDBs in each country.

What are the CTF products and terms and conditions? CTF normally you will see the resources in public sector for instance if a country goes to before the CTF Committee to ask for a certain amount of money that country is going to give its sovereign risk. So if the money that CTF is going to give to you is grant then its O.K because it is on behalf of the Government but if it is going to be a concessional financing it takes into account almost 0% interest rates but that means that you will be paying the capital for a period of 20 years if you are middle income country like Mexico or Brazil or if you are another country with other characteristics they may consider to give you 40 years term with between 5-10 grace period or if those are grants you will pay only the capital for a period for forty years old. It is important too take into account the view of the Committee regarding the country which is asking for the money.

How was the experience of Mexico with relation of the CTFs? For Mexico either private or public sector they only authorise 20 years for the financing. They did not authorise grants they only authorise financing as Mexico has the possibility to pay back any financing granted by International Banks. In that case it is important to take into account the capacity of payment and the economic situation, the credit risk of the country asking for this money. In the case of CTF you may structure grants, concessional loans, as well guarantees on concessional terms and a combination of these schemes. And if it is a private sector project they consider as well needed activity investment, debt in the range of senior subordinated debts, other restraining mechanism partial grantee for certain projects. It is important that the rules of channelling these resources through WB or IADB in our region, because they are asking those banks to mix their credit lines with these concessional resources. For example if you ask for 1 million they will ask WB and IADB to blend with another 1 or 2 million dollars to have a programme of 3 million dollars. That is the idea to have this participation of WB and IADB in channelling these resources.

This in the case of CTF you will see which are the countries that have been presented requests for these resources. In the case of Mexico – Mexico was the first country to approach and to have authorisation with the investment plan for 500 million dollars. If you analysize the list of the countries. You will see for Latina America only Mexico and Colombia, Colombia for $US150 million and Mexico with $US 500 million. The rest of the countries are from Asia and Africa specifically Middle East and North East Africa regional program for about $US 750 million. It is important to mention that this money is only for the CTF resources. They are going to be part of a bigger financing programme that maybe could have a programme of twice or three times this amount of money. CTF has committed to $US 4.5 billion dollars which is already committed to taking into account the resources that they already have assigned.

What is a definition of an investment plan? The Minister of Finance of a Country has to go before the committee of the CTF to ask for concessional or grants resources. In that case the Ministry has to be working on an investment plan that means that they have to work together with WB and IDB to form a strategy plan to decide if they asking for $US 500 million so that they will present a programme including which programmes will be a utilizing those resources which sectors, with what kind of counter parties, etc. In the case of Mexico – Mexico got its authorisation before the CTF January 2009 it was the first country to do that, because CTF and CIF were formed on October, 2008. So Mexico was the first country to ask for money. Then in the case of Mexico's investment plan it considers to support energy efficiency, renewal energy and transport problems. WB and IDB are the implementing agencies and in this case CTF resources because they blended with public and private investments as well as local and multi-lateral financing so they generate substantial investment in low carbon sectors and of course Mexico's investment plan under the CTF is helping for the mitigation in Mexico because as you know Mexico has about 715 million carbon emissions per year. So excluding the land use, Mexico is the one in Latin America countries with the highest emissions on carbon.

The kind quarantine of financial structuring done by the International Development Bank regarding the CTFs**.** What are the programmes including in Mexico City area investment plan? As an implementing agency the WB has a $US 250/ 200 million on a transport programmetogether with huge resources with public bank in Mexico as well $US 50 million on energy efficiency. This money will be put in the Ministry of Energy. Then in the coming months the government is going to give for free efficient lighting to low income households in Mexico and they will distribute about $US11 million lighting. In case of

the IFC they are utilizing the money for supporting wind farms projects and energy efficient projects. In the case of the IDB the distribution was about $US 53 million for renewal energy projects, $US 50 million for sustainable housing programme with a public bank. A $US 71million for a renewal program with another public bank B (NAFINE) and another $US 24 million for energy efficiency programme with commercial banks. These are examples of how Mexico has utilized these resources for instance in the case of the private sector projects these resources has helped Mexico to finance some wind farm projects in Wahacker. In the South of Mexico there is a state named Wahacker. Wahacker is the best place to have a wind farm project. Scientist have said that there is only one other place in Greece that could have a great potential on wind. This place is the gold place for the wind farm developers. The regulatory framework or Mexico was really complex but the Mexico government has done a lot on the regulation. If you are a private sector company you may have the possibility to invest on renewal energy in this case on wind farms. And to have a good business to do that, in this case these two projects were maybe between the first five projects in Wahacker to be financed and to be developed. One was the Lamtobadosa was developed by a French energy company it is about 67 megawatts on capacity and the off taker because the regulation in Mexico asks you if you will produce energy you may need an off taker to buy that energy and to be a part of your private company as well. In this case Walma Mexico is the one that is buying this energy from this project. The IDB, IFC, UNSECING BANK and the CTF were financing this project. The resources of the CTF in this case were channelled by the IDB. The Euros Wind Farm Project this project is bigger it is about 200 megawatts of capacity it is developed by the Spanish group Axeona and the off taker of this energy is going to be Cementos Mexicanos it is a multi-national Mexican company. The financing was made by the IDB as well IFCs and CTF. The CTF resources in this case were channelled by the IFC and as well there was participation of public banks and other commercial banks and the other programmes that are in preparation, are the one with National Fanicia which is a public bank and IDB was evaluating the possibility to form this programme for supporting renewal energy projects. This programme was going to be for about 2010 million, this was perhaps one limitation of the CTFs and the rules that they ask for being IDB and WB are the only ones to channel these resources. One limitation was that if the IDB or WB doesn't have any line of credit in a specific sector, the CTF won't be on that sector. This is a limitation because the Multi-lateral banks have their own interests in a country so if the representative of that bank doesn't consider the importance of a specific sector to have a specific line of credit so you won't have any tool to channel in that CTF resources towards that sector. This is a limitation because this international financing then responses in certain extent of multi lateral development banks requirements, needs and political priorities. That is really important to consider. In this case the IDB has lines of credit in place otherwise to have a new line of credit in the IDB takes two years. This another factor to consider, in this case banks A and B already has passed this timing because they already have a line of credit established with the IDB. On that case IDB will take a portion or a tranche of that line of credit in order to mix that tranche with the CTF resources, in this case the CTF in the case of the renewal energy project is going to be 70 million. Then the IDB is going to give 70 million through the line of credit granted to bank B (NAFINE) and then Bank B (Nafine) is going to put another 70 million with other type of funding. Local funding international funding but they are going to give this portion to form this 2010 million. In the case of sustainable housing Federal is going to be 100 million, half from CTF and 50 coming from the IDB line of credit.

Project Financing often - Officials on climate change has little experience on structuring projects and financing for them maybe easier to finance wind farm project or energy efficiency programme. Those structuring is really complex and there are some key barriers and opportunities in the case of the wind farm problems that were experienced in the last years could be big deal. In case of the projects in Mexico you will have a developer because this is a new technology. Most of the developers are from Spain because they already have the experience in Spain and other countries to develop wind farm projects. But the most important is the part of the technical capacity that the developers should have because you may know about the technology and the measuring of the potential of specific resources, proper maintainence, the best suppliers to have this wind technology but the main requirement that developer in any sector may have is the financing capacity, because for instance you may have a $US 100 million dollar of a wind project for instance what is the financial structure if I'm a banker I will ask you to come and present your project. You will need to put 30% as an equity as your capital investment. Out of 100 you will have the capacity to have 30% $US 30 million and then I will ask for a specific

grantee. Then I will give you 70% of the financing on this structure finance but you will have to at least have another 20% $US 20 million to offer the bank a partial grantee. In the end as a developer you may need 50% of the total cost of the project in order to be able to ask are financing then another 50% is going to be financed by one bank or a group of banks. Then what happens with the project? It is important as a developer to know everything about the project because otherwise you will face a lot of risk. If you are not covering or mitigate every risk you will have the projects will fail. In case of the project risk you will have at least the technology risk that means what is the capacity or the efficiency that the technology supplier is offering to you and it is one of the main reasons you have to come over and maybe you will ask the supplier to give you a performance grantee to cover any lost that be rise because the technology is not working well. The other is the quality of the renewal energy so you may have the capacity and the technical capacity to know how many hours in Wahacker is going to be working in the wind farm. So if calculations are wrong and the calculations are the base to calculate how much energy the farm will be producing and how much the project is going to be receiving as an income because energy is being sold. This capacity can not always specifically show the potential of the place and the site where the project is being developed. In this case the quality or the capacity of generation, of this renewal energy is really important. Then the planned capacity or the planned generation of producing energy will have as well another reason that is going to be related how much income the project is going to be receiving in that case it is the main life of the project that the project itself is producing. Then there are other secondary items like selling the CERs which are the Carbon Bonds that the project is producing. This is an additional income though it isn't key it helps and there will be another political risk if the land ownership. If the project is on land that is not well set the ownership of the project. In Mexico in Wahacker normally the land is from a small group of farmers who own and share the same land. It is quiet complex but it is not an issue in Mexico. The change in regulatory framework is a political is a risk as well and then who is going to by the energy. If for example the city would like to buy the energy directly from you for public city lighting and buildings etc. These type of off takers are consider high risk because of the changing of city administration of the city governments but also you may have a medium size company which is interested to buy the energy from the project. Not all the off takers are triple A rating so there are many possibilities. In the case of Mexico it has an investment rate with a really good rating, after Chile. Mexico is the second largest economy in the LAC rated by international agencies. In Mexico it is not a matter of financing because there is a lot of financing in Mexico even by the public or commercial banks, but if in those banks the people authorising the credits are not well trained to mitigate or to know how to mitigate the risk involved from those clean technologies, new projects they will say no. Because they are not financing to make sure the risk that I'm signing. It is not the matter of resources or availability. It is a matter of capacity into the banks either public or private, to decide to finance a project because they don't know how to make sure those risks regarding this new technology. In that case normally in Mexico there is a lot of structure in financing coming. Most of them are coming with guarantees and not related with financing and in some cases there are a better financing of either European country. It is a matter of guarantee and how do resources either public or international resources come in from CTF for instance can mitigate that risk that may be the international banks cannot evaluate. And that is what is important in that case it is a positive comment from WB and IDB because these banks have a group of experts evaluating the projects. For instance a Mexicana bank say that WB or IDB or IFC are participating in a syndication from a wind farm project so the committee will participate because if they don't know how to evaluate the project but they are comfortable that WB and IDB are in the project and they can fulfil the uncertainty to know how to evaluate this new risk together with these new projects. In Mexico you will see some schemes like guarantee forms to fulfil technology performance to fulfil the planned capacity or to fulfil the CERs delivery of each project. The idea is how to use in the best way those resources. If Mexico needs a guarantee, then those resources have to be used on guarantees and not for financing because the country doesn't need financing it needs some specific guarantees to fulfil some specific risks.

Ms. Aleman gave a case example on an IADB project and on lessons learnt. This is an example how you will find as a banker good work on a specific need for a specific programme. In this case an evaluation of all the needs that about 14 developers had on wind farm projects on Wahacker. In that case the wind farm project financing is taking about 17 years and the project developers had a specific need that was how to fulfil the risks when the income of the project is not paying the

senior debt of the lenders. She detailed possible scenarios for not reaching that specific income in order to pay the debt> One scenario was the fault was the off-taker if Walma says that they don't want my energy any more, disregard commitments and pay all the defaults that will be faced on the contracts. The developer has to know find another off-taker. Maybe in that scenario changing the off-taker of the energy is going to take maybe three months or six months or even a year. In this case the contingency line is going to pay the income to or the money that the developer needs to pay the debt. Meantime the developer is off getting another off taker. Another scenario is that of the government as the tariffs of energy are managed by the government and normally coincidence when there is election the government lowers the tariffs because it is a political tool. So in that scenario you have to have as well as contingency line because normally the off taker agreement consider 80 85 %, 90% of the tariff. If the government decided because of political and electoral reasons to reduce the tariff it becomes a problem for the developer so that contingency line fulfil that gap between the tariff that is being consider. It is a good time to get back of the project; normally this is time because the government is not foolish. So the time is no more than 2 or 3 months and no more because it can't be supported as a public finance. Another scenario can be that the project has some technical problems and not enough energy is being generated to fulfil the debt. In that case as well the contingency line will give you the possibility to fill that gap in the mean time the technical problems are being resolved. If along the 17 years as a developer 2 million of the contingency line is utilized this does not have to be paid back in short or medium term. This two million will be put as a subordinated loan after the term of the principal loan. The two additional million will be put on after the 17 years making it 19, 20 years or more to pay back the contingency line. That was structure specifically for the needs that developers in Oaxaca, Mexico have on these specific projects. The financial instruction has to response to the specific needs of the market.

Mexico is a large market that has to take into consideration the use of Clean Technologies in the near future, if they are to be considered to be one of the leaders on sustainable housing or green mortgage. The last five years the Government of Mexico has invested subsides to promote specifically that sector through public institutions and in the last five years Mexico has financed a $US1/2million green housing through the public programmes. That means that Mexico required at least 100 million solar water heaters. The ones who are taking advantage of this now are the Chinese suppliers or American suppliers but mostly Chinese. There are both good and bad Chinese suppliers. Then if Mexico is a huge market starting this year the Government of Mexico has decided that all and any new houses financed by the public entities has to be sustainable. Mexico has a lot of entities, donators, government, private sector,. Mexico is thinking about developing clusters, because the best scenario is that Mexico has the capacity to developing the solar water heaters for their own market. There needs to be mobilization of technical and concessional and grants like GEF, CTFs , WB, State Federal and city governments in order to develop these type of clusters. The future projects in Mexico will be related with this development of Mexicana technology for at least the Mexicana needs on the sustainable sectors. You will also see a part of the wind capacity not only in Oaxaca, Mexico but also close to California and Texas. There are a lot of projects in running or supporting this energy to the US. The other big capacity is the potential in solar which is mainly concentrated mainly in the North of Mexico and you will see a lot of projects sharing the technology development with solar with Texas and New Mexico

9.1 Questions and Comments

UNDP Trinidad – How the funds are actually implemented through projects?

UNEP Mexico – It's a long process Ministry of Finance would make a request and the Steering Committee and based on the Execution of the project it will determine the length of wait in Mexico it took between 18-24 months.

Canada – What is the process for funding for sectors that heavily use HCFCs to transfer?

Agenda item 10: Resources mobilization options for gradual HCFC phase-out and use of synergies (Dominique Kayser World Bank) via teleconference

Apologizes are expressed by Ms Kayser for neither her nor any of her colleagues being present.

Brief considerations for driving the funding scale up - Drivers for funding scale up – Environmental objectives to achieve the Ozone objectives for HCFCs phase out all the way through to 2040 as well as further to decision 19/6 paragraph 9 then to be maximising climate benefits in the HCFCs phase out work. In terms of funding considerations there is the issue of inadequacy of Multi-lateral funding that is available given the changing nature of the MP business. As a whole to meet

incremental costs, is based on the fact that there has been a steep growth in HCFC consumption witnessed in a relatively short period for Article 5 countries. That is directly related to economic development in emerging economies with rapidly growing consumer base. This has been recognized within the Protocol community as potentially having an impact on the over adequacy of MLF funding that can be available as a whole to meet incremental costs. There is also the potential to mobilise non MLF resources for co-benefits which lead to energy efficiency gains. Here efforts are focused more and more on finding options to leverage additional support for countries to meet future protocol obligations recognizing the climate co-benefits can play a significant role. In terms of options there are co-financing approaches that can leverage funding through market mechanisms as well as co-financing options that are possible through multi-lateral development bank instruments and mechanisms.

Why co-financing matters? MLF Context - The donors provide the money to the fund that then provides money to projects and overall there is terrific positive impact on the environment. The issue of additionality in terms of co-financing is that projects that bundle the ozone and climate co- benefits can generate significant global and environmental benefits through phase out of HCFCs as well as reduction of CO_2 and the adoption of more energy efficient technologies. Scaling up funds can be used to meet demonstrated demands in HCFC management strategies.

One option is the tapping into the markets and the use of market mechanisms can increase and accelerate funding by tapping into carbon assets. Future carbon generated assets by projects for energy efficiency gains can be monetize and channelled back into the projects to improve the overall funding window. Potential carbon assets are new and additional to the MLF funding. Depending on the modality used additional up front funding or project finance can be made available and financial viability of projects overall improves with the inflow of additional funds.

Option of blending with other finance instruments- blending with multi-lateral development bank financing instruments can also increase and accelerate rate to funding by indentifying synergies with strategic or national or sectoral development goals that are supported by various types of loans. The donors provide the funding into the MLF and these go over to projects when blended with specific sector specific loans which can be either fully blended commentary or partially blended then enhances a positive impact on the environment.

Grant funding option - The overall goal of the GEF with respect too climate change mitigation is to support developing countries and economies in transition into the low carbon development path. Under the GEF-5 the climate mitigation strategy consists of 6 overall objects but they are two that are relevant to MP MLF context that is the second objective that looks specifically to promoting market transformation for energy efficiency. It is a source of grant funding to establish conditions for market sustainability. Objective 6 – would support enabling activities and capacity building.

Market based funding

The World Bank Carbon Finance Unit – funds are contributed by governments and companies in OECD countries. They are used to purchase project based green house gas emission reductions in developing countries and countries of economies in transition. Emissions reductions are purchased through one of ten carbon funds on behalf of a contributor or the donor. This is done within the framework of the Kyoto Protocols clean development mechanism (CDM) or joint implementation (JI) these are not loans nor grant resources for projects rather they are contracts for purchase of emission reductions and is similar to a commercial transaction. Emission reductions are paid for annually and or periodically once the have been verified by third party audit and the selling of emission reductions can increase the bankability of a projects by adding additional revenue stream and hard currency which in turn can provide a means of ledgering new private and public investment into projects that reduce GHG emissions. There are over 60 private companies and a dozen governments that have invested more than two billion in the bank managed carbon funds. The banks carbon finances demonstrated numerous opportunities collaborating across sectors and have served as a catalyst in bringing climate issues to bear in projects relating to amongst other things energy efficiency and waste management. There is also the voluntary carbon market and decision 27 of the MP calls for a study on the size and scope of ODS banks and the costs and benefits of taking action on different categories of banks relative to the Ozone Layer and climate change.

Verified Carbon Standard (VCS) – It objective is quality assurance standard that projects can use to quantify GHGs emissions ensure that they meet acceptable quality standards and are independently verified and issue credits in the voluntary markets. The VCS has just approved new methodology to quantify GHGs emissions reductions from activities that recover and destroy ODS. VCS has just added a new methodology which can be found on their website.

Climate Action Reserve (CAR) – This addresses the USA carbon market by establishing regulatory quality standards for the development quantification and verification of GHG emission reduction projects in North America. They issue carbon off-set credits that are the Climate Reserve Tonnes or CRTs. The CAR provides a standardized approach for quantifying and monitoring GHG reductions from projects that destroy domestic or imported ODS with high GWPs that would otherwise have been vented.

Other Financing Instruments

Climate Specific Instruments The climate investment funds CIFs are a World Bank partnership with multi-lateral banks that provides financing instruments designed to support low carbon and climate resilient development through scaled up financing. Since 2008 there have been 14 countries that have contributed to the CIF trust funds for a total equivalent of $US 6.5 billion dollars. Funds under the CIFs are dispersed either as grants, highly concessional loans and or risk mitigation instruments. The CIFs at this point are actually are at a point where they are re-neigotiating new funding and that is a good indication of how popular they have been. There two funds under the CIFs one being the clean technology fund CTS which promotes investments towards a shift in clean technologies. It promotes scaled up financing for demonstration deployment and transfer of low carbon technologies which have significant potential for long term GHG emission savings. Energy efficiency is focused on to a certain degree. The CTF promotes programmes in support of buildings, industry and agriculture. In terms of eligibility and access to CTF a country has to be Official Development Assistance eligible and they have to have an active multi-development bank programme. It can be any of the multi-lateral development banks that are part of the partnership. Mexico is a good example the efficient lightning and appliance project. CTF seeks to fill a gap in the international architecture for development finance by making available financing at more concessional rates than standard terms that are used by multi-lateral development banks and also at the scale that is necessary to provide incentives to developing countries integrate national appropriate actions into sustainable planning and investment decisions. It is significant about of funding generally. Through CTF countries and the multi-lateral development banks as well as other partners agree upon country investment plans programmes that contribute to demonstration deployment and transfer of low carbon technologies that have significant potential for GHG savings. Another Climate Specific Financial Instruments (CIFs) is the Strategic Climate Fund (SCF). The SCF is an over arching frame work to support three targeted programmes with dedicated funding to pilot new approaches with potential for scaled up action aimed at specific climate change challenge or sectoral response. They cover different areas such as forest investment programme (FIP), scaling up renewal energy programmes in low income countries (SURP), pilot programme for climate resilience (PPCR) and the objective of the PPCR is to pilot and demonstrate ways to integrate climate risk and resilience into core development planning while complimenting other ongoing activities. It supports two types of investments, (1) funding for technical assistance to enable developing countries to build on existing national work, (2) to integrate climate resilience international and sectoral development plans and it also fund public and private sector investments indentified in national of sectoral development plans strategies that address its climate resilience. There are two regional programmes that exist under the PPCR one which is a Regional programme which focuses on the Caribbean and it includes Dominica, Grenada, Haiti, Jamaica, St Lucia, St Vincent and Grenadines.

Funding that are development focused

The World Bank Group includes two unique development programmes that provide access to loans there is the International Development Association (IDA) which focuses on the world poorest countries. Then there is International Bank for Reconstruction and Development (IBRD) which aims to reduce poverty in middle income and credit wordy poor countries. Each of these development programmes plays a different but collaborative role in advancing the vision in inclusive and invasive globalisation.

IDA is one of the world's largest sources of aim it provides support for health, education, infrastructure, agriculture, economic and institutional development to the 79 least developed countries LDCs. It was established in 1960 it aims reduce poverty by providing interest free credit and grants for programmes that boost economic growth reduce equalities and improve people's living conditions. It is the single largest source of donor funds for basic social services in the poorest countries. IDA lends money that is known as credit on concessional terms. This means that IDA credits have either zero or very low interest credits and those repayments are made over 25 to 40 years including a 5-10 grace period. In addition some select countries are eligible to receive out and out grants. There have been IDA loans that have been for specific work on environmental protection. IDA has in the order of $US 5.2 billion dollars in environmental and natural resource projects over the past decade alone. The support provided has helped mitigate air pollution in urban and industrial areas to provide cleaner and more reliable sources of water. Make land management more sustainable, deal with climate change and protect biodiversity and build environmental institutions. IDA resources are also helping contribute to disaster mitigation and management in Haiti. IDA eligible countries which are defined by GDP in the Region, Bolivia, Nicarugua, Dominica, Guyana, St Lucia, Honduras, Haiti and St Vincent and the Grenadines.

IBRD which deals with the middle income countries the mix, aims to reduce the poverty in mix and credit wordy lowest income countries by promoting sustainable development through loans, guarantees, risk management produces and analytical advisory services. IBRD burrowers include countries at widely different stages of development from emerging markets such as Mexico to countries that are still struggling to find a foot holds in the global economy. It was established earlier than the IDA in 1944 as the original institution of the World Bank Group. It is structured as corporative that is owned and operated for the benefit of its 187 member countries. IBRD rises most of it funds on the worlds financial markets and the income that IBRD has generated over the years, has allowed to fund development activities as well as to ensure the financial strength that enables it to burrow at low cost and thereby offer clients good burrowing terms. In terms of looking towards the future with IBRD the demand for policy knowledge and financing support in low carbon growth and climate resilience is growing steadily. IBRD resources can be expected to be called to support transformational programmes with lower emissions catalyzed by dedicated to climate resources. IBRD capital is also expected to be in greater demand for guarantees insurance products to attract private sector investments in new technologies and in climate vulnerable areas. Contributions to existing and emerging climate funds are expected to leverage considerable underlining financing from public and private sources.

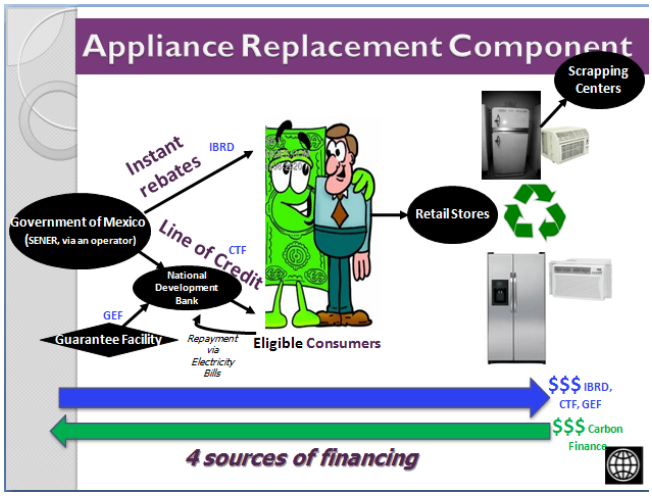
In terms of the types of leading instruments and approaches at the bank there are several types of investment loans. There are specific investment loans as well as, development policy loans. The WB investment leaning finances goods, works and services in support of specific and social development objectives covering a board range of sectors. Specific investment loans (SILs) supports creation, rehabilitation, and maintenance of institutional infrastructure. They can also finance services such as consultant services, management and training programmes. They are flexible instruments that are appropriate for aboard range of products and the help to insure technical, financial, economic, environmental and institutional viability of a specific investment. They also support the reform of policies that affect the productivity of an investment. The World Bank also funds development policy operations known as development operation loans that provide untied direct budgets supports to governments for policy and institutional reforms that aim at achieving a specific set of development results that are consistent with countries economic and sectoral policies.

Co-financing in practice - As an implementing agency theGEF there is some blending with lending that does go on and the bank views blending or integration of its projects under the GEF with its loans as a very good way to achieve the leveraging requirements of the GEF. Within the context of the World Bank Groups activity portfolio in fiscal year 2011 projects under implementation 44% were blended with IBRD or IDA loans. The bulk of these are in the climate change and biodiversity focal areas but more recently there has been an expansion of an enhanced enough to try to increase the potential for blending with lending. It's very recently within the POPs the POPs sector there has been a Project Identification Form that has been indorsed for a Persistant Organic Pollutants fullsize project in Vietnem that will blend a $US 7 million dollar project with an IDA loan of a $US 150 million dollars in the health sector. That is taking advantage of an opportunity where there is a significant about of co-financing in a sector where there can be value added brought in by funding from a source such as

GEF. In terms of the MLF there is no reason why countries could not be looking at trying to blend there HCFCs phase out strategies with lending programmes through the various Multi-lateral development banks.

Mexico's Efficient Lighting and Appliances Project

Is an excellent blend of the three different types of co-financing and it includes the grant co-financing from the GEF, it includes loan money, it includes carbon finance and it includes money from CIFs 50 million dollars. Effectively there are three components the lighting part the (1) CFL replacement the (2) appliance replacement part then there is (3) technical assistance and institutional strengthening.Fig.3



This diagram shows how it all nicely comes together, the arrows at the bottom showing how the way how the money comes in and goes out. The money going from the loan CTF and the GEF towards the support of the programmes and then the Carbon Finance coming back in, four sources of financing supporting this programme.

In addition within the context of the Montreal Protocol, there are some ODS disposal that is going to occur that will also capture, stop and alleviate the emissions into the atmosphere and allow for destruction of CFCs. It's a beautiful example of how something can come together in a very well financed closed loop and achieve incredible global environmental benefits across the board.

Mexico – Adds that Mexico's efficient lighting and appliance project is a win/win programme from every angle it is looked at, because the government doesn't have to spend more money on the energy subsides. The energy in Mexico is subsided in low income sectors so with this change with equipment: first the government is spending less money, the principle of this project the government gives a kind of a gift or partial gift with the new refrigerator. There is a condition that new refrigerators cannot be any size, it has to be in order to comply with the energy consumption to reduce the energy consumption. The new refrigerator has to be a similar size from the one that is retired. In general those appliances are medium small appliances; the people are getting a new fridge and the government is paying less for energy consumption. At the collection centres they are destroying the old fridge and getting money by selling the all the materials and the gas is being recovered, CFC 12. It has also been found that the old and very bad conditions of the equipments and the practices that the people use to have with fridges containing R12 refrigerant. Some of the recovery centres are willing and are working towards to getting carbon credits through voluntary carbon markets that Ms. Kayser of the WB mentioned earlier. There are two main groups that are going towards that market so they are gaining with selling the materials and also they are getting a payment for retirement of the equipment. When they receive the old equipment they get a payment from the stores and the stores then sell more and more fridges and the companies are then able to produce more fridges. Therefore, it is a win win program and protecting the Ozone layer, reducing energy consumption and reducing the effects of climate change.

World Bank – WB is grateful for Mexcio's additional details on this project and closes on the point that there is the possibility to look for co-financing to support the work that has to be done on a long term bases under the Montreal Protocol for innovative sources. It takes a different type of cooperation, collaboration that the Emergency Livelihood Assistance Program (ELAP) shows. The driver wasn't ODS initially but it was energy. What should be considered is looking and working boardly with colleagues at the national level to try and to tap into these additional sources of funding. Example, the Ministries of Energy as well as others with respect to being able to tap into financing from banks. People need to get to know their colleagues in the Ministries of Finance because these are the persons who you would be dealing with

on the ground. This is the time to start engaging in that type of dialogue to explore the possibilities to tap into this type of funding.

Recommended Website

Climate Finance Options (WB/UNDP partnership)- Funding sources/results of projects on the ground http://www.climatefinanceoptions.org/cfo/index.php

It is the platform that lays out all sorts of information and funding sources specifically and also projects on the ground for both adaptation and mitigation. It allows the viewer to determine projects eligibility and how funding sources are structured and how organizations or institutions can access financing from a variety of funding sources. There are also a whole series of case studies and also contains a knowledge centre. It is a really great centre and resource.

10.1 Questions and Comments

UNDP Trinidad – How is the project implemented, are they implemented through a government agency or through one of the private sector banks? how are the funds actually implemented through projects?

UNEP Mexico – It has come a long way because when a country Minister of Finance goes to the CTF to ask for an investment plan and support. The steering committee of the CTF says OK I and would authorize in the case of Mexico $US 500 Million. Then on January, 2009, after almost three years, those resources have not been totally dispersed. You would have authorization but it would depend on the execution of the resources by World Bank or IADB when you would see the money. So maybe the line of credit for a specific program into the IADB is going to take about maybe one year to be authorized then you go again to the steering committee of the CTF to have a final authorization and when you will have that final authorization the CTF is going to place the resource into a specific account in IADB. The IADB then take the resources and start to make the disbursement for the country for specific progromme in this case let's say a public bank will receive the resources when all authorizations like have been signed. It is going to be a global authorization as a country but then you will be asking for authorization into World Bank or IADB and then another authorization from the CTF. In the case of Mexico it has taken between 18 – 24 months.

Canada – Clarification – When Multi-lateral Development Banks do not have a window for a particular sector, then would this be impossible to get financing from the sector? Are you suggesting for the sectors where HCFCs are used, such as refrigeration, air-conditioning and foams that it is unlikely that there would be windows of opportunity for these sectors? And if so what would be the process involved to open such windows, since it could take up to two years for a new sector to be considered by a bank?

UNEP Mexico – The country acts as normal borrowers for instance for this year or next year in the case of Mexico. Mexico's line of credit before IADB is going to be 1 billion. That 1 billion is going to be shared among all the sectors that has already has done some advances to prepare a sectoral loan. So if companies are not in that line of sectors that needs it, you will wait for the next year because otherwise the credit ceiling for the country is not going to be enough to cover a new sector. Companies would wait at least one year to be considered. This was the basis for UNEP's comment. When you are in a representative office in a country in a World Bank for IADB you will be dealing with requirements for all the sectors not only for the sectors to be considered under CIFs. So the credit guise in a bank doesn't care if they are coming from CIF or PIFs or whatever fund, they only care about the country ceiling.

Agenda item 11: Investments in Mitigating Climate Change and the management of chemicals (Ming Yang, GEF)

GEF – Global Environmental Facility, 20 years investment, resources and strategy in climate change, mitigation and chemical management.

GEF was founded in 1991 over 20 years ago. GEF Secretariat based in Washington D.C U.S.A it has 80 professionals. Two of these professionals are Trinidad and Tobago citizens. Is use as a mechanism for three conventions, they also provide financial mechanism or assistance to Montreal and Nagoya Protocol. GEF also provides financial assistance to international waters, POPs and many other specific protocols and agreements for e.g GEF provides secretary service to the adaptation board of the UNFCCC. GEF becomes the mechanism for international cooperation for the purpose of providing you an additional grant and concessional funding to meet the agreed incremental costs of measures to achieve a great global environmental benefit. As of today GEF has 182 participating countries of this 40 are donor countries they put funding into

GEF others are receiving countries. So far GEF has received 16 billion dollars from donor the countries and there are 10 implementing agencies, World Bank, Asian Bank, IADB, UNDP and UNEP are all implementing agencies of GEF. As of today GEF has approved 2700 projects worldwide to promote global environmental friendly projects.

GEF's 20 investment in Climate Change mitigation and out climate management

Why GEF? GEF is unique. Without GEF many of the 2700 projects would have been implemented but they may be implemented or carried out in different ways. These are government, private sector, or multi-lateral bank or by-lateral bank or others individually. With the GEF involvement many of these projects or all of the projects are involved in all this kind of stakeholders. Co-financing is the key business of GEF which tried to put all the stakeholders together to do project that will save money, save investment and that will generate, maximize the cost. Most cost effective way. With GEF investment a lot of money can be saved and this is another conceptual structural model. So far GEF out of the 16 billion dollars has had 3 billion invested in 150 countries in climate change mitigation, adaptation; technology needs assessment and national complications to the UNFCCC. In POPs and in ODS the GEF Trust Funded invested 610 million dollars including a 187 million dollars in ODS, 426 million dollars in POPs. There is also detailed information about the projects for example 21 projects in 91 individual countries is in ODS and the 219 POPs projects over 154 countries.

GEF function is catalyzing investment because GEF money is not enough to serve all the Global Environmental Protection or investment. GEF investment is quite limited but the GEF is fund is grant and does not require paying back that is core. With this 3 billion dollars in Climate Change the GEF has leveraged over 18 billion dollars as co-financing. In POPs or ODS with this 613 million dollars they leveraged 875 million dollars for financing. GEF fund is a cost effective because over 2.5 billion tonnes of Carbon dioxide has been avoided in climate change. This is equivalent to 1.2 dollars per count of Carbon dioxide. Currently in the UK marketing carbon emission trading 14 Euros per tonne of CO_2. This is pretty cost effective with GEF Funding in terms of CO_2 emission reduction ratio. For the ODS profolio there is an additional 1.16 million CO_2 equivalent has been avoided.

Distribution of GEF Funds

187 million dollars in 21 ODS projects these projects took place in economies in transition in Eastern European Countries because GEF does not directly fund ODS projects in developing countries. 426 POPs projects – 22 million projects.

GEF 2010-2014 – Climate Change Strategic Objectives

Demonstration deployment, transfer of enormity for no carbon technologies, marketing transformation for energy efficiency industry and building sector. Energy efficiency and low carbon transport and carbon on the urban system because of the ODS is also used in transport car refrigeration and air-conditioning.

Enabling activities and Capacity building

Funding for ODS, POPS. GEF has specific objectives 2010-2014 to phase out ODS and reduce POPs and mercury. These are the strategic objectives

Resources and Strategy in Climate Change in Chemical investment, During GEF 5 2010 -2014 – GEF has a total replenishment fund of $US 4.25 billion dollars. This number was recorded in June 2010. That was the end of the GEF before, now there are more funding 4.35 billion dollars. GEF is a resource allocation system and this figure is for comparison analysis. In time GEF Climate Change focal areas has $US 1.36 billion dollars increasing by 36%. For ODS and POPS the total amount resources increase from $US 314 million dollars in GEF 4 Period to $US 425 million dollars in GEF 5. Though he was asked to show the how much money individual countries would have in GEF 5 for ODS. Mr. Ming is unable to do so because in GEF 5 the ODS focal area were not in resource allocation system, meaning that GEF does not allocate that amount of funding to individual countries in their operation. It is different from the focal areas of Climate Change, biodiversity and land degradation. GEF works on it as a first come first serve, meaning that any countries can provide proposals and apply for the $US 425 million dollars in POPS and ODS.

How much money the GEF has use over the pass 20 years

The Caribbean Strategic Environment Assessment (SEA) has used about $US 5 million dollars and this represents a ration of 12% of the total funding the rest of Latin America used about $US 36 million dollars or 88% of funding.

Climate Change allocation in GEF 5 period

In Climate Change GEF uses a resource allocation system to allocate funding to individual countries. In climate change there are $US 1.088 billion dollars or $US 1088 million dollars for the climate change resource allocation in the start, meaning that GEF allocates all the funding. Together that is 144 countries, allocation together which is about $US1.088 billion dollars, of all the countries China got the biggest allocation of $US 150 million dollars other countries got a smaller amount peculiarly about 137 countries got about $US 4 million dollars each. In Caribbean Sea countries most countries got about 4 million each in climate change. How to use the $US 4 million dollars for the ODS project will be talked about later.

Besides this $US 1.088 billion dollars in climate change GEF has a set aside about $US 272 million dollars which is 20% of the climate change money set aside for other purpose. E.g this money can be use for global and regional projects. It can be used for sustainable forest management etc. Besides this GEF sets aside ODS and POPS total about $US 35 million dollars for national complications.

Key points and Key elements in GEF Development Projects

In GEF there are two kinds of projects:

(i). Full sized project – Any project if it has requested more than 1million dollars then it is called a full size project. A full size project should go through two steps to get the application approved. First step the country programme manager or officer should develop programme identification on PIF. This PIF is normally developed by the agencies UNEP or UNDP or the banks prepare the PIFs. These PIFs are submitted to the GIF programme managers like Mr Ming who will review the PIFs and if the PIFs are good then they will recommend the PIFs to the CEO. The CEO will clear the PIFs so this is called a first initial stage and unless the PIFs are cleared by the CEO. The GEF council during the submitting's will review the PIFs either approve it or reject it. Most of the PIFs cleared by the CEO are normally approved by the council 95% certain. Therefore that first stage where the CEO clears the PIFs is very important. When the PIFs are approved by council then the agencies will develop a detail project to developing the documents, such as how to implement the project and how to get the finance how to get the technology transfer etc etc. Then this is called the project implementation document which will be sent to GEF and then the programme manangers like Mr. Ming will review the document and then once the document if good they will recommend the CEO to endorse the project. Once this project is endorsed then the GEF Trust fund Trustees will release the fund According to the permanent document to the agencies. Once the agencies get the endorsement from the CEO the project then has to be approved by all the stakeholders so the agencies will implement the projects and then once the project implementation is over the agency will do the evaluation and also GEF evaluation office will do the evaluation. Once the evaluation is over then the project is over. This is the cycle for the GEF full sized projects.

(ii). Medium sized project – Any project amounting to less than 1 million dollars is called medium sized project. In this kind of project there are two kinds of procedures for approval, for the implementation. If a medium sized project does not require the project preparation grant or PPG. That means the agency will use its own money to prepare the implementation document. Then there is just one step for approval. The agencies will submit the project document for the CEO to approval. Once the CEO approves this then is approved and the council does not need to approve this. If a PPG is required then the agency needs to provide the PIF like the full size project as stated before.

(iii). Small sized project – Mr.Ming opts not to discuss this one because there is a lot more details and it is managed by a different team in GEF Secretariat.

In GEF Project it is a very important factor that you should keep in mind that GEF has the operational focal point in each of the countries or in a group of countries. This operational focal point they compose this monthly quota allocated to the countries. If you have any project idea you should talk to the operational focal point (OFP) to see if there is a quota or allocated amount of money available in that peculiar country. Because whenever GEF allocates money for the individual countries the country will use that quota amount of money year by year for the four year period. If your project is suppose to take off 2012 or 2013 for example then that country may not have that peculiar amount of money anymore. As

mentioned earlier there is only 4 million dollars available for small island countries. That means that you need to contact the operational focal point of the country to see if the money is available and also to see if the country would like too proceed with the project. This is very important because of the GEF would like too encourage that country ownership for their projects. GEF does not what to dictate what projects should be done. All GEF is interested in is whether your project meets there objectives for funding. The country endorsement from the National Operational Focal Point is very important. If they give you the red light your project will not take off. When the project proposal is submitted while in PIF that is the project identification form is submitted to the GEF. It is then evaluated with a number of criteria's. The three most important which are difficult to understand are (i) baseline – what is baseline? GEF always talk about GEF costs as an additional cost additional benefit. Baseline in GEF is very similar to what is in the CDM Project of the UNFCCC. GEF defines the activities that would happen without the GEF investment that is baseline. So the baseline is what kind of cost or funding will be used in a project. The funding may come from the government, multi-lateral banks, private sectors any other resources but not the GEF money. With this amount of money what would happen with Global Environmental Benefit? How much metric tones of CO_2 will be avoided or mitigated because of the projec t because of this amount of investment. So that's our baseline. GEF automotive or incremental costs benefit. The automotive of the GEF is defined as activities that would happen with the GEF investment. The GEF funding can be use to technology licensing like purchasing the patent of technology transfer or procurement of equipment and engineering services. Acquisition of resources such as land for wind energy or any other small building for energy efficiency projects and training for technicians to mange new technologies. Many people argue that energy efficiency projects are quite financially viable and it does not really need the financial resources from GEF. Mr Ming does not agree with this statement because of his experience in many developing countries with stakeholders with energy efficiency or factories or companies. Even though the energy investment can be recovered or seen in 2-3 years. They will not invest money in energy efficiency. Because the energy investment can be 2-3years payback and they think that they may have relocated their factories by this time. Most time if return can be seen in a year by factory owners they will not invest in the equipment. The investment cost of energy efficiency for equipment is a very short time. In one year or less than one year you put energy efficiency refrigerators, the net incremental cost could be positive and the investment cannot be recovered in one year. If the equipment is used for number of years then the total investment can be recovered. The net incremental cost will be elective that means that gained some benefit from the investment.

Case study in Rio Project Development and this was developed with Asian Development bank for one project in China. The ADB put 100 million dollars to finance energy efficiency in China. Mr Ming worked with them on the baseline and incremental cost to justify the project. The baseline was developed – according to the historical data in China over the pass five years during the 11 five year plan China invested 7.3 billion dollars in energy efficiency and reduced 14 million metric tones of CO_2 or core equipment. Saturation of the energy project was taken into account. A same system you would invest more money and then save less amount of energy. In the next five years the effectiveness of energy efficiency investment will be reduced a little bit. So this scenario for the next five years that is a 12 five year plan will be like an investment of 12 billion dollars to reduce 20 million metric of equipment. So this is our future scenario, then the Chinese government could not rise enough money to cover 12 billion dollars they only had 11 billion dollars then ADB and GEF, local government and private sectors got together to put the rest of the 1billion dollars. This shows GEF investment, GEF project and ADB project together 180 million dollars and then this kind of money will be used again because of the GEFs credit line in finance leaning. After the money is paid back it can be leant again. Total amount of available money for the market will be 1 billion dollars together. The direct saving for energy will be .3 million metric tones of equipment and together we will reach 20 million equipment. This is a typical baseline and CRESP GEF Project, this was cleared by the CEO and it this will be put to the council for approval in November this year 2011.

<u>GEF study in energy efficiency and ODS project</u>. The first CRESP Project that was started in China during 1998 and 2006. In that project GEF put about 10 million dollars and co-financing about 32 million dollars so the ratio of the co-financing is 1:3. This project will have reduced 42 million tonnes CO_2 and the cost of carbon reduction ratio in terms of dollar to CO_2 emission reduction is 1 dollar to 1 CO_2. Besides this benefit there is also an institutional framework benefit for the

government for example this project transformed the refrigerator market by promoting energy efficient models that reduce CO_2 and CFC emissions via CFC free appliances.

Case Study

HCFC Project – This project was endorsed by the CEO in 2010. GEF put $US18 million dollars and leveraged 40 million dollars and expected an initial reduction 60 thousand tones of CO_2. This project will introduced more energy efficient designs through technology transfer from Organisation for Economica Co-operation and Development (OECD) countries to Russian Federation. For air-conditioning, manufacturing industry this project will build capacity for greater market share to energy efficient technology through greater consumer demand. This project will help Russian meet 2015 Montreal Protocol targets.

Co-financing: Co financing from the perspective of GEF stands for any money from the Government, other multi-lateral or bilateral resources private sector NGOs project beneficiaries and concerned GEF agencies. Co-financing is very important or essential and it has potential in the GEF to meet the GEF project objectives. Without co-financing you will not be able to get GEF dollars.

The Risks show over Climate Change and Co-financing 3:18 this means 1 dollar from GEF money never reach the 6 dollars as co-financing. In ODS and POPs is ration is pretty low it's not the 1:6 its maybe 1:1 or 1:2 or 3 and this is pretty good for ODS, POPs because not many private or public sectors what to put their money for ODS and POPs projects.

Key Point for HCFC and Energy Efficient Development Project

Mr. Ming's major mission at this meeting is to search for or to develop ODS and energy efficient projects for the various countries at this meeting. He is here to learn as well as to teach participants how to develop the projects. He reiterates that point the Principle Prof Sankat stated on the first day that some concrete actions need to come out of the meeting.

How to Develop a Project

1. Policy and regulation from your government is very important. That means that the government should have some policy or regulation to promote energy efficiency technologies or projects in the country. To phase out the HCFC or inefficient equipment in your country without this it's really very difficult to promote or implement the energy efficiency projects to phase out HCFC in your country. Almost in every project that GEF has they have a component for policy development, institutional, capacity building, with the GEF money you can convince your Government to have this policy on board to promote energy efficiency Ozone friendly technology in your countries.
2. The involvement of Multi-lateral and local commercial banks this also very important. GEF is looking for co-financing and it should be mainly from banks, multi-lateral banks, development banks, commercial banks, without banks involvement this co-financing ratio is very small.
3. Local professionals in energy surveys in your country. That means that there needs to be development of energy service companies. e.g GEF put money in China for the development of SCROS. Specifically companies and provide the training of professionals of the SCROS. Where the SCROS exist in countries GEF can aim in building up the capacity for specific technology transfer for the ODS friendly technology transfer in the country.
4. Incentive to technology users. That means that there needs to be policy where any other benefit for the users owners, landlord, for this kind of energy efficient equipment e.g hotels, commercial buildings, house owner to make sure they have low energy efficiency incentives if they should change the equipment in the buildings, hotels and homes. So this kind of incentive needs to be on board.
5. Capacity building and development of technology users and commercial bank professionals. As mention before training is required and professional ways to develop people and professionals in the country who do this kind of work because this phasing out of the HCFC requires that introduction of new gases. This kind of professional should be retained in the country. So there should be some incentives to offer training to them. Then remove barriers such as information barriers many countries don't have access to this kind of efficient technology

information. These barriers need to be removed. Finally note that you need to work with GEF and remember when GEF is involved your project is international and your project will benefit global environmental benefit. That is why the government will invest in the project otherwise the money will not be approved. Hence, the reasons why GEF can work with countries even with a very small about of money like the China energy efficiency project. As mentioned earlier GEF only put $ US 4 million dollars and ADB $US100 million cash, local Chinese government put 80 million dollars totaling $US190 million together but GEF money is very small. Though GEF money is small if it isn't there it can attract the other larger sums of money. Then all the the stakeholders will need to work together and that is very important.

Conclusion

The GEF has achieved as mechanism for the UNFCCC. GEF invested $US 3 billion dollars over 850 projects in 150 countries throughout the world. GEF was able to leverage $US 18 billion as co-financing in climate change projects only and we mitigated $US 2.5 billion tones of CO_2 in ODS and POPs. GEF invested $US 613 million dollars and leveraged over $US 817 million dollars as co-financing. ODS and POPs mitigated 1.2 gtonnes of CO_2 that is equivalent and i s a huge deal in climate change.

Looking forward the GEF 5 Period 2010 -2014

GEF has $US 1.63 billion dollars towards Climate Change. There are 6 strategic objectives two of these objectives match ODS and POPs objectives. That means we can use some money from the Climate change mitigation money through the ODS and POPs. Then GEF has greatly positively impacted on Global environmental benefits. Baseline and Incremental costs are very important in GEF development project. This is not easy because of in terms of baseline and mitigation calculations we can help. GEF has the expertise on how to calculate these things while you are developing your project. Identification forms for project document.

Looking forward to ODS and GEF 5

GEF has three strategic objectives there are more funds available in GEF 5 than GEF 4. GEF will develop projects that will meet strategic objectives of climate change, ODS and POPs. This has high priority in GEF and these kind of linkages can be made with ODS and hazardous waste management and ODS and energy efficiency its multi focal projects that will benefit not one focal area in climate change but others like ODS and POPs.

Project IDEA

In Colombia there are 4 million units of air conditioning unit using CFCs which is not good for the environment. GEF can develop a project to deal with this problem. This project will follow the path of the ADB project in China. The project scope needs to be defined, air-conditioning equipment form, calculate how much CFCs need to be phased out and what type of technology should be used and how much money for the individual sector to get a loan. IADB can put $US 100 million to local bank and then a credit line from a commercial bank and encourage house hold sector or individual users to get a loan to phase out this inefficient equipment.

11.1 Questions and Comments

CHENACT - CHENACT has found that commercial banks are not the least bit interested in supporting new projects that have to do with energy efficiency. They are happy to support their existing good customers. Hence in Barbados there is a SMART FUND through a loan from the IADB. The Smart Fund is currently $US 10 million dollars, small to medium individuals can go and borrow up to $US 1.5 million per project for energy efficiency and renewable energy and this fund really came about because of the lack of interest from the commercial banks.

ESCOS existing in the region – The understanding of an ESCO is an energy company that is willing to go into companies or homes and do all the recommended retro fitting and then divide the savings between the property and the ESCO in order for them to re-cope their investment. CHENACT have found these don't exist in the region except for Mexico and U.S however there are quite a few variations of ESCOS and there is one in Trinidad that is quite willing to come and assist you to get a loan from the bank to do the retro fits. All they can do is guarantee the savings and that is all they can do. Niche

oriented companies have been found for either air-conditioning or lighting. Two things need to definitely be considered (1) Capacity building and (2) building a climate where the service industries may develop. There is preliminiary information in CHENACT 1 and 2 and will be looking at developing some of the companies. In terms of hotels there is definitely an interest in investing in energy efficiency as long as the payback is less than 3-5 years they are not interested in any investment that goes beyond that because of the fact that technology changes after a period of time.

GEF– The commercial banks are interested in this in China but not in this region because in China there has been a large number of energy efficiency projects already. Implemented by the bank, IDB or World Bank, in this $US119 million projects GEF also provided training for the banks already so they everything about energy efficiency. Training was done for the banks, Government officers and SCROS in particular capacity building because each project has a different capacity building. For this $US 119 million dollar project for example the ADB and the GEF will hire international experts to train the Chinese to do monitor, report, and verify the CO_2 emission reductions. This is very new even to UNFCCC. So this project will get this type of training in the banks especially since they don't know about these types of projects are very profitable investments.

CHENACT – The banks do have their own energy officers but it is there conservativeness and they will look at their existing customers but not new customers.

GEF – Believes that since the banks are doing some sort of investments with existing customers then there is hope but he would like to do some training with them. GEF has also personally trained ESCO experts in China on how to do their auditing of boiler systems, motors and fans in the industries. In China ADB did a lot for training for ESCOs and they didn't know how to do the energy auditing but they do now. The current experts that are in the region can receive more training. This is very important and this type of technical work will be needed and required by the experts. There needs to be a large number of professionals not one, perhaps 1000 persons for this region. GEF is also very glad to hear about the interest from the hotel sector and would like to start a project perhaps in Trinidad and Tobago and would like the opportunity to meet with some of them. But if it's not possible during this visit then he return to show hotel managers how to do it step by step. GEF would like to use his years of experience in auditing hotels and factories for training of persons in this region.

Venezuela – Indicated that the operational focal point for Venezuela is not known for GEF.

GEF – Your country may not have an operational focal point in your country because for the small countries there is only one focal point to represent the appropriate countries so your proposal may be stuck somewhere or it has been delivered to GEF yet or it was submitted and the office did not proceed correctly. GEF is willing to follow up on the project for Venezuela. GEF apologies for the inefficiencies of GEF but believes that they can still work together.

Barbados – If hypothetically Barbados had a project along the same lines in relation to A/C and they wanted to change some air-conditioning in a group of hotels. Would GEF fund the replacement of the A/C to more energy efficient ones or do you fund the incremental costs?

GEF – In such as scenario GEF would not pay for the new A/C Barbados would be able to pay for the equivalent. Keep in mind that there is another GEF criteria which is co-financing that means that parties and the hotel will pay the majority of the cost of the equipment for the additional amount of money that is required for more efficient equipment or the ODS efficient equipment. GEF funds really should be use more for equipment replacement and not so much for capacity and policy building and Barbados will have the Montreal Protocol fund to support this need.

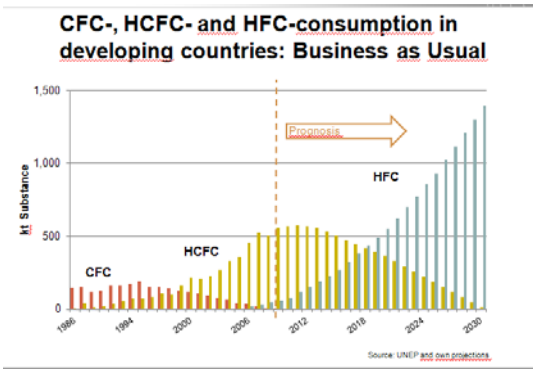
Agenda item 12: Nationally Appropriate Mitigation Actions (NAMAs) as a possible option for HCFCs phase out (Alvaro Zurita, GIZ)

GTZ changed its name January 2011 to GIZ due to a merger with three German institutions invent MDD. Some participants may know the GIZ proklima programme.

What is happening in the sector?

The sector of the foam blowing agents. What is happening there?

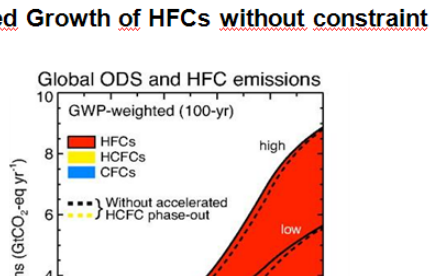
First there are the CFCs with high ODP and a very high GWP. CFC has been phased out now there is the HCFC phase out but it can be seen that there are still high GWPs with HCFCs. So this has to be phased out and now HFCs are being introduced and HFCs are not a ozone depleting optional without a problem, HFCs that have a higher GWP than the ones that have been phased out. HFCs are not the solution. Whether it is a phase down or out there need to be options. Some of these options are the so natural refrigerants, foam blowing agents that contain CO_2 it clearly has a very low GWP. The same happens at the air-conditioning and refrigeration sector. CFCs have a very high GWP, HFC is lower GWP but it's not the solution so way seems to be towards the natural refrigerants.



What is happening with the consumption?

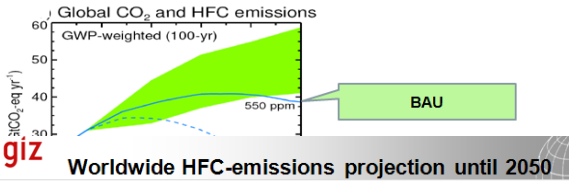
CFC consumption world wide are disappearing now and HCFC will disappear too but the estimates show and consumption shows that the HFC is growing rapidly. The graph is showing estimates but a lot can happen between now and 2050 but if nothing extraordinary happens then this is what could possibly be the scenario.

This graph shows what will happen with CO_2 emissions. The blue area you can see the CO_2 emissions from the CFC with the phase out they will disappear. In the yellow are there are the CO_2 emissions from HCFCs and they will disappear with the phase out. But with the introduction of HFCs and their GWP we can see how this will grow in the next forty years until 2050. This is an estimate. This graph is able to show the importance of the matter.



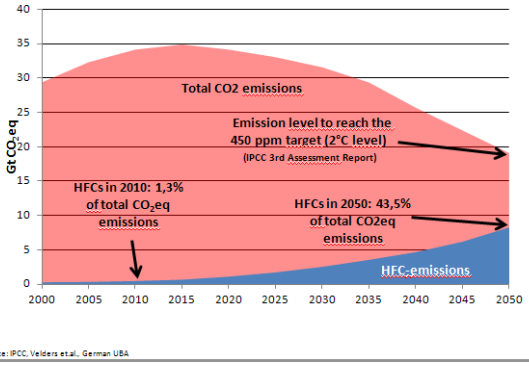
HFC share of global GHG-emissions (compare HFC high vs. 450 ppm stabilization szenario –> blue dotted line)
Source: Velders, Guus J.M. et.al., 2009

The blue line is business as usual. There are the global emissions including the energy sector. This could the scenario if nothing happens. If all measure to avoid climate change, then the target can be meet in 2050. If nothing is done with the emissions coming from HFCs there will be this participation of the globe emissions CO_2 and this can be 40% of the global emissions.



Worldwide HFC-emissions projection until 2050

At the moment the emissions from HFCs are in significant but in the future it can be a real problem.



Source: IPCC, Velders et.al., German UBA

Applications in the refrigeration, air conditioning and foams technologies: What has GIZ done in this area? Proklima is a

programme working in the sector development from CFCs to HCFCs to HFC and now an alternative for LWPs and energy efficient technologies has to be found.

Some examples from the Projects

i. In Brazil: Refrigerator recycling programme
ii. China: Split AC production with propane
iii. China: Production of XPS insulation sheets (CO2)
iv. South Africa: Supermarket refrigeration (NH_3/CO_2)
v. Swasiland: Conversion of domestic refrigeration production
vi. Southern Africa: Solar powered refrigerators SolarChill
vii. Mexico, India, Thailand, South Africa: HFC NAMAs

What is the NAMAS Project or Nationally Appropriate Mitigation Acitions**:** The Namas project can be consider as a project for the phasing out HFC. The Namas phase out strategy can be an option. We are linked to the climate change HFCs run under the Kyoto Protocol therefore there is need for some cooperation between teh relavetn stakeholders.

What are NAMAS? And does HFC have to do with NAMAS: defined at COP15 in Copehengan it is about the voluntary emission reduction measured by a developing countries and they directly report to the UNFCCC Secretariat. They are completely now in the climate area. This is outside the MP. NAMAS offer a big potential to introduce low carbon technologies and to significantly reduce green house emissions. Important that NAMAS is a monitoring, reporting and verficaiton. There are three catergories of NAMAS

(1)Uni-lateral NAMAS

Mitigation activities under taken by developing countries on their own responsibility different reasons, improving, pushing energy security reduction of the dependency on energy imports. Funding: domestically funded

(2) Supported NAMAS

Mitigation activities in developing countries, supported by developed countries
Financing - Technical assistance - Technology transfer - Capacity development.
Funding: multilateral, bilateral, etc.

(3) Creditied NAMAS

Mitigation activities in developing countries with the aim to generate emission credits
similar principles as the current CDM framework.
Funding: carbon market

What is GIZ doing? In this area they are developing NAMAS for refrigeration, air conditioning and foam manufacturing sector. This means NAMAS for HFCs. What is the objective of the project ? To establish tools and methodologies for NAMAS in the sector and the expected out come is four NAMAS waiting to be submitted for funding. They have four partner countries – Thailand, India, South Africa and Mexico and the project budget is 2 million Euros. The project runs until 2012 target groups, NOUs, governmental partners, industry associations.

Project Goals

I. **Enable decision makers** to identify and estimate emission reduction potentials of climate friendly alternatives
II. Develop **methodologies** for sectoral data collection of HFC emissions
III. Develop **guidelines** for sector specific NAMA preparation
IV. Complete sector specific **NAMA proposals** of the partner countries have been developed

Barriers

I. Decision makers **cannot estimate emission reduction** potentials of climate friendly alternatives to HFCs
II. **Reliable data missing** (no HFC inventories available)
III. Transparent **information & know-how** on alternative technologies **not available**
IV. **Institutional framework for NAMAs** not yet fully established

V. **MRV methodologies** still to be developed

What is expected from the project? They are meant to develop methodologies and instruments for NAMAS in the sector to have a first comprehensive concept for HFC phase out. To have data inventory for HFC emissions in the four countries, to have a practical approach of the studies for immediate planning and implementation of national strategies. Ranking of options, so called road map in information of HFC free technologies and multiplier effects important not only for the project. But to have success in NAMAS is to involve the private sector; they should participate from the beginning if possible with funding. The private sector can be involved with reliable regulatory framework, with standards and norms, with participatory development of NAMAS proposals providing opportunities for labour links, tests, approval etc etc. There are a lot of requirements that help in involve the private sector in NAMAS. With NAMAS there is certainty of getting the so called low hanging fruits in the sector because they have a high emission reduction potential. These low hanging fruit are in the household refrigerators in the room air-conditioning production the mobile air-conditioning, production of insulation sheets, supermarket refrigeration, transport refrigeration and buildings district cooling.

12.1 Questions and Comments

UNEP Panama - We must focus on implementing HPMPs and the quota system needs to be looked at. Support is needed for the end users and will absorb the costs. Mobilizing of funding sources would be necessary. Funding for HPMPs from external sources are also required. The policitical stands and national stands will weigh heavily on the change. Communication with government agencies is important

Venezuela – Happy with training and training materials

UNEP Mexico – There is a carbon market in Europe and there is limbo between HCFCs and HFCs.

GIZ – NAMAS needs to be known. Metholodogy is not preferred and would be effective for HFCs.

Haiti – 45% of the population don't have electrical power and the solar chiller would be useful in Haiti.

GIZ – The scope for GIZ with SIDS are limiting because they prefer bigger countries so perhaps a regional project would work better with several Caribbean countries.

UNEP Panama Policy and Enforcement Officer –St Vincent and the Grenadines HPMP adopted an accelerated phasing out of HCFCs and linked to this country´s energy policy. They were able to marry the HCFC phase out within the armpit of the wider energy policy of the government.

St Vincent and Grenadines - In terms of the formulation it was not so much a matter of formulating. They both happened simultaneously. While the Ozone Unit was going ahead with the HPMP the Energy unit was developing their policy. This made it easier and implementation accelerated the rate of the phase out of the HCFCs. Since the energy unit is promoting energy efficiency in terms of buildings etc. It made it easier to go to an accelerated phase out because it means that there can be removal of HCFCs straight to the hydrocarbons or other energy efficient and ozone friendly alternatives.

UNDP Trinidad- In context of the assistance that UNDP provides to the countries in formulations and implementation of their HPMP. There is one thing that is very important and it was mention in the opening remarks on the first day. It is time and time is very short with countries to comply for 2013 and 2015 targets. Much as been looked at in terms of options related to other funds, carbon markets, the company needs to put the money up front because the whole process is long term and by the time you get to the verification stage many years have passed and the companies have the ability to this up front investment. UNDP in terms of GEF are looking at countries that already have projects going concerned with energy efficiency and they would like to join them and create some synergies. What has been found to be useful has been the increased dialogue that they have had with bilateral donors. They have been successful in fining additional sources of funding, from climate related funds. To work on the maximization of climate benefits of the HCFC phase out in countries that have manufacturing phase out and companies that have the passed this stage seeking for one window of opportunity to improve the energy efficiency and at the same time phases out HCFCs in the case of 22. Some of these resources have been mobilized for different projects in different countries. UNDP will be happy to discuss this bilaterally.

Grenada – How can very low volume consuming countries attract or be able to source co-financing? When all the presentations show no clear road map or path that directs on how SIDS can access the funding. It is very good to hear what UNDP has been doing as an implementation agency to assist A5 and other countries in co-financing. It would be interesting to hear what UNEP and the other implementing agencies in the room can offer in addition to what they would have presented already to assist countries towards gaining opportunities towards co-financing. Grenada now recognizes that what they need and want to do in the allotted time requires very challenging work because funding availablity depends on the ability to co-finance, which becomes and option that needs to be investigated definitely. There are huge challenges that are setting Grenada back and preventing Grenada from making use of the co-financing opportunities. It would be interesting to hear in light of what UNDP has presented of what they plan to do. What assistance can the other implementing agencies give to the SIDS to assist with accessing the co-financing funding?

Trinidad and Tobago - Comment is based on the last suggestion for GIZ that if the Caribbean came together for a Regional project that they would work on that scale. Trinidad and Tobago knows that regional projects in principle seem like a good idea but based prior general experience they know that regional projects are not the easiest things to push forward. Because of various reasons such as: political will are different, national circumstances are different and though the region is united by small volumes. Sometimes besides the small volumes there are factors that may not bring us cohesively to push a regional project forward. Timelines are different too, projects may go through the cabinet process in one country and may stick for year in another and keep back the entire regional project. The idea is still appreciated for the small volume Caribbean countries like the Caribbean countries it does have its negatives.

UNIDO - No real substantial solution - UNIDO is currently working on a project with the possibility of getting more co-financing by trying to implement a project. Without any real results there isn't anything much that they can say. They are trying to find through GEF their carbon credits different approaches. UNIDO unfortunately can't offer anything more than what was offered.

UNEP Panama - It is about networking and the issue can be clarified in further meetings all agencies. This can be looked at in terms of problems and solutions. A sub-group can meet and report on this issue of funding.

Trinidad and Tobago - Agrees and following on the suggestion perhaps a way forward would be for each of the sub-regions and the Caribbean region and the Latin American region to have some sort of virtual working group on this issue so that it can be reported on at subsequent meeting on the progression of this discussion and issue.

Agenda item 13: Disccussion on developing a working group for each of the sub regions.

13.1 Questions and Comments

Grenada - Grenada is of the view that implementing agencies would take the lead and if there are any persons within the various sub regions who have a keen interest in that area and who want to participate in an electronic forum or whether it will be at an next meeting everyone can participate.

UNEP Panama Policy and Enforcement Officer - What is being proposed is to have a virtual working group over the next few months and have this information exchange collection of ideas and cases so that when they meet next year there will be a lot more productive discussions on the experiences and insights.

Trinidad and Tobago – Suggested the use of the existing ozone officers e-forum

St Lucia – <u>On the subject of regional projects</u>. In St Lucia there were two such that had a regional component and what was found was that because of country differences, the projects took longer than expected. In another instance with another Regional project with less countries but the overall goal was set in such a board manner that allowed them to get project approval while this country was able to implement something to achieve the overall objective but specific to their needs so perhaps when it is options are being considered this one has proven to work. It needs to be taken into consideration that each country though similar does have specific needs it can be achieved or be achieved in an overall goal that a donor country or donor is willing to fund. It is useful that St Lucia initiate a virtual discussion so that when everyone meets at the next meeting there would be actual suggestions that can be used to set the agenda.

Chair - States that there is clearly support for the virtual discussions and takes this to be that they will engage in a discussion on e-forum.

Agenda item 14: Ms.Stacie Gatica United States Environment Protection Agency – Enforcement of legislation for trade control of HCFC and cases on illegal trade of ODS.

The Structure in the USA EPA**:** They have division that manages stratosphere protection of Ozone layer protection and this is headed there three personel in the office and then there are two branches. One is the stratosphere implementation branch and there they implement many aspects of the Montreal Protocol obligations. The regulations are set up to meet those obligations like the phase out of HCFCs, the management of essential uses including methybromide all of that is done in one branch.

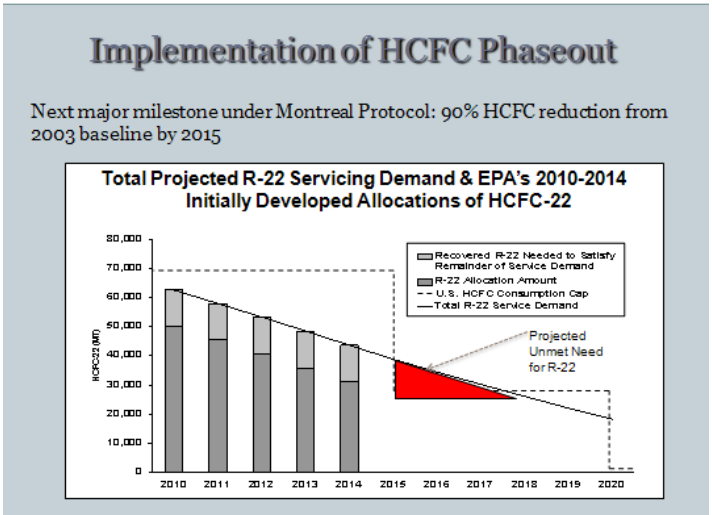
There is another branch that focuses on alternatives, as you all are making moves to phase out the HCFCs and equipment they are also making efforts to review and encourage industry to development new alternatives from ODS. This branch alternatives emission reduction has a program called Significant New Alternatives Program (SNAP). So this program works on analyzing these alternatives, risk assessments are done etc. There are a number of alternatives that have been approved through this program.

RUS Licensing Service

The USA system issue or what is called allowances for the license for the production of bulk HCFCs. Its done on a chemical by chemical basis .e.g. HCFC 22 there is a certain about of allowances, and there is a certain amount of allowance HCFC 22B, allowances for HCFC 124 etc. The USA established baselines for HCFC 22 in 2003. There is a baseline for production and consumption and those are for individual companies. What is very important is that they require that any trade that takes place it has to be approved by EPA.

US Phase out of HCFC

In January 1st 2010 only the virgin R22 and 142B can only be used for servicing existing equipment in the US. So that means that the US can't make new equipment with R22 the US is trying to stop the installation of new equipment but they also realize that there are legitimate very viable pieces of equipment that are out there that they don't what to make obsolete so they would provide servicing for the equipment. So currently only virgin R22 and 142B it can only be used to service existing equipment. When the US was going to make a reduction



Importing virgin ODS

Customs will typically stop any CFCs coming in and call EPA to see if it's allowed through.

Combating illegal import

With HCFCs USA EPA works very closely with customs and border protection and EPA has asked them to put what they call a criteria hit to their automated commercial system so they have a databases that they track all of their imports and exports. EPA has worked with them and anytime there is a certain code for R22 and they will stop the import and call EPA to check if it is OK for it to be let through. The phone and database are very important and the database more so needs to be kept up to date. Any illegal activity that is considered illegal is referred to Office of Enforcement and Compliance Assistance – civil and criminal divisions.

14.1 Questions and Comments

Grenada -1. What kinds of uses are given exemptions for CFCs and methylbromide? CFCs in particular. 2. What incentives are there to encourage that recapture so that you can meet your total demand and also what back up measure do you have in place in cases where the recapture among is not expected among to meet your total demand obviously a gap will result

in reference to you meeting your total demand. There is some situation that does not allow your total recapture amount to add up to your total demand and how do you bridge that gap? 3. If a shipment is disallowed how is that disallowed shipment dealt with?

US EPA -1. There have been exemptions for the metered dosed inhalers (MDIs), and this hasn't been the case in the last past year another over arching exemption is for transformation so that sometimes EPA would see an import of a CFC but that would be coming in for transformation into another product and they also have the laboratory and analytical use exemption. Some times they will see a small quantities coming in for that. But really all of the CFC exemptions are very small and it isn't common for much of it to happen at all but there is a global lab and analytical use exemption for labs that all article two countries have. 2. What EPA projects are estimates and expectation that they are hoping to have met? What they are doing when they meet the slope is really trying to transition , but if they did not have that many reclamation in 2011-2012 then the price of R22 might go up and maybe then more people will go to alternatives and that is part of the phase out process and you will see that supply will be reduced so in reality right now the US is not experiencing that phenomenon or not having effort R22. What they are experiencing is that there is a glut of R22 out there and they aren't experiencing any crisis and the price isn't going up. But it is hoped in preparation for 2015 to put pressure on R22 users to either do one of two things start reclamation or go to an alternative. On the books it is illegal to vent R22, R22 has to be recapture. So there is a requirement that you can't vent. 3. EPA will ask customs to hold the import while they do the required investigation with their enforcement counterparts. Depending on the outcome of this internal investigation, sometimes it gets re-exported or sometimes there are auctions to persons who have allowances.

Colombia – Large penalties for illegal activities is a good incentive. Do items at the boarder with illegal items can be destroyed sent back or auctioned of to people for allowances?

USA EPA - There are really huge penalties for every single kilogram that is brought in illegally. $US 37,500 if anything is brought in illegally. It is a huge incentive for people to obey the laws. Typically if persons are bringing materials in without a license they will be charged by law.

Jamaica - 1.Is there a number of HCFC importers into the market? 2. Does the EPA hold or store any CFCs for emergency purposes?

USA EPA - Both answers are "No" we don't limit how many persons come into the market. Note: EPA doesn't broker the trades. All EPA can do is give them a list of persons with allowances. It isn't a cheap thing to buy allowances. There is no stored amount of CFCs for emergencies.

Surinam - Does the licensing system also pertain to the exports?

USA EPA - Yes but less so. There is reporting on exports and that data is extremely important. It is required under regulations that any ODS that is exported is reported to EPA. There are quarterly reports and that will get folded into the article 7 report. And they are captured in the database but the EPA does not pre approve exports. It would be extremely difficult to license everything that is being exported because there are so many. They know the community of exporters. Communication is important band they are usually interested to so they will let know if they think anything unusual is taking place. So far they have had no illegal activity with exports.

Bahamas - The mixed (refrigerants) chemicals –how is this managed?

US EPA - The price point would be something of a consideration here but there are some efforts for people to get separation done of the chemical you can try to separate if someone mixes a vat of HCFCS and some other things especially if they are servicing sometimes the technicians will not take a canister for every refrigerant and they will use one and it will become mixed and difficult to work with. The people, who are bringing it in as hazardous waste, will take it to a facility to get destroyed because it is so not viable for any use.

Bahamas - Are they considering implementing the i-PIC any time soon? The reason the question is being asked is that Bahamas has 95-98% of their imports are from the US. Is there any peculiar latitude to discuss with EPA or may assist with controlling or notification on exports?

US EPA - There have been recent discussions about the value and benefit of it. It would be difficult to start using this because of the regulation. They are spread very thin right now it is a matter of figuring out what would there be enough benefit from all the cost put into it. For our peculiar situation, we try to protect our border at the import. For country specific cases, bilateral communcaitions was recommended

Argentina – Exceeding allowances – Is notification is given to companies on how many allowances they have? The tracking system does a good job of keeping track of allowances

USA EPA - It is via regulation that USA establishes the amount of annual allowance. The tracking system is like a bank account, so each company starts of with a certain number and every transaction that takes place can be seen on the system so the companies are made full of what their account balance is. They also show the trades on the account balance.

Mexico - Production allowances - 1 production for each kg produced in US = 1 consumption allowance for each kg imported in the US. Is it not double counting and how do you manage?

US EPA - No it's not double counting basically they have producers that were producing a certain amount. e.g if you are a producer and you wanted to have HCFCs maybe you will produce it or import it, if a company wants to produce they would what to access their production and consumption allowance because they are producing and consuming, if the company says it is cheaper to produce in another country then they will just need a consumption allowance to import it. Ultimately it is based on consumption. In the USA it is important to use both the consumption and production allowance. The CAP is based on consumption it doesn't matter if it is from the USA or imported. But it is important to track the consumption number.

USA EPA - They do control HFCs in some manner under the current regulations it is illegal to vent HFCs. There are no current mechanisms for the regulation of import of HFCs. The division the climate change division does have a reporting requirement that deals with HFCs.

Panama – What about alternatives?

US EPA -. They do want to share what they have learnt so far with their SNAP Programe

Parguay – HFCs aren't regulated or what comes in or consumed there is no reporting for companies who are importing GWGs Draft legislation.

US EPA - suggested to speak bilaterally on this point

St Kitts and Nevis - Follow up on Bahamas export question –St. Kitts and Nevis is not on the list as an importer country from the USA. This country imports a significant amount of HCFC 22 mostly from Miami.

USA EPA- That is important information and St Kitts and Nevis had alluded to the fact that they have export data and it is reported through article 7 but there should be a match up with countries with import and export. Any inconsistencies they can check and it will be seen. Illegal activity has been known to come out of the Miami area.

Trinidad and Tobago - The illegal imports that are seized are their any fines and does the importer pay and how is this captured and reported?

US EPA - Definitely any opportunity to get the importer to pay will be taken. There are some cases of confiscated CFCs had to be destroyed and paid for by the Government. What happens is that you don't really get the big companies trying to do any illegal imports because it is too much of a risk so you tend to get the smaller companies trying to do it. Many times if there is an enforcement case they will go bankrupt. Sometimes as a government you have to figure out how to deal with these illegal volumes.

UWI - UWI HCFC 22 production and the production of HFC 23**.** There are instances where countries have been able to make significant profit by producing HCFCs and claiming credit for the HFC 23s that is considered to be a crack that was used by several countries. The import of used HCFCs as against virgin HCFCs – Is it possible that some companies may start exporting used HCFCs as virgin HCFCs? There should not be a crack that people can take advantage of the relative significance of virgin HCFCs compared to used HCFCs.

14.2 US EPA - They are very strict with the import of used HCFCs and it requires a petitioning process to allow it into the country. Because there is such an abundant amount of HCFCs out there if someone comes and says that they have used HCFCs they are extremely vigilante about that type of petition and the US regulations on the petition process and so much

history of the materials is needed before believing that it is used. EPA knows that there is an abundance of virgin HCFC out there and hence the reason for the EPA being so curious when reviewing the petition process. There is a wide spectrum and anyone that brings in the a petition for used HCFC, then another type on the spectrum are persons bringing in used ODS for destruction because it's going to be destruction the EPA isn't that strict with the petition process so participants should keep in mind that anyone that is saying they are bring used stuff in it needs to be checked properly.

Enforcement of ODS Regulations

There are general two types of enforcement actions either: civil or criminal.

A Criminal case or person who is doing something illegal really meant to do it. There was intent by defendant to break the law. There are two sets of personnel that deal with these cases one on the criminal and one with the civil.

Ultimate penalties vary – fines, community service, probation, imprisonment, payment to an environment fund. The enforcement people like to make people accountable for their actions.

The Stratospheric Protection Division (SPD) is a programe office they deal with regulations and how to implement them but they don't enforce. "Program office" does not enforce regulations. EPA's Office of Enforcement and Compliance Assistance (OECA) have enforcement authority. There is great coordination between SPD and OECA.. The EPA in looking at 2015 it looks like it could be a possible rise in illegal activity.

USA Case Studies of Illegal Trade in ODS

This happened recently this year (2011) a company in Florida started in 2007 they were illegally importing HCFC 22 without the proper allowances.

On July 29, 2011, Brendan Clery was sentenced to 18 months in prison for illegally importing HCFC-22, contrary to the provisions of the Clean Air Act (CAA). In addition, he was ordered to pay a $US 40, 000 criminal fine and forfeit illegal proceeds in the amount of $US 935, 240. Between June and August 2007, Clery illegally smuggled into the United States approximately 278,256 kilograms, or 20,460 cylinders, of restricted HCFC-22, with a market value of $US1, 438,270. At no time did Clery or his company Lateral Investments hold unexpended consumption allowances that would have allowed them to legally import the refrigerant.

l. Facts about the case:

1. Cleary created import business in Florida with intent to import illegal refrigerant, among other items
2. The product came from China
3. This case of part of a larger criminal investigation known as "Operation Catch-22"

This was one of the very first cases that dealt with a petition it dealt with people who had a lack of consumption allowances. People who didn't have production or consumption allowances but they imported anyway. Someone petitioned them saying the material was used but upon looking at the petition and investigating they realized that there was some false statements and it really should not be considered used. They were fine a huge amount with probation. There are a lot of other regulations and its not just illegal importation but there is a lot of activity that goes on with venting, people are not properly recapturing the material. Groups have been prosecuted who were stealing copper wiring from equipment and in the process venting the gases. There are tax aviation, selling ODS to uncertified technicians the number of ways and mechanisms that EPA tries to control and the care for the ODS. They watch domestic imports within the country too.

Harp USA, Inc.

On February 11, 2011, Harp USA Inc. (Harp), a Florida corporation, pled guilty and was sentenced in connection with false statements made in entry documents for the importation of used HCFC-22 refrigerant. Harp's plea included admittance to importing approximately 1,874 cylinders (approx 25,000 kg) into the U.S. using false invoices and statements resulting in three years of probation and a $US 206,140 criminal fine. Harp was also ordered to perform community service by making a $US 25,000 payment to the Southern Environmental Enforcement Training Fund, a not-for-profit training organization. In

addition, as a special condition of probation, Harp was ordered to implement and enforce an Environmental Compliance Plan and to reimburse the government for costs associated with the storage and handling of the merchandise.
Facts about the case:

1. The product came from the UK – reclaimed refrigerant was declared
2. The petition that was submitted to EPA was reviewed and a "non objection letter" provided
3. Upon further review and before the shipment arrived, EPA realized the petition contained false statements
4. EPA regulations (82.24(c)(4)(vi) state that if new information is found after a non-objection letter is provided that indicate false information, then EPA can take enforcment action
5. Investigation team: Environmental Protection Agency, U.S. Immigration and Customs Enforcement, and the Florida Department of Environmental Protection, Criminal Investigation Bureau, Miami-Dade Police Department and prosecuted by special assistant U. S. Attorney Jodi A. Mazer

This is the US's first prosecution for false statements contained in a petition to import used ODS

14.3 Questions and Comments

Trinidad and Tobago – What about Sulfur Floride (SF) and the zero tolerance that the US has placed on this substances? That this substance is used as an alternative to methylbromide and it is used in the agricultural products that are exported to the USA.

St Kitts and Nevis - As Trinidad and Tobago said about two years ago training was done on using SF as an alternative to methyl bromide and they trained the entire sector (public and private). The equipment that they were trained in was in SF and then the USA EPA sent out a notice about the zero tolerance and St Kitts and Nevis has been buying the SF product from the USA. Does the ban include all states?

US EPA - Yes it does include all US territories. Further information will be provided bilaterally to countries concerned on the use of SF and the rules of the USA

Agenda item 15: Technological options addressing HPMPs management in various subsectors including the availability in the market of the alternatives, UNDP Panama, Kasper Koeford

Technology options and HPMPs and What are the trends that are being seen?

What is the guiding principle that is encourages parties to promote the use of HPMPs that minimize environmental impacts in particular impacts on climate, health, safety and economic other considerations.

Mr. Kasper Koefoed, give a very detailed presentation on the technoclogy approaches of Article 5 countries in addressing HCFCs use.

15.1 Questions / Comments

Grenada - Grenada is pleased with how clear UNDP was in their presentation about how they plan to provide support and assistance to Article 5 parties in meeting their 2015 targets.

In reference to the alternatives the issue of reclaiming as was expounded on by UNIDO which looks like a good option reducing on the alternatives that are yet not available. There are issues that surround reclaiming especially with the Article 5 parties in the sub-region of the English speaking and Haiti. The issues relate to the necessary infrastructure to be put in place the reclaiming centre, machines etc and the technical skills to deal with that as well as the legal frame that will deal with litigation issues that may arise as well as the appropriate standards to ensure that after reclaiming the substances of acceptable standards to be used in the industry and so it poses a problem for the countries to go in the direction of reclaiming. Then there is the issue of hydrocarbons and whereas hydrocarbons are viewed as a viable alternative the issues relating to it isn't known. Grenada would like to send out a challenge to Trinidad and Tobago in reference to hydrocarbons considering that Trinidad and Tobago has high reserves of hydrocarbons. Since Trinidad and Tobago is planning to convert all their buses to CNG. Grenada isn't sure to what degree Trinidad and Tobago has incorporated hydrocarbons into their national Montreal Protocol policies. Since the several of the countries in the Caribbean region are having a problem with the obtaining hydrocarbons, Grenada would like to send out a call for Trinidad and Tobago to consider what they can do

from the point of view of production of hydrocarbon refrigerants that can be used to supply the sub-region Caribbean and Haiti. There are only about 2 or 3 islands that have supplies of hydrocarbons and the other islands are great difficulties in getting it. It can also be considered a business opportunity for Trinidad and Tobago.

UNIDO/UNDP - All the implementing agencies are supposed to help the countries to reach their targets under the Montreal Protocol. UNIDO has in doing some HPMP work in St Vincent and the Grenadines and St Lucia and they do support in the implementation and reporting. Regarding reclaiming the technology varies in cost, the machine can be provided and the technical use is not that difficult and training will also be provided for the technicians that will use it. Regarding the legal skills you can reclaim but you cannot just go into the market with reclaimed refrigerant; the legal support will be required. This will go hand in hand with the standards. The main cost requirements for the laboratory to meet the standards this is a real cost. Basically, the gas chromatographer is the most expensive. Regarding the hydrocarbons UNDP is not promoting any particular alternative.

Trinidad and Tobago - Trinidad and Tobago is considering production of Hydrocarbon grade refrigerants; however this is still in the infancy stage. As an alterntive refrigerant, there have been concerns from air-conditioning technicians on safety without technicians being properly trained.

Canada - In the case of the CFCs projects to recycle and to reclaim were only moderately successful, and were more effective towards the end of the phase out. Overall the quantities that have been recovered and reused were significantly lower than were anticipated This may not have hindered compliance in the case of CFCs because at the time Article 5 countries were entering their compliance period, in 1999/2000, the demand for CFCs was already reduced because of many of the equipment manufacturers had already converted to alternatives to CFCs. Hence, much of the new equipment that was coming into Article 5 countries did not use CFCs. In the case of HCFCs, there is a different situation, as Article 5 countries are entering their compliance period soon, conversion in the manufacturing sector in Article 5 countries is just beginning. It is seen that the demand for HCFCs in the servicing sector continues to grow quite tremendously and the new products coming in are still predominantly based on HCFC-22. So in the case of HCFCs, recovery, recycling and reuse in the servicing sector is perhaps much more important and could become a part of a solution in a larger way than was in the case of CFCs. But countries need to know to what extent such activities could be economically viable in their countries. Both Grenada and Mexico raised issues about the cost and it may be useful for someone to do an analysis of the sustainability of recycling and reclamation in Article 5 countries, and particularly in LVC countries. In the case of reclamation, this will only work in the long term if the price of reclaimed product is lower than the price of virgin HCFCs, and right now it looks like in the case of CFCs, the price of virgin product has stayed low for many years. The price of HCFC 22 is still relatively low in many countries and if it is lower than recycled materials, then there is no incentive to recycle and reclaim. It would be interesting for the implementing agencies, UNDP and UNIDO, who are submitting projects for recovering, recycling and reclamation to undertake an economic assessment in the LVC countries, medium sized countries, and large volume countries, so we can see to what extent it would be viable for the MLF to fund these activities.

UNEP Panama — Indicating that UNEP has a mandate to assist with policy, legislation and requested to Grenada for more information on the challenges.

Grenada - Grenada has a personal concern about the level of support that the sub region gets from implementing agencies and with particular reference to UNEP. If we were to take a microscopic view on the operations and the service that the region gets. It would open up a lot of areas for concern and even if you were to just look at it from a superficial level you would notice within the UNEP ROLAC office there might be three officers that service the region. It is obvious that there is not enough capacity to service the needs of the region and that is just from a superficial standpoint. If you want to go into details about countries lagging behind it even makes the situation worst. It is possible that there needs to be an assessment of the resources available, how can region improve on the resources, how can the efficiencies be improved, deliveries, communication and everything else that goes with it to improve on the delivery of the projects within the region? It is possible the other sub regions may have their own issues in terms of resources to adequately assist them in terms of their projects. No one seems to have zeroed in for example one of the burning issues for the Caribbean sub region is dealing with destruction of ODS. Being aware that destruction is not a compliance issue, that it is getting the needed attention. Just like

the officers have to go to the stakeholder and say what alternatives exist? It is in the same manner that parties need to treat destruction because it is one of the very sore issues in the work that is being done by the NOO. At the national level they are bombarded and confronted with the issue of what to do with the recovered reusable gases and usually officers have a difficult time answering this question. As implementing agencies it would be good to collaboratively work with the Article 5 parties who are seeking and reaching out looking for answers in regards of unused ODS and unless this hasn't been address the work of ozone officers will become increasingly difficult. Especially that the countries continue to accumulate larger and larger volumes of unusable ODS. So hopefully the implementing agencies can work collaboratively to come up with a solution to this issue. Though it's not a compliance issue it is an issue that you still need to deal with within the Montreal Protocol. Finally Grenada wishes to thank Environment Canada and would like to give full support to the initiative that was suggested. That the implementing agencies should look towards doing an economic analysis on the whole issue of recovery and reclamation of gases and to see how applicable it can be for Article 5 parties..

St Kitts and Nevis - St Kitts supports Grenada in this intervention. St Kitts would like to add on the construction issue because they have stockpiles of CFCs and the technicians are asking what to do with them and the consumption has doubled so in the near future there will be more stockpiles. This has been a real battle in the Caribbean Sub Region and the countries are ready to look at a viable solution in the near future.

Trinidad and Tobago - Endorses the full intervention otherwise there will be difficultiy in getting the buy-inns and cooperation in replacing the R22.

St Lucia – Endorses St Kitts, Grenada and Trinidad and Tobago interventions on the topic of destruction, a couple year ago when they were faced with the stockpiles and what to do and they did a informal survey of the quantities and at the time it was only CFCs that countries had. Unfortunately the regional responses was sadly not very good so an attempt to do this can be made in the interim with the other implementing agencies to determine how to move forward and if they can get the cooperation of our countries on the numbers of ODS to be destroyed. Without the numbers it is difficult to move forward and it is something to start looking at. When the officers return home perhaps they can through the associations with the sector try to get someone in the sector to help with willing to assist us at least at the initial stages to have raw data so that they can begin to work on disposal.

A knowledge attitude and practice survey was done in St Lucia not too long ago which contained questions pertaining to ozone layer emissions and so on. One of things that were discovered one of the best ways to actually get persons to adopt the practices is to see what's in it for them and if there isn't anything in it for them it becomes difficult to say any of the ideas on recovery. St. Lucia also supported the recommendation made by Environment Canada calling on the implementaing agencies to do the assessment.

Agenda item 16: Commerical mechanism to recover and dispose old refreigeration equipment: the example of the chillers substitution program and example on energy management for substitution for compact fluorescent lamp case study: Mexico, Mr. Aldo Emmanuel Torres Villa –FIDE

16.1 Questions and Comments

Venezuela – What happened to the bulbs oil when they are destroyed because of the mecury?

FIDE – Special treatments reported to a local authority and it's treated at this level. Oil companies collect it and it's used as fuel for cement production. The bulbs are handled by companies for waste management and they regulate this within the environment legislation. Hopefully a market niche will develop from this soon.

Colombia – The origin of the new fridges are they in Mexico and how many persons employed?

FIDE – There are 50 staff at FIDE main office and 70% of the fridges are produced in Mexico.

UNDP - 1.Would it be possible to tell us in terms of the appliance replacement air conditioners including everything , the public sector what were the incentives used in the program to get the public sector involved and the barriers? 2. In replacing the lamps what happens to the mercury? Because you care introducing a lot of lamps with mercury in the households. It isn't about one lamp but the grand total that is coming into the country, is there any producer responsibility that has been thought about in terms of this?

FIDE – It was public policy by the Ministry and public funds are used. It's part of the political agenda as well.The public sector and in particular the Ministry of Energy is very involved and it helps cost. With respect to the management of the mercury quantities – this is done with the relevant government agencies..

Agenda ítem 17: Solar Refrigeration (Alvaro Zurita GIZ)

This is a very technical presentation about alternative energy and it is an interesting input to this meeting to know about these technologies that are already on the market some of them.

Solar Cooling and Solar Chill Project

What could be the motivations for solar cooling to use the sun for cooling of course savings for primary energy consumptions, reductions in peak electricity demands, reduction in CO emissions due this energy savings and the reduction of CO emissions due to using refrigerants without GWP. Another motivation can be also the all season use of the solar system for heating, cooling or domestic hot water. Solar cooling is an attractive solution in areas where there is a lot of sun. e.g the Caribbean but solar cooling can be used worldwide even in the European countries.

There has been an increase in the world solar cooling in the last few years with a thousand or more installations. These are large commercial, industrial solutions not solar individual refrigerators. The principles of solar cooling is one type of solar cooling – the solar panel followed by the ventilation system and this one type of solar cooling which may can come in different designs. There are different types of solar cooling solutions Solar open-loop A/C using desiccants, Passive solar cooling. Solar closed-loop absorption and adsorption cooling, Photovoltaic (PV) solar cooling and Geothermal cooling.

Absorption Systems

The absorption type systems have three principle type elements: (1) the thermal energy, (2) the cooling machine and (3) the building.

It is important to remember that thermal energy requires heat to get with the cooling machine cool so these three steps are necessary in the solar cooling system. When there is talk about industrial or commercial solutions two types of mirrors are needed Parabolic Trough Collector and

Fresnel Collector. The Fresnel collectors concentrate the solar radiation and are more efficient and you get more heat and higher temperatures. The Fresnel collectors are flat and form a parabolic system and so they concentrate the sunlight in the tube where there is water steam is getting very hot. How does it work? Simply the heat goes in and cool comes out and the system inside works and operates with condensing. The important thing to know is that ammonia and water are used or water lithium bromide solution and then there is no compressor need in this kind of technology. So there are a lot of advantages and energy savings if there is no need for a compressor. It is a cooling machine with an immediate cooling savings. e.g a 500 solar cooling system used for a football stadium in the desert of Qatar. The solar cooling system can be use with different applications, first with low temperatures, domestic water heating; technology of flat plate collectors does not require warm temperature for this. But when process heat is needed then the Fresnel technology is needed so that 400 degrees of temperatures and so more cooling power can also be obtained. This technology is not an illusion and this technology does exist it is being are demonstrated in Jordan with the project finance by the German Environmental Ministry and the installation this technology in industrial, commercial applications and to demonstrate its feasibility. This project was started in 2011 and will end in 2014 so GIZ don't have all the results but they are working on it.

Project Goals

I. Reduction of direct and indirect GHG-emissions: 670 tonnes CO2eq/a (20,000 tCO2eq over 30 year's life time).
II. Demonstration of state-of-the-art technology
III. Establishment of technology partnerships
IV. Elaboration of instruments and guidelines for replication
V. Monitoring: establishment of a reliable monitoring

Solar Chill Project

The concept of the solar chill project is not the absorption concept it is the solar panels that provide the cooling machine with the refrigerator with energy. It is a very simple concept. Solar Chill Project is a joint venture between Greenpeace, UNEP, UNICEF,WHO, GIZ. This joint venture is either in its last step near the end. Finance by the German Environmental Ministry. Purpose to

l. Complete the technical development of existing SolarChill prototypes -> to make the SolarChill concept suitable for use in temperatures over 45°C.

ll. support for set-up of a production line at the local manufacturer Palfridge (Swaziland)

lll. Emission reductions:

- Direct: every operational SolarChill unit avoids refrigerant emissions of approx. 0.2 tonnes CO_2eq during lifetime usage.
- Indirect: 0.5 tonnes CO_2eq /a per appliance (from avoided use of fossil fuels for electricity generation

Swaziland

i. a small country in Southern Africa

ii. Population: 1,185,000

iii. most Swazis live in rural homesteads

iv. the principal occupation is either subsistence farming or livestock herding

Why Southern Africa?

Why Swaziland?

i. 69% of the population lives in poverty
ii. highest HIV infection rate in the world (26% of all adults)
iii. Tuberculosis a significant problem, 18% mortality rate
iv. lowest life expectancy in the world at 31.88 years
v. There is the need for a sustainable solution for refrigerating vaccines and food!

The following products were developed in the project:
Commercial Merchandiser (LC 86)
Domestic Unit (LS 150)
Medical Unit (MC 72) – vaccine cooler that way you can cool vaccines and medicines
These use the solar power panels and natural refrigerants the philosophy is Sustainability, Simplicity, Safety, Reliability, Robustness, and Affordability.

How does it work?

During sunlight, energy from the sun is converted into electrical energy, which is used to cool the unit. Excess energy is stored in a ballast load and is used during low light conditions during the night the energy is stored in the unit.

Cost

MODEL	Panels Items	Panels Cost - €	Refrigerator Cost - €	Total Cost - €
LC 86 Merchandiser	2 x 90w panels	550	808	**1,358**
MT 150 Domestic	2 x 90w panels	550	924	**1,474**
MC 72 Medical	2 x 90w panels	550	1,089	**1,639**

The cost is currently too expensive so GIZ is trying to improve design the technology and how to reduce the cost for these units.

Medical Unit

This was the unit that was designed for the project but one of the problems is not having enough space for the vaccines only a few liters of volume that can be used for the cooling. So GIZ are currently working on improving the design now to get more volume for the cooling of vaccines. This is the same issue with the commercial and domestic unit.

What are the next steps in this project?

Working on a New design it involves new and big challenges for GIZ because they would like to reach 48 degrees. This more than the WHO needs, tests were done with 43 degrees but the goal is to reach the 48 degrees. GIZ are currently working on the optomization of the product which is the medical unit and the result will be an upgraded product with the following improvements:

We need to **preserve medicine food & beverages for human consumption at high ambient temperatures (48°C)** using solar energy **without the use of chemical storage batteries.**

Optimization of the product MC72

Result: an upgraded product MC73 with following improvement:

i. significantly larger vaccine storage volume (above 50 l)
ii. significant reduced power consumption through utilizing a new type of evaporator integrated with the ice keeping department
iii. completely battery free operation
iv. self cleaning condensor
v. full conformity with the WHO specifications

When the design is complete towards the end of the year and then it will be about 4-5 months till the project ends. GIZ will sign an agreement with an NGO that is working in Southern Africa to be able to distribute a limited quantity of these new units about 2 or 300. A massive distribution is not possible because of finances this will be a challenge for others, GIZ will finish the project and certificate the product and that hopefully will be used and be successful in the world.

17.1 Questions and Comments

UNEP Mexico – Are there techonology patents and what are the costs as they are new?

GIZ - They are mostly for commercial and medical purposes and there are no patents involved.

Haiti - In Haiti there is an NGO that tried to help people because they just a Fishermen Association just to collect and conserve fishes they had freezers that were 12 -36 cubic feet and the only difference between this technology and technology seen in Haiti was that they use the solar panel and they also use two batteries for 12 volt and 200 amps and then during the day the freezer use energy from the solar panel and in the night the batteries use a converter for the stored solar energy. The technology that GIZ is currently working on seems late compared to what Haiti has seen in the country. Hait finds the size of the GIZ technology to be very small compared to the technology that has seen in use in Haiti.

GIZ - I agree that the size is an issue which is why GIZ is working on improving it. But of course there are different products on the market already but you have to see if all these products are certified by the WHO, for what temperatures can they be used by. I am not sure if Haiti's product can be used with 43 or 48 degrees, the cost of the product is also unknown but GIZ does know that the products that are currently on the market cost about 2000 Euros per unit and GIZ hopes to create a unit that costs 1000 Euros by the end of the year.

Bahamas - How efficient is the refrigerator system that has no compressor and how does the water get cooled to a significant temp?

GIZ – GIZ is uncertain about the operation of this refrigerator system but does know that it works and would be happy to provide the additional information on retrun to office.

Agenda item 18: Challenges and required capacities for the refrigeration services sector Professor Gurumohan S. Kochar (UWI)

The role of Tertiary institutions and Universities

One of the important points that Prof Kochar sees is that education for nations, Universities play a very dominant role and in the dominant role the graduates have to be trained to take care of the environment. Prof Kochar says this because of the curriculum of most of the Universities that the environment is not a topic. Environment is embedded in most of the subjects and the reason is that the curriculum is over loaded, academic staff sees it as an additional burden and they will try and not include it.

How do you get the staff to buy into it? Very recently there was a problem with including health and safety into the curriculum but it had to be done for accreditation. Similarly then the environment should be embedded and integrated into all subject areas, engineering, law, social sciences etc. So that the graduates that are being produced are all rounded, sensitive and ready to take the lead.

What can universities do assist in having students more environmental aware and also assist in reducing HCFCs? UWI should not only train persons but also put their own house in order meaning that universities should be exemplars they must set the standards by becoming green themselves so that when you start talking about technologies for others and as an institution you are bring in technologies that need to be phased out then clearly there is a problem. As an institution UWI should be leaders in giving a demonstration to the rest of the community that there is a commitment that you must have. In any institution there are Three Main Actors in Tertiary Sector:

i. Students
ii. Academics/Researchers/Educators
iii. Institutions

For each of these actors there are challenges and opportunities, students enter challenges e.g there was a survey done by some European Universities What came out of the survey was very interesting. One of the questions was how do you get your information? The attitudes of students are developed even before they get there and they are developed by mostly politicians and the media. Media has a significant role to play with the attitudes of the students that are coming into Universities. The researcher found that half (1/2) of the respondents in Latin America University think that climate change is poorly covered or not at all in University programs. Another question was "What are the sources of your information?" 67% of students get their information from media, 54 % University and internet 56%. The internet is another significant resource that can be tapped. Student's attitudes are one challenge but curriculum over saturation is another challenge. When students enter University lecturers only have a short period of time to impart knowledge on to them through their courses and if you try to increase the curriculum then you would have a problem. What has to be done is to find an innovative ways to bring the information into the curriculum without over loading the students. That is the challenge but it is possible to find ways just as like the way health and safety was integrated. There are several opportunities if just that is done. What happens? The students get qualifications which are internationally recognized and people appreciate their qualifications, people appreciate their knowledge and they have international port ability. Even though there is a lag in the Universities in terms of R&D and adaptation of R&D students will be ready when that time comes.

The 'Silo' Effect: The University teaching has a 'silo' effect which means there isn't much overlap say between engineering, law, social sciences etc. The reality is no one lives in silo for example and engineer has an impact on many people and he/she should be trained to know how he/she actions affect society. An engineer must understand the laws of the country how are the laws going to affect the elimination HCFCs and other ODS. By training them they will become more sensitized to ODS.

Academics: They are the most difficult persons to deal with and set in their ways. They are a challenge because when your trying to introduce something new the academics have to be retrained to rethink and if they themselves aren't ready to be trained then they won't be ready to train there charges who are the students. So definitely this is an area that needs to be tackled.

Challenges: The intake of students is not ready to receive the information. A lot of academics are reluctant to interdisciplinary teaching.e.g the engineering programmes in UWI are accredited by the British associations and there aren't any humanities or social sciences in engineering and the moment that you try to introduce anything you will be told that the programme is already over crowded. It is up to the academics themselves to try and do some interdisciplinary teaching so that students can gain an appreciation for each others work.

Wherever there are challenges there are opportunities and some of us are quick enough to learn and to use the interdisciplinary approach and this will help us to get out of the 'box' culture that we are facing. We will be able to use the systems approach which will deal with cause and effect and interaction of HCFC phase out with the environment. There is an opportunity for academics to undergo training, to go abroad, and to attach themselves to some research institutions. There are opportunities for University to get graduate students trained and there is a concept called split Ph.D where in students spend part of their time at the host institution and part of their time at another institution that is willing to receive them and the other University has specialties available. So what would be gained is (1) the experience of another institution, (2) the benefit of the interchange of knowledge, (3) the benefit of up grading and having qualified graduates. Academics also have the opportunity to upgrade their own personal knowledge. Institutions themselves can be hindrances to change, because the first thing that the institution has to do is to allocate resources and there is always a problem for resources. There is always an issue of resources and resources usually get allocate to

fancy programmes and normally this happens and the buzz words get attention e.g agriculture.. So people who are in this area need to keep knocking to make sure that the institution provides the resources. Resistance to change is very prevalent and Prof Kochar thinks that as an institution UWI should be the first to change from HCFC 22 to ODS refrigerants but even now when it is specified new equipment we will still go back and get HCFC driven refrigerant system. What has to be done is to insist and it is important as an institution that out house is put in order. As an institution you need to have a policy within the institution and this takes a great deal of effort. There is a serious reluctance to change. Despite this it is important to continue knocking. There are several opportunities for the institution. One being the students who have graduated already and are out on the field, when you are speaking about curriculum change you are talking about students who are with us or who are going to come us. But there is a responsibility to the graduates as well and that responsibility should be taken seriously and there is a big opportunity for institutions by providing continued professional development, continuing education those kinds of courses and this an opportunity because these are fee paying courses. Institutions also look for international recognition if the academic staff is provided with resources and if the academic staff is involved in R&D and they publish in international journals then the reputation of the University gets advanced. So basically that is a strong opportunity for Universities to move forward their agenda. There are funding agencies that are willing to sponsor and support R&D work in the Universities. Universities though need to come up with strong proposals and strong commitment to do the research.

Other suggestions are to get this subject introduced as compulsory courses and that tackle the issue at hand, and students would not be able to graduate if you haven't taken that component. Elective courses for interdisciplinary teaching e.g a student from the faculty of law could have a course that is jointly put out by the law faculty and the engineering faculty because anything that is necessary for legislation then the lawyers come in. Engineers can help set up the limits that are in the technologies etc but the lawyers will come in terms of the legislation.

Training courses for service personnel in terms of attitudes, process and procedures is very important and need to be addressed. e.g if a service person is going to clean a refrigerator unit, if he is using R 22 as the charge, he will use the same cylinder to blow out the coil. There is a need for us to sensitizing people and it has to be a continuous thing almost bombarderment until it becomes a habit.

Training for government inspectors which is going on in Trinidad and Tobago and it is something that should be going on everywhere. Because these are individuals who are inspecting imports and they need to know what is allowed and what isn't.

Inter University Collaboration: This is a great opportunity as institutions to work on joint research projects. There is also the opportunity where staff can go from one institution to another while on a sabbatical to, the sabbatical allows staff to go to institutions that are doing work on ODS or Climate Change etc. There is also opportunity for research on new and natural refrigerants. A lot of work is being done but there are still opportunities for the Universities to get involved. In making sure that what we get here, what we use has the proper efficiencies and if we are going to replace refrigerants in the existing systems we must know what we are doing. There are several intricate matters that need to be dealt with e.g is the compressor big enough, what is going to happen to the inefficiencies, is the compressor big enough to give the pressure differences that you need, is the expansion device appropriate, are there proper gaskets. So all these issues and more that have to be dealt with, it isn't just a matter of switching.

The other areas is improving refrigeration efficiencies because the electricity that you use is what is called a high grade energy , the more you use , when you go back to the power plant it is about 30% efficient or 35% efficient and if you have a combine cycle you could go to 50%. But half of that energy is going out as waste. If you increase the efficiency you reduce the environment impact. It is critical and to be looked at and we must look at increasing the refrigeration inefficiencies.

Conclusions

i. Education is Critical for Capacity Building
ii. HCFC/ ODS Elimination Must be Integrated into the Curriculum
iii. Academic/Educators Must Acquire Requisite Knowledge –there is a time lag between research publication, research output, and the appearance of that work in textbooks perhaps 2-5 years. The academics have to be on top of everything they can wait for the books to come out to get the knowledge.
iv. Collaboration among Latin American and Caribbean Universities and Research Institutions – this is a distinct possibility and as a group it should be considered seriously.

18.1 Questions and Comments

Trinidad and Tobago - States that many of the issues that Prof Kochar rised with his presentation came up with earlier discussion held with the Univeristy of the West Indies Prinicipal, Prof Sankat and he has given his commitment to look

into and support the ideas that Prof Kochar presented e.g the short courses, online courses, courses for journalist that have an environmental slant so the message can get out there. So this is a positive step for the region.

Colombia – Agrees with Prof Kochar those Universities should be the first with the pros and cons so to make the officers and other implementers' jobs easier. Universities should take the lead and be the agents of change.

UNEP Panama – Agreement of mobilization of resources need more assessment at meetings virtually and next meeting etc. Is there interest of technologies with producers and distributors? If it is of interest please indicate difficult and time consuming?

Venezuela – Yes it is a good idea and it would be of great assistance.

Grenada - More information on what the producers are going to be doing at the meeting and at any even if producers were going to be invited it should be considered at this stage that everyone in the region would be interested and Grenada refers here to manufacturers from China who are producing the hydrocarbon equipment. I think that they can add a lot of value to the work of the NOO. So if that suggestion goes forward Grenada would like to register his interest in that particular country.

UNEP - The agenda needs to be developed and obviously consultation at different stages. This is the main reason why I am asking for opinions and comments from now on. So if it can be decided the main topic of interest and the suppliers available and interest to come to the meeting for free because there has been no estimation of how much to pay for experts.This is the main reason why UNEP is thinking to bring someone from the commercial sector. The agenda is open from now on and UNEP will receive your suggestion and they can look at other agenda from other nations because it is not new to the Ozone community and ozone UNEP and World Bank have shared in Asia this kind of discussion so looking at an agenda prepared by others can be a good starting point. The process needs to start from now on because it is a big process and it is important to have a good agenda for this type of meeting. This would be better for the regional meeting, because it is not easy to invite the person to come into the region to look at the perspective of the supplier. The proposal is to have a 1 and 1/2 or 2 days discussion when the mass regional meeting is taking place and the agenda could be prepared way in advance.

Trinidad and Tobago - Noting the agreement as a suggestion by UNEP and other agencies

Jamaica – Jamaica is concerned that the producers will be very technical and perhaps it would not make sense for the heads for refrigeration to be there. They may lose the essence of what the producers are there for.

Trinidad and Tobago - Target audience need to be considered when the producers are asked to present

CHENACT - You need to know the equipment and what it can do and if it is the right type of equipment. Technology experts are the ones that should be guiding us as appose to the manufactures themselves. There is also significant expertise in GIZ. The technology changes so rapidly so experts are necessary who know what is required for the region. The CHENACT Project has some good experts that can be recommended for this meeting. Also taking into consideration each island is different in what it uses and how much electricity it uses, the specs will vary. The technology person would definitely be better.

UNDP Trinidad - UNDP would just like to clarify that they did not suggest the invitation of manufacturers since this would be a difficult task in terms of who and there would be a longer list of such. Then it would be who is better at marketing their products. What UNDP wanted to suggest in view of new chemicals coming such as foam blowing agents refrigerants emerging technologies that are seen such as HFOs. If the producers of these chemicals can come and enlighten us on the stage that they are at with marketing, commericalising the products. Questions can asked about how the product can be sourced and when will it be available in your country, who will be the distributor and is it flammable? These are important questions.

Triniad and Tobago – Trinidad and Tobago thanks UNDP for the clarification and thinks that the topic can be noted as a point for consideration. In terms of looking at the information and seeing where we would like to go at a later stage but not make a firm decision now.

Agenda item 20: Energy Efficiency financing options in the region (Inter-American Development Bank)

22.1 Structure and Operation of cooperation with IADB (Adriana Valencia) IADB - Inter-American Development Bank - regional development bank which leads money and provides grants to its twenty-six borrowing countries. They provide more financing to Latin America and the Caribbean than any government own or regional institution.

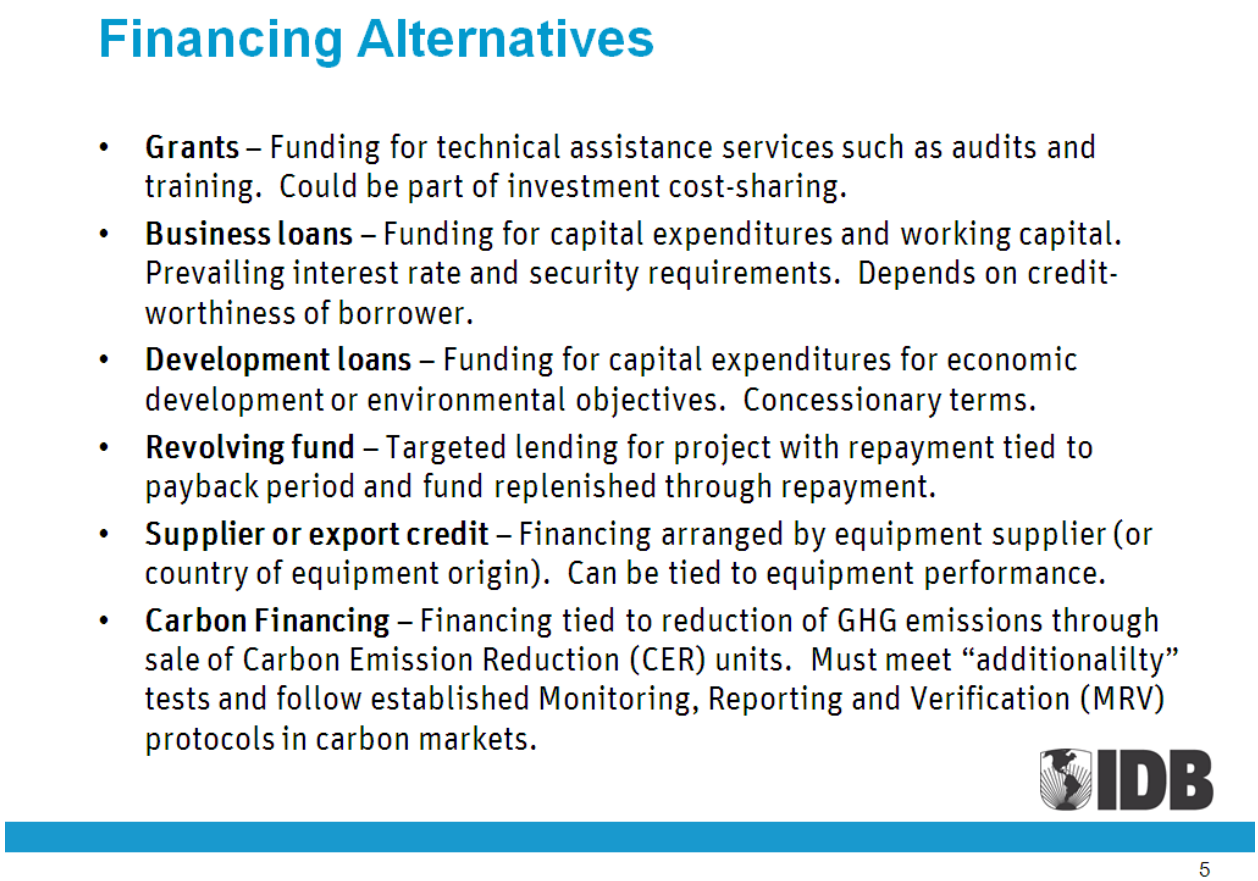
Financial Instruments: Technical Cooperations – Which are basically designed to test the potential of projects.

Policy Based Loans - Policy based loans which address regulatory issues. PBLs were introduced to deal with energy efficiency policies. World Bank ais the originator of the PBLs.

Pilot Projects – To test projects.

Investment Loans – Replication of projects at the national level.

Financing Alternatives



Climate Financing Options

Global Environmental Facility (GEF) Secretariat – Provides funding for some of the projects the IDB work on.
The Special Climate Change Fund (SCCF)
Least Developed Countries Fund (LDCF)
Adaptation Fund
SECCI IDB Fund – Strategy or Intivative that was started some years ago. It is a fund that mobilizes bank resources which increases investment in rewnewable energy, energy efficiency and also on climate change, adaptation and mitatigation.
Infrafund – Infrafund is a special fund which also administered by the IDB and is open to other funding such as government and state and to working with multi-lateral agencies. This is more focused on infrastructure
AquaFund – Focuses on water and water sanitation issues
Disaster Prevention Fund
Other: Japanese Fund & Regional Public Goods Fund
BioCarbon Fund – Focus on Carbon sequestration projects and Agro-ecosystems and more money should be coming into this fund.
These are some of the funding that interested governments can tap into.

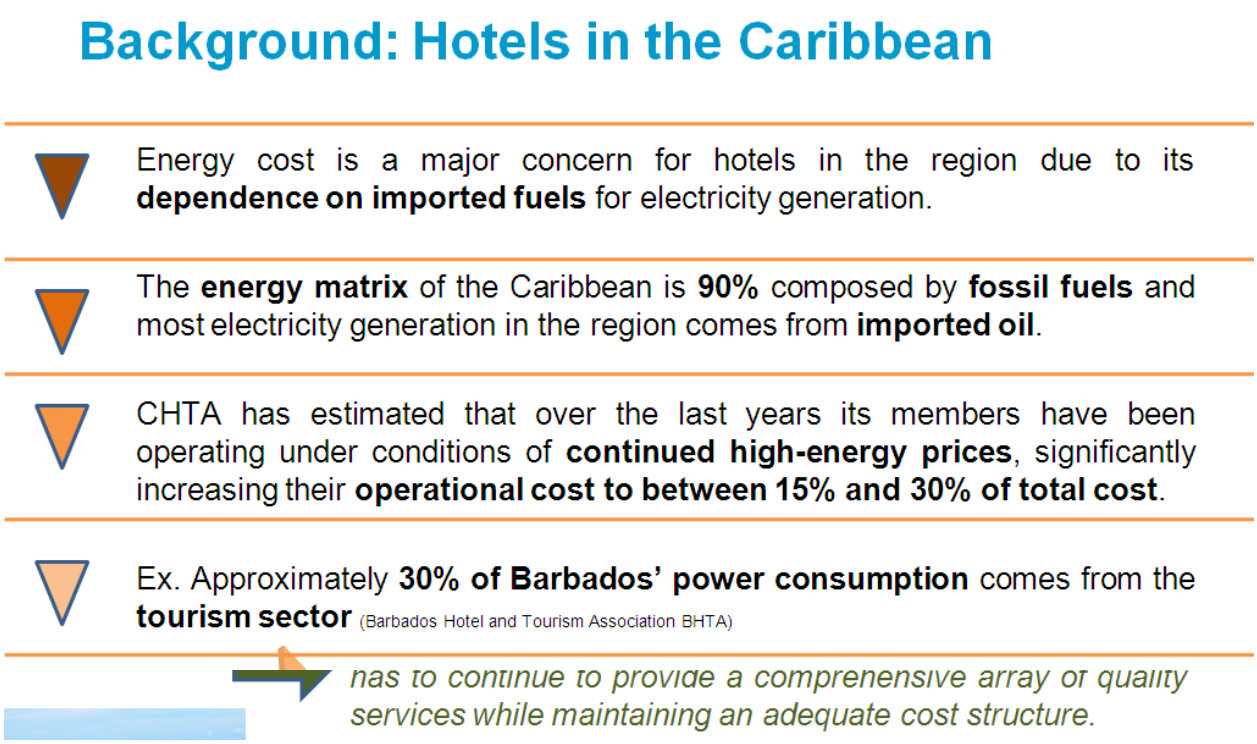
IDB and ODS

IDB don't work any specific project only focusing on ODS but they do work on related issues. Such as energy efficiency or a project site contributing to reducing ODS. There are various departments at the IDB working on such related issues.

There is an internal policy on ODS which basically says that the IDB does not finance any projects of companies that are involved in the production, or use ODS which are subject to international phase out. This also a clause in the model loans, agreements and multi-lateral investment fund, as well as no involvement with private firms that are using ODS.

Why speak about CHENACT?

Tourism is very important in the region because it contributes a lot to the economies of the countries in the Caribbean.



22.2 CHENACT an example of an energy efficiency Project and HCFC use substitution (Loretto Duffy-Mayers)

What is Chenact?

i. CHENACT is a CHTA project financed by :
ii. IDB(largest donor), GIZ, CDE, UNEP, BL&P, Government of Barbados, BHTA
iii. It is implemented via CTO by CHTA/CAST.
iv. CHTA : Umbrella Organization of the National Hotel Associations (Private sector) based in Mimi and the members are 32 countries in the region
v. CAST: Green Arm of CHTA (Private sector) founded 10-12 years ago and it initiated in Dominica Republic
vi. CTO: Umbrella Organisation of the Ministries of Tourism (Public Sector)

Objectives of CHENACT

To improve the competitiveness of small and medium sized hotels (<400 rooms covers the bulk of the hotels in the region) in the Caribbean Region through improved use of energy with the emphasis on Renewable Energy and Micro-Generation

The Pilot project is in Barbados, and the Region – though focused on Barbados there have some energy audits done in some of the other OECS islands all except Dominica because of difficulties and there is some difficulties in Trinidad and Tobago but hopefully should get a least hotels together .There is also work being done on in DR and Jamaica.

The beneficiaries are CHTA member hotels this benefits the CHTA as this project will driver membership.

Detailed energy audits in 32 hotels in Barbados

Walk Throughs assessments in 30 hotels in Barbados

Detailed audits in 12 hotels in the OECS

Detailed audits in 5 hotels in the Greater Caribbean Region

ODS audits in Barbados – there was some communication mix up and the ODS audits wasn't done in the other hotels. Hopefully this can be addressed in phase two of the project because the results from the ODS has been extremely helpful.

Contents of a Detailed Audit Report
Each Audit report is broken down into different analyses.
Executive Summary
Introduction
Energy Audit & Accounting
Energy Consumption and Cost
Electrical Bill Analysis
Organizational Analysis
Maintenance Effectiveness
Carbon Dioxide Emission Analysis
Solar Energy Performance Analysis
Natural Gas Analysis
Energy Saving Opportunities
Discussion and Recommendations
Appendices

There is standard audit protocol which can be used throughout the region for every energy project that is being done. Regardless of whom the donors are now CHENACT would like to combine projects and ensure all the projects are following the same procedures, and format.
Confidentiality is signed as part of the report but the information is designed so that non-technical persons can read them. Some of what you would get from a report are as follows:
Each Audit report is broken down into different analyses.
Executive Summary
Introduction
Energy Audit & Accounting
Energy Consumption and Cost
Electrical Bill Analysis
Organizational Analysis
Maintenance Effectiveness
Carbon Dioxide Emission Analysis
Solar Energy Performance Analysis – Solar plays a very big part in Barbados and the reality of it is. Either it is solar water heating or it's not. It is by far the most cost effective.
Natural Gas Analysis – Practically all the hotels in Barbados us natural gas which is used for cooking and a back up for the hot water heating.
Energy Saving Opportunities
Discussion and Recommendations
Appendices – Includes Data loggers and Energy Meter Readings, Heat Loads, Energy management matrix, some of the utility diagrams, energy accounting and saving calculations.
Audit Findings**:** Throughout Barbados and mostly in the Eastern Caribbean .Air conditioning is the largest consumer of energy in hotels; it accounted for over 50% of the total energy consumed.
Baselines**:** in most cased, hotels did not have operating baselines.
ODS Findings**:** This was a new challenge for the CHENACT and the hotels. In the case of Barabdos of the 51 hotels 3821 rooms which is 50% of the room stock in the hotels in the Barbados were audited for ODS and this is a very good sample. Split units were audited - 62% of the refrigerants used in Barbados is R22 or R134A 33%, or R404A is about 2%, and the rest 1-2% its very clear that R22 is the big one. In terms of the mini –splits used 96% R22. In terms of the chillers 25% across the board different gases, there were 9 refrigerators found with R12. It's not possible to get R12 in Barbados anymore so these systems will just keep going along and the hoteliers we not aware of the controls on R12. The concern of hotel owners and mangers was that the system functions. The issue of energy efficiency helping with reducing ODS is something that is very important and people need to be made aware of it.
Some of the other Issues**:** There is an awareness of energy conservation at the hotels and some hotels go as far as to say that they measure and record how much electricity they are using. The use of this data is not clear- Maintenance is a major problem as was found that the maintenance staff knows generally where everything is but most times they don't have the necessary resources to carry out the type of maintenance that they need to be able to do. Maintenance is very poor and rarely was a maintenance schedule ever found for any of the equipment e.g solar water heaters –

many of the hotels that have solar water heaters over 20 years were some how lead to believe that these were maintenance free and several were found with vines and trees and dirt covering the panels on the roof reducing the efficiency of the amount of sunlight that can be absorbed. Plus many of the hotels never put any sort of access route to get to the panels. Some hotels use subcontractors to service their equipment but they don't question how often these contractors should be coming in to service. It should be kept in mind that maintenance is an issue across the board and it isn't just in the hotel industry and its not just Barbados.

Case example for Water management**:** One of the high end Hotel in Barabdos. The auditors monitored the water for two nights and they found two leaks one in the cooling tower and one in the swimming pool and this was costing them $ US 310,000 per year. Water was being looked at because it takes energy to pump water. So leaks would result also in wasted energy.

Brief Recommendations to a small hotel

Example - To change all the 50-60 watt incandescent light bulbs with 13W CFL bulbs initial cost $BDS 1700, 800 to change the mouth, the savings is almost 8000 per year , the payback period is like 0.2 less than two months, the annual energy savings is 16000 kilowatt hrs and 10,000 CO_2 per year. This is a good example of what very little is done with a small investment giving back big returns. The solar water heater when installed for $ 40,000 with savings 17,595 per year, payback of 2.3 years, 21,000 CO_2 saved.

This small hotel total cost with the recommendation was 60,668 with savings of 43,961 and a payback period of 1.3 years. This will reduce the hotel's annual energy consumption by 74,244 Kwh annually which is 17% of the hotel's energy consumed and 19% of the electrical energy consumed. If the project pays back for itself in 1.3 years providing an internal rate of return 69% over a seven year period. The Net Present Value (NPV) is $ US136,537 at a discount rate of 9% indeed a very attractive investment and it makes more sense to burrow the money and invest it and you will be able to save the savings over and but it in the banks. You cannot make that rate of return. These projects are used to show hotels the benefits of making the investments that have been recommended.

Corporate Utility Management Plan (CUMP)

Corporation of Maintenance and Administration can make this a successful plan. The cost in the region has been estimated at USD $6000.00 to implement a plan to train your staff, train maintenance, do an annual audit, develop energy policy and program, Pay someone in the hotel or take on someone to do the energy management. The hotel association can provide this training and bring the cost down to $3000 in some cases its 3-500. Grand funding can be obtained from various sources to obtain this type of training. The Barbados Hotel Association has already embarked upon.

CUMP involves:

i. Developing Policy and Program
ii. Energy manager (full time or contracted)
iii. Staff Training
iv. Maintenance Training
v. Annual Management System Audit
vi. Assistance available from the HAs

Next Steps:

i. Expanding CHENACT throughout the region – increased funding, combining projects

ii. Smart Fund, providing assistance and funding

iii. Working with NOU, awareness raising and funding for phase out

iv. Clean Energy Policy will be incorporated into the Tourism Master Plan, The Tourism Development Act helps with duty free equipment like the A/C and the National Energy Policy. Can be replicated throughout the region and Barbados is willing to share that plan with those who are interested.

v. Training and workshops – There have presentations to hoteliers and staff explaining what the ODS Auditing was all about. There was some very positive surprisingly reaction.

vi. Association of Hotel Engineers and Maintenance staff – Few hotels in Barbados have engineers they need to have more dialogue among themselves, there is not a proper system of testing equipment so between the hotel staff whoever have tried the new AC units can meet with the others to talk about the pros and cons , it may work on the east coast of the island but not on west coast of the island because the climatic conditions are different. Big brother program- where the hotel engineers from the bigger hotels will go and help the maintenance staff in the smaller hotels. As engineers they know the problems already and CHENACT will try to get funding to pay them to do it.

vii. PV Demo Models in 3 hotels – there is funding to do photovoltaic models in three hotels and surprisingly the response has been very strong. Investment of 45000 in equipment in the hotels but they have been asked to match it. There are quite a few hotels that do have this kind of money. So instead of installing three 10kilowatt systems then 20kilowatts will be able to be installed 60 10kilowatt system.

CHENACT HOTEL ENERGY EFFICIENCY ACTION ADVANCED PROGRAM (CHENACT AP) Technical cooperation

General Overview of Chenact one: Even though there is an initial investment the energy cost savings can be large and net savings are substantial. Looking at the second set of data for hotels of 50 – 100 rooms there is an initial investment of 4million BDS dollars there would be a net energy saving of 9.1 million BDS in savings while the substantial would be 5.1million BDS and this is assuming analysis period of 7 years and discount rate of 12% , Average electricity tariff of 0.45 BB$/kwh equivalent of 22 US cents the electricity annual price escalation rate is 5.5% and the simple pay back is less than three years

This would also be the case if it were just 0.25 BDS 0.12 US.

Estimated Annual Electricity Consumption for Hotels in the Caribbean – Very large for Dominican Republic. Chenact has been focused in Barbados but will be soon starting work in Jamaica and Bahamas and others who are interested are: Trinidad and Tobago, Dominican Republic hopefully Belize and Surinam.

Estimated Annual Electricity Savings for Hotels in the Caribbean - For the largest consumers which is the Dominican Republic it would be 296kwh of annual savings if money was spent on energy saving measures.

Annual CO_2 Emissions Reduction for Caribbean Region Hotel Sector – For all the hotels it would be the equivalent of CO_2 emissions from more than 99million gallons of gasoline consumed per year 884,000 tons CO_2 emissions can be avoided annually through energy efficiency actions.

Energy Efficiency Investment for Hotels Across Caribbean Region – Can have an annual eclectricity cost investment savings of 115 million $US

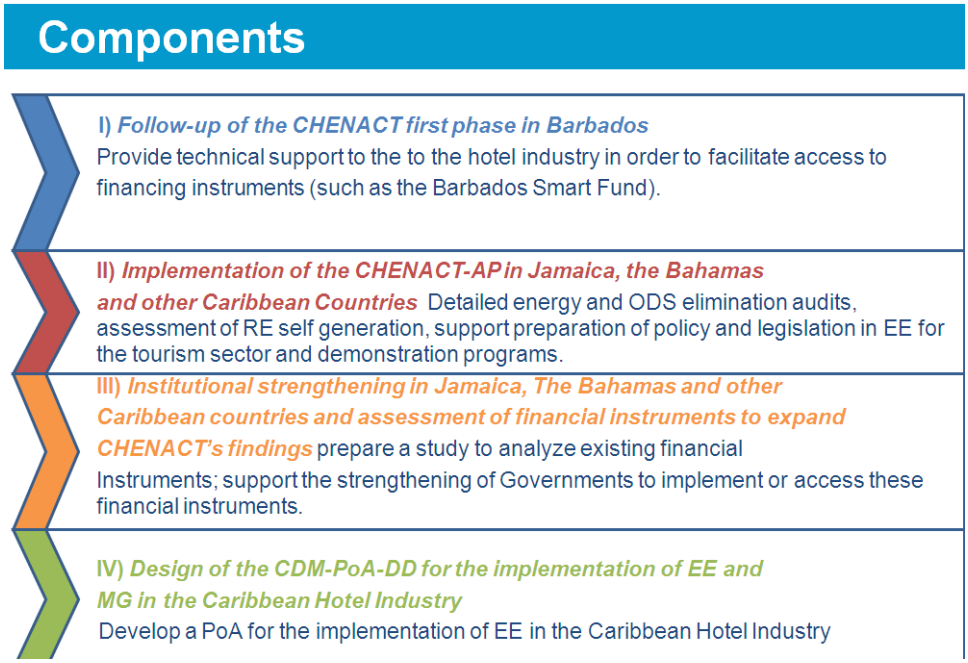
Chenact Advanced Program

Objective – Encourage and coordinate the implementation of EE and RE practices in the Caribbean Hotel Sector at the reginal level.

Specific Objectives – (i) Improve the competitiveness of hotel industry (e.g small and medium enterprises (SME) Hotels) by lowering energy costs; (ii) bundle the potential CERs of the Caribbean Hotel industry into a single CDM Program of Activities.

This would take about 40 months to execute, the executing agency is the Caribbean Tourism Organisation (CTO), and this project was just approved 2011 similar to Chenact1 there were several stakeholders. Total sum is 5 million.

The Beneficiaries will be Barbados, Jamaica, Bahamas and hopefully other countries. General Approach will be transfer of knowledge, introducing energy efficient appliances, promoting renewable energy and micro generation and exploring possibilities to obtain carbon credits from greenhouse gas emission reductions.



Energy Service Companies

Another important part of the implementation of EE practices is complemented by the existence of **Energy Service Companies (ESCOs)** that could **provide technical and financial solutions to energy intensive operations**.

ESCOs have been an **effective vehicle to promote the adoption of EE**. The majority of the hotels in the Caribbean will require technical assistance in EE that could be provided by ESCOs as well as access to financial resources.

*The TC will create opportunities for participation of local & international consulting firms and **ESCOs**, for the creation of additional technical & financial capacities.*

IDB

There is also the option for the utility companies becoming ESCOs themselves so that they can recoup some of the money that they are losing as a result of the hotels becoming energy efficient and they can provide training and help with the energy audits.

Impact on Green House Emission Reductions

Prof Kochar did remind us yesterday that by increasing the efficient use of electricity we reduce the impact on the environment.

PoA (Program of Activities) and the Promotion of Energy Efficiency

Impact on Green House Emission Reductions

The implementation of EE practices in this project can also lead to an additional stream of resources from the sale of greenhouse gas emission reductions in the carbon market.

Maximize this benefit → the individual carbon emission reductions (CERs) can be grouped to make them attractive in the market.

- The UNFCCC has a mechanism, the Programmatic Clean Development Mechanism (PCDM), which allows regional programs to be eligible for carbon finance.
- This TC, if deemed viable, would eventually prepare a project design document (PDD) for a PCDM that pursues the possibility of selling the emission reductions generated by the implementation of EE practices in the hotel sector at the regional level.

This second phase is hoping to achieve to put together PoA for the region. First there would be a start with the countries that are already participating, Barbados, Jamiaca, Bahamas, Dominican Republic, Trinidad and Tobago, Dominica, St Kitts Nevis, Barbauda, Antigua and St Lucia. With that could avoid more than 0.5 million tons of CO_2 emissions. The biggest impediment centers on the fact that running and having a successful PoA is different running a

standard load CDM activity. It requires many operational and non CDM capacities that CDM developers and consultants don't always have. That is a challenge but it hopefully should be addressed.

Process for Developing and Registering Caribbean Hotel EE PoA

1. Define the geographic scope of the PoA based on:
   - Countries that have established a DNA (i.e., Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Dominican Republic, Guyana, Jamaica, Suriname, Trinidad and Tobago)
   - DNAs that confirm that a Hotel Clean Energy Program assists in achieving "sustainable development"
   - Define the EE/RE technologies and associated methodologies to be included in the PoA
2. Seek representative volunteer hotel property(ies) that will serve as the CDM Program Activity (CPA) in the registration of the PoA.
3. Estimate the size of the PoA in terms of the cumulative CERs generated by all future CPA participating in the PoA.
4. Establish the PoA Coordinating Entity
5. Prepare the Program of Activities Design Document (CDM-POA-DD).
6. Validation of PoA by Designated Operational Entity (DOE)
7. Application for Registration with UNFCC CDM or other carbon market.

IDB

4. Establish the PoA Coordinating Entity – which will be responsible for then including other hotels so the beauty behind the PoA is that you only have to apply once and you don't have to go through the process of having the CDM projects at different sites, which can substantially delay your project and which can be not a good investment because it costs a lot to apply to the CDM. So in multiple CPAs can be then included under the PoA however registration can be added at anytime and this process can take 2-5 months.
If countries are interest they should let CHENACT and IDB know now and the country initial investment is only USD 160.000.

How will this project impact on ODS?

	energy-saving light bulbs
	solar water heaters solar water pool pumps solar cooling
	energy efficient refrigeration equipments
	energy efficient air conditioning (AC)
	foam insulation
	recycle-reuse of waste for bioenergy
	linen re-use programs, etc.

Non-ODS Technology updates

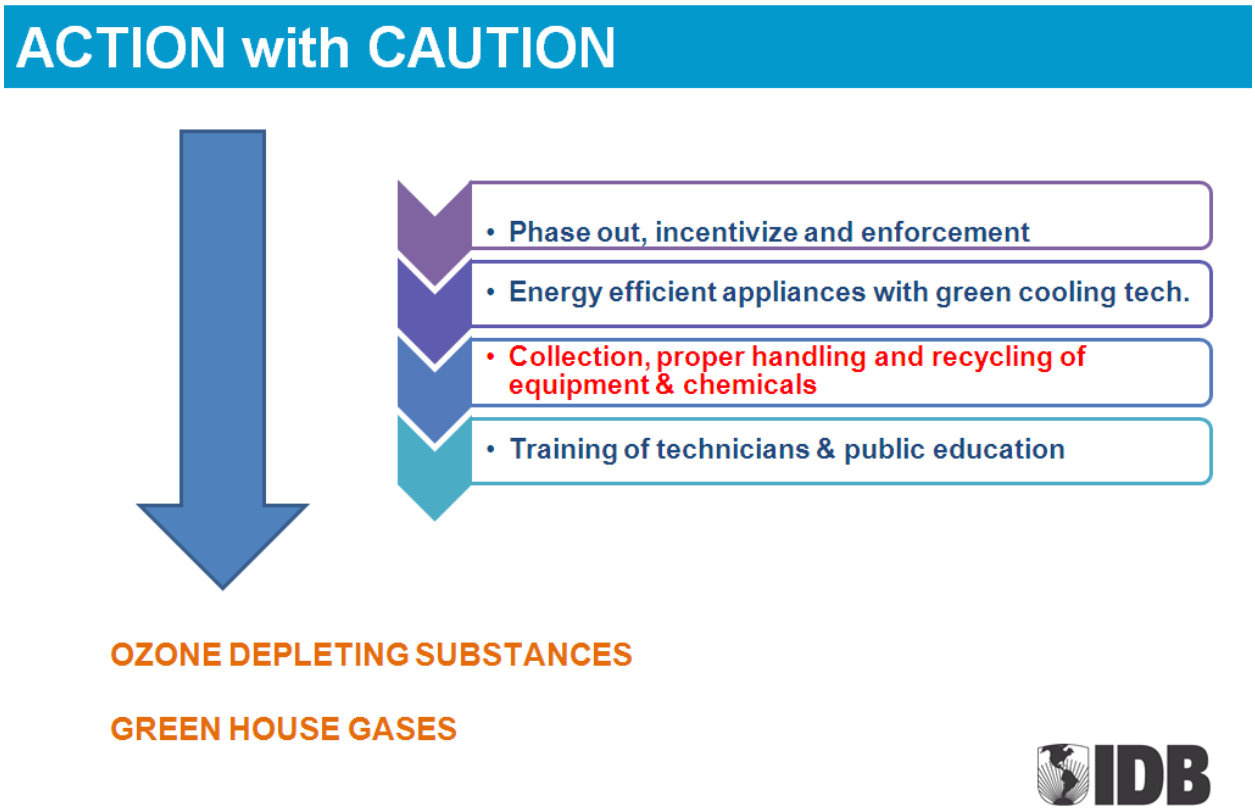
IDB

The SMART Fund

The first 10 hotels to agree to participate will receive up to 1.5 million and it is basically small loans at very low increase rates. Given to hotels to invest on equipment it will lead to energy efficieny and renewable energy .

A project that will impact on the ODS which is the IDEAS project. This is fund that has about 3million dollars to support innovation, energy savings and equipment and there is also some support from Mexico.

There are various examples of ODS substitutes and hopefully the project can leap frog to alternatives solutions that will not have such a high GWP. Reducing Green house gases and ODS by investing in cleaner technologies, equipment upgrades and reducing consumption by collecting and safely desposing of equipment substances by building and designating recycling plants. Reminder– Action with Caution. The phase out of ODS are important but the incentatives are important for hotels and the other organizations for example the training of technicians on alternatives and public awareness the goal can be achieved.



22.3 Questions and Comments

Trinidad and Tobago: Trinidad and Tobago: stated that some of the older government buildings have a lot of energy problems and will contact them for assistance

CHENACT informed that in Barbados there is a sister project called the Sustainable Energy Framework and it is apart of the SECCI programe and this project involves aduits of government buildings and the maintenance work on some of the buildings. This project demonstrated the great need for the government buildings and in the case of Barbados this urgency was recognized especially now that in the Barbados they are moving forward in implementing the Green Economy. So the public sector really has to ensure that they can step up to the plate as a demonstration to the public sector.

Suriname – The constribution of the Country the $US 160,000 – Is it financing or both financies and inkind?

CHENACT -The $US 160,000 is in cash and this is needed because funds are needed to do the actual physical energy audits. Inkind can also be considered too but what she has been asking the hotel association to do is to give her some man hours instead of going and hiring someone from Barbados, Jamaica or Belize for example then someone from the hotel association can be assigned to assist her in getting hotels on board etc. So man hours will help but they are really trying to build up the cash resources so that they can be more focused and dedicated.

CHENACT -This is technical assistance grant funding from the IDB and CDE. The loan came into place when they set up the SMART Fund and the smart fund is now is a loan from IDB and the initial tranche is $ US10 million and the current rate which in Barbados works out to be 3% burrowing as apposed to the current interest rate which is in the region of 6-7%. So it is concessional funding to Barbados and then onward to the hotels.

GEF– The total carbon dioxide emissions in Barbados for hotels would be about 57, 700 tons per year – This project compared to GEF previous historical projects is very small in terms of CO_2 emissions but it does not mean that they would not finance a project such as this in the region but to caution that the countries in the region are very small. So if a number of countries can be combined to do regional project that would encourage more financing and would save transaction costs and other costs. Getting people to sign PoA and to work together to develop a regional project to phase out CFCs or HCFCs, air-conditioning and room energy project in kitchen, rooms in hotels. Not just ODS projects but also energy efficiency if this is combined together as one big good project.

CHENACT– Reminds GEF to bare in mind that figure only has to do with the hotels and it's strictly energy efficiency. Transportation for example hasn't been considered.

GEF – Then there are options. Perhaps some part of the funding can come from the Climate Change allocation which each country does have from GEF to use in this kind of project to benefit all the countries. Are the technicians who are doing the auditing have the license or not? Are the recognized experts and how did you choose them?
CHENACT – Firstly a project like this you have to put out to tender, a firm from Washington DC were hired because of their expertise in the hotel sector. They are formally known as PA Consultants now known as Tetratex. They subcontracted out the auditing to and energy auditing firm called Energy Dynamics from Port of Spain Trinidad. The manager of this firm is Mr. Andre Escalante and is considerd one of the leading experts in energy efficiency in the region and when it comes to hotels in the region.
GEF - Chenact has a large range of energy efficiency in hotels for example kitchen, solar water heaters etc and there is a payback period – What is next best energy efficiency area that will be a cost effective projects or investment? What is the payback period?
CHENCAT - In some cases the payback period is two months – for example hotels that have 100 watt incandescent bulbs to retro fit these with 13 or 14 CFLs the actual payback period is 2 or 3 months. The potential for energy savings is high in the air conditioning and certainly for this ODS phase out-management. This benefit is very high on the split systems but having said that what must be said is that Barbados has been the dumping ground for these cheap air conditioning units carrying R22 for the longest time and you can still get these units for half the price of the ones that are carrying the longer term ozone friendly and energy efficiency alternatives such as that of R410A. So there is no incentive for hotels to change out into the recommended gases because for the simple reason they are saying why, they aren't breaking the law so why are they going to do it. In Barbados they have actually incooperated this into their Clean Energy Policy and they have asked that let hoteliers know that R22 is now obsolete in the US and Europe and they will have difficulty getting such systems service in years to come so if they want to take the chance and purchase them just know that you may not be able to service them.. CHENACT have made recommendations in terms of the AC units and the put in the VRV systems with combined compressors which have potential for energy savings.
GEF – Then is it understood that air conditioning is the priority for the energy efficiency?
CHENACT – In Barbados Yes.
GEF – What about 0.7 years payback period?
CHENACT - To change a of the 50 watts lights in a particular hotel to 3watt CFLs the initial cost was $US 3300 and the annual cost was $US 6200 so the payback period was 1 year. The development and management of the corporate management plan and this is where you would put in an actual energy policy into the hotel, train staff, train maintenance and you put in an energy management system that would cost approximately $US 6000 and that this something that the hotel association can do themselves.
Antigua – Findings from Audit – It is interesting and ironic because in the case specifically of Antigua and Barbuda where a lot of the hotel owners complain about the high cost of energy and how it impacts on their operations which in turn makes these two islands expensive destinations for tourist. The cost that they are complaining about most time is the cost that the National Utility companies are providing and not so much of how as individual hotel owners that they can reduce the cost of their energy savings and in terms of some of the recommendations made.. How then can they take the audit and move beyond the CTO to the government and get them more involved in energy efficiency? From ohservation, a lot of governments in the Caribbean have developed energy policies but many may be focusing on alternative energy and perhaps not on energy efficiency. While that documents focus is on energy efficiency and how do we more beyond the report and get the governments more involved?
CHENACT – Most of the hotels across the Caribbean have been complaining on the high cost of energy and other utilities. CHENACT has clearly shown that it is not necessarily the high cost of energy but the inefficiencies and it's this system that is causing these problems. Hoteliers sell beds, food and drink and they are spending their money marketing a product that is deteriorating. What CHENACT is trying to get them to do is focus on efficiency of plant. In terms of getting governments involved this is why they are expanding the project to the other islands and are asking the governments to make a contribution and in that way they can't walk away from it. When there is lots of money on the table they will take far more interest of what is going on. Though the focus has been on renewable energy but there is no point in getting these systems if you are not energy efficient. You have to be as efficient as possible first and then you can consider the renewable energy that has been the focus that Chenact has taken. But yes there are talks taking place with governments and the signing of Chenact 11 will be in Barbados at the Caribbean Renewable Energy Forum. There will be also three government ministers that will be in attendance to sign these are Barbados, Bahamas and Jamaica. Belize has come to this because the IDB representative for Barbados has moved over to Belize and she is every enthusiastic about the whole concept and she is willing to work with the government of Belize to get them involved. There has been a lot of presentations and it has taken two years to get through to the CHTA , CTO, and the various

other governments because its only when you show shocking pictures and potential savings and its broken down into dollars and cents that people start to realize. It requires a lot of marketing and we have a tendency to forget back of house in every industry and as it was said very rightly, that the state of the public buildings e.g. police stations, hospitals, schools they are all the last things to be touched but it is something that you have to try and get the youth involved in as well. Educating them, getting the universities involved. If you look at the hospitality institutes they have all gone green eg Barbados Hositality institute is a green certified property and has been for years. When you have these institutes or hotel schools teaching the maids, managers, chefs etc about these things then that is when it will start making the influence.

IADB – The IDB is also working with the governments themselves to implement sustainable energy policies, frameworks and hopefully you will see this coming up soon for Trinidad and Tobago, Jamaica, and for the Dominican Republic. IDB is definitely working with the governments to ensure that there is a policy for this.

CHENACT –Working the OECS islands is being done through GIZ and as IDB does not work with OECS

UNEP Panama Policy Officer – Partnerships – UNEP thought about how we could get governments more sensitize to the Montreal Protocol. It was said by Macro Gonzales that it is very difficult to sell governments on the Montreal Protocol because everything is built on what is the take of the day whether it is climate change, energy efficiency and now the big talk is the green economy. In this regard, it was necessary to look for a tag on and that the private sector would be a good ally for MP to encourage more of the private sector involvement and particulary showing the economic benefit.The objectives of the CHENACT give to this partnership. When this agenda item was being coined they were looking at the primary objective with the MP but linked very much with energy and climate component and the Grenada delegation asked early on about giving a case example of how. How can UNEP give you a mechanism to bring the three components of ozone layer protection, climate impact and enerhy efficient together and also to show the economic benefits and other opportunities? For ozone officers it would be a very useful tool to get the buy-in from governments, private sector, the technicians and engineers.

Dominica – Dominica would like to know if the information that CHENACT are collecting if it is being disseminated to the different countries where they do the work because it can be use as a marketing mechanism for the green economy. If you are to take this information to the other island a good point of entry may be the national ozone unit. So the information should be documented in such a way that is user friendly from the Ozone unit point of view that can be taken to the hotels.

CHENACT – The information is continually being disseminated through the CTO and CHTA.

UNEP Mexico – There can be offer and support in education and working conditions of workers and other necessary training etc. Mexico's new equipment has certification and will be done by GIZ. GIZ in Mexico assists with training in energy efficiency.

CHENACT – On a couple of points that were raised on the issue of Health and Safety – the auditors saw a lot of things that were of great concern such as the burnt out wires in the electrical room and you saw many other examples. Health and Safety is of prime importance and again baring in mind that we are so heavily dependent on the tour operators in this region especially on the European ones at least on the Eastern Caribbean side. The European and UK operators have become extremely demanding on Health and Safety and environmental issues. They are asking hotels to become certified under their certification. Another point is that there has been certification in the region for the longest time including for example: green globe certification, there has been green leaf, green day and more. Though what the CHENACT project has shown is that these certifications have failed us in the region. If hotels were given green and gold certifications all these years and yet you can find that a hotel has been wasting over $ 300,000 US in water for all these years and yet they can be certified. But they are shrude enough to recognize that being able to say as an industry that it is efficient and have reduced their carbon foot print we are now going to set up a PoA. That is a tremendous marketing tool. The industry is very aware that it would like to be able to say that it is one of the first carbon neutral regions in the world. So there are a lot of things that Chenact can be used for, this can be used as a marketing tool going forward but it has to be done right. In terms of water yes of course and that again has been recognized in terms of training and again the hotel association does green team training. Start making it personal and when you get the staff to see how they can save money in their own houses now they can start doing it at work. It is difficult to tell a maid to switch of the lights in a room that is bringing in USD 2000-3000 a night and there are many hotels like this in the region. Because the maid is making less that this in a week than what the room costs so she will not be concerned about how much energy she is using or wasting while she is cleaning. If you can show that her that she can save money at home you will find that she will automatically do it at work. Also you find that women bring information home and they educated the next generation. When you have a good green team in a hotel the staff themselves will have green houses and end up with

green children. You will find that young children in a home once they are educated about energy efficiency will make sure to police everyone else in the home.

Trinidad and Tobago – Have you at all approached the hotels on the hotel rates being reduced because of the savings?

Barbados – Congratulates to the Chenact team on the very good work that they have done and congratulations to UNEP for adding the ODS component. The information from this project is significantly going to assist Barbados in implementing their HPMP. Adding to the comment that Dominica made was very vital about collaboration with the national ozone units because it will give the officers the opportunity to interact with a key sector. Barbados certainly didn't think about the hotel sector before knowing of the CHENACT project because her primary focus was just on the technicians and the commercial sector and not on hotels. So for the national ozone units that hope to work with the CHENACT on this very good initiative and recommend that other countries should use this opportunity and try and see how the information presented can be used to implement their respective HPMPs etc.

CHENACT– One of the things that have been recognized by those who have worked in the hotel business is that one of the most dangerous things you can is reduce your rates. Example after 9/11 the hotels in New York took 7-minutes to reduce their rates because they saw the fall out straight away and it took seven years for the rates to go back up to that level again. It is one of things that they have cautioned hotels against is lowering their rates even in a recession the thing to do is add value. Loreto thinks that in a project such as CHENACT where costs can be reduced therefore leaving hotels looking better at the bottom line that instead of reducing their rates what they can say is OK instead of charging you a 150 US a night lets through in breakfast or lets add dinner do something that will make things a bit more enjoyable for the guests. Make it a better experience and that is what this information can do. Reducing rates is dangerous thing and throughout the world you will find that they don't like to do that. Most times hotels will advertise discounts on their rack rate and the tour operators get an even better rate than that. What we really need to do is that we have made it efficient our bottom line is let see if we can give out guests a better experience. e.g add a trip like Caroni swamp or Asa Wright nature Centre and this is how hotels are going now.

St Vincent and the Grenadines – Is grateful for the presentation and it resignates. St Vincent would like to know about the Chenact Loan system because in St Vincent the private sector the hoteliers complain about their electricity bill and they have been looking to the government for waviers of the value added tax wavier of the tariffs but not paying attending to their own efficiency. Though the information may get to the Ministers at the CTO the information may not necessarily get to the hoteliers who really need to get it. The ozone officers need to also take advantage of this information and use it to inform the Ministers, Permanet Secretaries etc so that the information can be dessimate to the appropriate persons. Ozone officers must remember that they can't operate in 'silos' the information when gathered at the meetings need to be utilized create linkages with energy units, hotel and tourism association, and try to dissimate information and ensure that it gets out to the hoteliers so that they can improve their efficiency and in turn be better able to offer better packages

CHNEACT – In terms of GIZ contribution it was in kind contribution, they actually funded the audits in the OCES following the same audit protocol so these hotels that were audited in Barbadua and St Kitts Nevis , St Lucia, and Grenada were funded by GIZ. The second part of GIZ funding is to cover workshops and Chenact has been trying for the last couple of months to organize workshops in this islands and she has been in touch with all the hotel associations to actually hold workshops and they were actually initially looking to have two day workshops , not just a workshop for the hoteliers but to bring in the bankers, financiers, the utility companies, technicians, energy suppliers, donors, ozone officers would be very valuable to these workshops and they are trying very hard to get these done and should have had them done by October but unfortunately there have been some complications but you should expect to hear from Chenact team in a about a month or so to get the workshops finalized. This then would be an opportunity to dessimate the information directly to the hotels and the relevant Ministries will be brought in. Chenact has had to say to the hotels that this product / service that they are offering need's fixing and Chenact are willing to give them the assistance that they need. The Smart Fund is IDB funds that were loaned to the government of Barbados and they would have to look for something similar for St Vincent who is in the OECS. Probably through the Caribbean Development Bank. Once the Smart Fund is up and running Chenact can give you the information on the actual set up of a fund like it. We can also look at where else funds can be sourced for something similar either through the Eastern Caribbean Bank, Central Bank or through Caribbean Development Bank somehow or another. The funding comes from IDB to Barbados and to the Smart Fund and to the hoteliers.

Trinidad and Tobago – On the first day there was one request for an additional topic to be added to the agenda this was from the delegate from Grenada. He has kindly consented considering it is an issue that deals strictly with the Caribbean Region that he would address it at his training sessions on Friday and Saturday. Agenda item 23 nothing was raised otherwise there so this discussion can be taken up to 11 and comfortably be within time of the agenda.

Colombia- Is there any similar projects in Latin America?
CHENACT – As far as she knows this is the first of its kind in the hotel sector but she does know of some similar but much smaller projects in places such as Indonesia and it was done with 8 – 10 hotels a similar one but not as quite detailed and they did not pursue things like the energy policy. They didn't look at the financing very much depending on the commercial banking sector and government assistance. But in Latin America CHENACT is not aware of any and IDB certainly doesn't have another one.
St Lucia – Good presentation. But what you find is that in the Caribbean there are all the policies etc but half of the time it is sitting on the shelf and Chenact has done very well with getting to the root of the cause and getting to the business on the ground and that's the only way that you can implement those policies and strategies that are there. In St Lucia they are very fortunate to have the National Ozone Unit and the Energy team in the same division and the ozone family has done very well in terms of identifying synergies. Because St Lucia is from a Climate Change background the Kyoto Protocol focuses more on adaptation and there should be more of a balance and there needs tosome mitigation mechanisms too. So it is good for the Montreal Protocol to be focusing on the mitigation aspect as this balances out these things. The energy efficient element is really good and it will give the St Lucian Energy Unit and the Ozone Unit an opportunity to work together a bit more but from with discussions with the Energy Unit she understands that Caricom unity will be having a Energy Awareness week for Caribbean countries for the month of November. St Lucia would normally host this in June because the month leading up to Christmas people tend to consume more electricity. So this might be a good time for Chenact to plan their activities to coincide with the Energy Awareness Week in November especially the work shop that Loreto mentioned previously. This would be a very good aspect – one of things that the Energy Unit does is try to do during that week is to have a symposium perhaps it would be good to have some more information so that they can actually tie it in with the week and during that time they get the support from the tourism sectors and most likely get the technicians on board and so they would like to get more info on the workshop.
CHENACT – GIZ who CHENACT deals with are based in St Lucia and they commented about trying to collaborate for workshop for the Energy Awareness Week. They are aware that St Lucia has it at that time and will work on accommodating that.
Grenada - Thanks the presenters and thinks that they did a good job of showcasing the phasing out of ODS and energy benefits. This is a very complicated issue and it may not seem so but it is and Grenada hopes he won't further complicate it. Firstly the issue of Public Awareness with Chenact – obviously it can be seen that the project is a good one and can bring dividends to the sector but what Grenada cannot understand is why was such a project conducted and the focual points for Ozone and Energy within the various governments were not on board and not informed, not apart and not consulted for this project. For Chenact or any other organization to go into a country and conduct all these energy audits and the ozone units not aware Grenada thinks is one of the areas can be improved. Two other issues are cost and the environment and in these days with the current economic situations people tend to go by cost right in front of their noses than by environmental costs right down the road. So an hotelier might see that there are some cheap units on the market that they would like to buy and install and can see the immediate savings and may be tempted to go for that. Another may say that there are long turn benefits and the payback period is 2 years. That might be the better option and a third might still consider the environment. Unfortunately and this is a personal opinion, the environment seems the least consider among those. Grenada is not necessarily convinced that the Caribbean Governments have really put the environment on the agenda and so the environment does not command the kind of respect that it or to get as far as projects are concern. The parties all seem to be guided by the bottom line and the financial implications and it is a very sad situation considering that we depend so heavily on tourism. Tourism product is located ideally on the beaches. Our beaches are most vulnerable to the effects of climate change and everything else that goes with it and we have not at yet established this linkage to associate the importance of the environment with the sustainability of these very projects such as the tourism sector. Until the Caribbean governments but this on the forefront of the Caribbean agenda countries will just be doing all these projects in isolation and soon rather than later parties will have these catastrophic events that will really give us this awakening. But Grenada hopes that Chenact through this initiative will filter down the information to the stakeholders and in this respect he would like to encourage Chenact to consider in their public awareness initiatives project to meet with the various associations of technicians and to outline to them what they have been doing and how they can be involved because these technicians are the ones who would be involved in the change over of technologies most of them are electricians and would be involved in the energy comsumption aspects of these hotels. But Grenada does believe in Chenact's out reach that they should reach out to these electricians and technicians so that they too can be part and parcel of the excerise and be aware of

what is happening and can make their own contribution. Grenada believes that all the stakeholders need to collaborate and not work in isolation. He believes that much more benefits can be derived from that.

CHENACT – Agrees with Grenada that one of the mistakes that were made was that they did not get the ozone officers involved from the beginning. And it was lack of awareness on their part and yes UNEP was involved and CHENACT were doing ODS audits etc but CHENACT was not aware that there were ozone officers in every island. And as Chenact moves forward into its second stage the officers will be involved from the start as well as all other stakeholders. Environmental Issues – Loreto has been saying it for years environment has been built on and not built in on what parties are doing and it is across the board and it is a problem and parties tend to see it as additional work and it isn't suppose to be done. It should be taken into consideration every single day of the week. Whatever can be saved is getting people to consider the environment and it's not for the love of the environment. Unless you can show by taking certain steps you are going to save money or you are going to make the product better people genuinely aren't interested but having said that when you do take the first steps all of the benefits to the environment start to play out and people start to see it. We sell the environment that is all we have to sell compared to what Europe can offer tourist culturally. But what the Caribbean does have is the environment and often time it is the same environment that is hurting us as well as what we are selling. We have a range of environments beautiful climate, beaches etc. But it is the same climate that will negatively impact on us and there are many things that we need to consider adaptation, mitigation and we tend to look at these things down the road instead of putting them into our day to day operations. It is difficult but slowly but surely we are starting to look at integration. In Barbados there is an Integrated Climate Change Committee which is bring in all the sectors, initially the private sector was left out until they found tooth and nail to get involved. Something CHENACT are making a point to get involved now is ensuring that when they do projects like this that it isn't about just reducing our cost but also the carbon footprint. This can also be used for marketing purposes and at the end of the day its all about bottom line and costs. The involvement of the technicians was another miss step but they will be involved in the future of the project especially since a technician hasn't been met who has said that they are trying to phase out R22 as yet. Because they are saying it is all about cost. CHENACT has seen people advertising environmentally friendly refrigerants R410A. However, they do not understand that they can encourage their customers to look for more environmentally safer products. R410A refrigerant has a high negative climate impact.

Agenda item 21: Conclusions and Recommendations

Main Meeting of the OzonAction Networks for Latin America and the Caribbean (LAC), October 4 - 7, 2011

Results and Conclusions

1. The Executive Secretary of the Ozone Secretariat gave recognition to the ozone officers of the region for their work and efforts to fully comply with the parties' obligations and including data reporting and compliance with the 2010 milestones. He urged the Implementing Agencies to further support parties with any pending issues- data, compliance or ratification of amendments. He concluded in extending the graceful thanks to the government of Trinidad and Tobago for hosting the meeting and the University of West Indies for supporting, having the meeting in its campus and providing the opportunity to share with students and the academia a lecture on the ozone treaties.
2. Efforts made by Countries in the region of Latin America and the Caribbean (LAC) in fulfilling their commitments regarding the elimination of the substances in Annex I of the Montreal Protocol were recognized. It was noted however, that in some cases, the reporting obligations in the use of methyl bromide for quarantine and pre-shipment purposes, and ODS for process agents, are not being reported and Parties we encouraged to do so. It was also noted that from 2013, the supply of HCFCs by the producing countries to those countries that have not yet ratified the Beijing Amendment may be affected.
3. It was stressed that countries need to begin the implementation of management plans for the elimination of HCFCs to facilitate compliance with the HCFC consumption freeze in 2013 and its subsequent reduction of 10% in 2015 and with urgency.

   Emphasis was also placed the importance of the establishment and/or strengthening of legislation for license and quota systems for HCFCs as part of a comprehensive approach aimed at reducing the supply and demand for these substances.
4. Several concerns were raised about appropriate alternatives to replace HCFCs by low environmental impact technologies, in particular for the Small Island Developing States (SIDS); and including concerns related to the technical and economic feasibility, capacity and training for the use of alternatives, energy efficiency, institutional strengthening and the level of funding available.

5. It was recommended that a study be undertaken on the financial sustainability of HCFC reclamation and recycling operations as are being proposed under the HPMPs. Furthermore, it was considered necessary to address the proper environmental management of refrigerants and unwanted ODS stocks including that disposal and destruction.
6. Implementing Agencies of the Multilateral Fund were requested to continue to regularly inform the networks on the progress of approved demonstration and investment projects, including information such as capital and operating costs in the application of the technology used.
7. National Ozone Officers suggested that Implementing Agencies provide information on the progress of projects approved by the 64th Meeting of the Executive Committee with respect to the exploration of other co-financing options including those from multilateral and private banks to cover the cost for related to benefits for the climate and energy efficiency, which are not covered by the HPMP.
8. Reduction in the consumption of HCFCs in the service sector can be achieved through appropriate training of stakeholders in the private sector, and with the provision of adequate resources such as recovery and recycling of refrigerants and use of emerging technologies. Given the scale of the task, the level of funding obtained in the HPMPs and in particular for the LVCs is often inadequate. Although options for resource mobilization from other sources may be useful, there is also the requirement for national capacity building on the approaches and procedures to accesses and mobilize these other options.
9. The role of the academic fraternity as a possible partner to assist countries in the management of the HCFC phase-out was recognized and specifically in the testing of new technologies and supporting interdisciplinary education particularly with linkages to energy efficiency and climate impact.
10. It was noted that consideration should be given to inviting technology producers to the next Joint Meeting of the Networks. In this regard, a concept note should be jointly developed amongst the Implementing Agencies.
11. National Ozone Units should seek to work with all stakeholders in order to build synergies and common policies for ODS phase out management, climate protection, energy efficiency and other environment concerns in the hotel and other sectors using the Caribbean Hotel Energy Efficiency Action Programme (CHENACT).