



**CLIMATE CHANGE AND THE ROAD TO RIO**  
**Preparatory Workshop for Delegates to the COP-17 and UNCSD Rio+20**  
**(11-13 Oct, 2011 – Algiers, Algeria)**



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## Glossary

3GF	Global Green Growth Forum
ACRI	Arab Climate Resilience Initiative, a project of RBAS
AGECC	UN Secretary General's Advisory Group on Energy and Climate Change
AGF	UN Secretary General's Advisory Group on Climate Finance
AHDR	Arab Human Development Report
BAU	Business as Usual
CCS	Carbon capture and storage
CDM	Clean Development Mechanism
CDR	Common but differentiated responsibilities and respective capabilities
CGIAR	Consultative Group on Integrated Agricultural Research
COP	Conference of the Parties
CTCN	Climate Technology Centre and Network
E3G	3 <sup>rd</sup> Generation Environmentalism, and NGO, see <a href="http://www.3gf.org">www.3gf.org</a> .
EC27	The 27 EU countries
EITs	Economies in Transition
EU	European Union
G20	Group of 20, see <a href="http://www.g20.org">www.g20.org</a> .
G77	Group of 77 and China, the main negotiating bloc of developing countries
GA	UN General Assembly
GCC	Gulf Cooperation Council
GCF	Green Climate Fund, established by Cancun
GDP	Gross Domestic Product
GDR	Greenhouse Development Rights
GEA	Global Energy Assessment
GEF	Global Environmental Facility
GSP	Global Sustainability Panel
ICAO	International Civil Aviation Organization
ICARDA	International Centre for Agricultural Research in the Dry Areas, Aleppo
ICTSD	International Centre for Trade and Sustainable Development, Geneva
IGOs	Inter-Governmental Organizations
IMO	International Maritime Organization
IPRs	Intellectual Property Rights
IRENA	International Renewable Energy Agency, Abu Dhabi
JI	Joint Implementation
KP	Kyoto Protocol
kWh	Kilowatt hours
LAS	League of Arab States
LCDS	Low Carbon Development Strategy
LDC	Least Developed Countries
MRV	Measurable, Reportable, and Verifiable
NAMA	Nationally Appropriate Mitigation Actions
NGOs	Non-Governmental Organizations
ODA	Official Development Assistance
OPT	Occupied Palestine Territory
PPP	Polluter Pays Principle

R&D	Research and Development
RBAS	Regional Bureau of Arab States
REDD+	Reducing Emissions from Deforestation and Forest Degradation
TEC	Technology Executive Committee
SRREN	IPCC Special Report on Renewable Energy
TEEB	The Economics of Ecosystems and Biodiversity
UNCED	UN Conference on Environment and Development, Rio de Janeiro, 1992
UNCHE	UN Conference on the Human Environment, Stockholm, 1972
UNCSD	UN Conference on Sustainable Development, Rio de Janeiro 2012
UNCTAD	UN Conference on Trade and Development, Geneva
UN-DESA	UN Department of Economic and Social Affairs, New York
UNDP	UN Development Programme
UNEP	UN Environment Programme
UNFCCC	UN Framework Convention on Climate Change
UNIDO	UN Industrial Development Organization
WMO	World Meteorological Organization
WSSD	World Summit on Sustainable Development, Johannesburg 2002

## Introduction

This is a report on the workshop entitled “Climate Change and the Road to Rio”, organized by UNDP/Regional Bureau for Arab States (RBAS) and the Government of the People's Democratic Republic of Algeria, on 11-13 October 2011 at the Presidential Residence El Mithaq, Algiers. It built upon earlier actions by RBAS under the Arab Climate Resilience Initiative (ACRI) in 2010. This was the second meeting specifically convened under ACRI to assist regional delegates in their preparation for UNFCCC negotiations. As in the past, the objective of this event was to create a space for delegates to review progress on climate related negotiating tracks and to strategize on some of the key themes and evolving mechanisms, interact with leading experts in a non-negotiation setting, and receive up to date briefings on political and scientific developments as well as the range of international viewpoints that will frame the upcoming COP-17 negotiations in Durban. A second goal of the event was to place climate negotiations in the broader perspective and context of sustainable development, and in particular to foster dialogue and discussion around the major themes likely to come up at Rio+20 Conference in June 2012. This included a discussion of the ‘green economy’ and its relevance for integrating low-carbon approaches and resource efficiency into developmental planning and into all sectors of the economy.

The workshop drew over 100 participants, half of which were from delegations representing 13 different countries across the region (Algeria, Bahrain, Djibouti, Egypt, Iraq, Jordan, Kuwait, Morocco, the OPT, Somalia, Sudan, and the UAE), as well as a wide range of ministries<sup>1</sup> and the League of Arab States. An array of high-level speakers and facilitators also participated, including UN experts and climate and development specialists from academia, the private sector (e.g. Deutsche Bank, In Salah Gas), NGOs, and IGOs (e.g. IRENA and ICARDA).

Annex 1 contains the detailed programme of the workshop and list of participants. Annex 2 provides an annotated version of the agenda with a brief summary of the main points made in each session.

## The Arab Region

The Arab Region comprises the 22 members of the League of Arab States (LAS), namely Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Oman, Mauritania, Morocco, Palestine, Saudi Arabia, Qatar, Somalia, Sudan, Syria, Tunisia, the UAE, and Yemen. The total population of 357 million in 2010, has more than doubled since 1980 (172 million), and is projected to reach 385 million by 2015. Overall the region produces \$1.73 trillion of GDP, i.e., \$4,846 per capita, i.e., approximately half the average global per capita income. The income is distributed unequally, national per capita incomes range from less than \$1,000 in least developed countries (Comoros, Djibouti, Somalia, Sudan, and Yemen), to over \$50,000 in the high income Gulf countries (Kuwait, Qatar, and the UAE).

GDP Rank	Country	GDP (million USD)	Population 000	GDP/capita US\$
1.	Saudi Arabia	369,179	26,131	14,128
2.	United Arab Emirates	261,348	5,149	50,757
3.	Egypt	188,334	82,079	2,295
4.	Kuwait	148,024	2,596	57,020
5.	Algeria	140,577	34,994	4,017

<sup>1</sup>These ministries include: foreign affairs, finance, environment, water, energy, agriculture and rural development, fisheries, forestry, and oil & petroleum.

6.	Morocco	90,859	31,968	2,842
7.	Qatar	71,041	848	83,775
8.	Iraq	65,837	30,399	2,166
9.	Libya	62,360	6,598	9,451
10.	Oman	60,299	3,028	19,913
11.	Sudan	54,677	45,048	1,214
12.	Syria	52,177	22,517	2,317
13.	Tunisia	39,561	10,629	3,722
14.	Lebanon	34,450	4,143	8,315
15.	Yemen	26,365	24,133	1,092
16.	Jordan	22,788	6,508	3,502
17.	Bahrain	21,903	1,214	18,042
18.	Palestine	12,950	4,225	3,065
19.	Mauritania	3,031	3,282	924
20.	Somalia	2,731	9,925	275
21.	Djibouti	1,049	757	1,386
22.	Comoros	549	795	690
	Arab Region	1,730,089	356,966	4,846

A number of special features increase the vulnerability to climate change as well as climate policy. First, a few countries in the region contain almost half (45 per cent) of the world's proven oil reserves and one-quarter of natural gas reserves, supplying roughly 30 and 10 per cent respectively of the global demand.<sup>2</sup> Conversely, the socio-economic development of the region has been based to a disproportionate extent on the production, processing, export, and consumption of fossil fuels (oil and natural gas), although there are large differences between countries in this regard. Conventional climate policy, whether it takes the form of carbon taxes or carbon markets, will inevitably impact this source of welfare.

Second, while income from oil exports has succeeded in raising consumption and welfare levels, it has not yet translated into a process of self-sustained economic growth and social development. In other words, the oil wealth has gone into raising consumption levels and investment in the social and physical infrastructure rather than productive investment and structural change. This is changing, as some countries have undertaken major initiatives in promoting structural change, including through investments in the service sector as well as in energy efficiency and solar energy, in which also the region may possess a comparative advantage.<sup>3</sup>

Third, population in the region has been growing at over 2% per year—one of the highest growth rates in the world—leading to a demographic bulge, i.e. a high proportion of youth in the population, and consequently youth unemployment rates that are double the world average. It has also led to a high

<sup>2</sup> The smaller share in the annual supply compared the larger share of the reserves means that

<sup>3</sup> This refers mainly to solar energy, since the scope of other low carbon alternatives (e.g., bio-energy, hydro-energy, and nuclear energy) is constrained by environmental, political, or technological factors.

rate of migration from rural to urban areas, as urbanization has reached over 60 percent, with increasing pressures on urban infrastructure and political institutions.

Fourth, partly as a result of the previous two points, a worrisome trend has appeared in regard to social indicators. Since 1980, the economic growth rate has barely kept pace with population growth. In such situations, poverty eradication becomes a challenge, and it has proven to be so in the region. Between the mid-1990s and the mid-2000s, the incidence of poverty increased, from 17.6 to 18.3 per cent, rather than decreased. While poverty remains high and endemic, educational levels, consumption aspirations, and social expectations have risen dramatically.

Fifth, the region has begun to experience a rising toll of climate impacts, including erratic rainfall patterns, sustained drought, food insecurity, and health and environmental costs.<sup>4</sup> This is happening on top of an already stressed situation, as 4 of the 10 most water stressed countries in the world are in this region. In the 1960s, the region had near-sufficiency in food, and annual food imports were less than a billion dollars. In 2007, before the impact of the recent food price shocks, the imports had already risen US\$ 60 billion (about 4 per cent of the regional GDP). Current projections show that by 2050 Africa and the Middle East will be the most affected food deficit zones in the world. Given that only handful of countries control global food trade, this will make the region highly vulnerable to external factors.

Finally, the region has attracted global attention because of its recent political history, the Arab Spring, the Gulf Wars, the Palestine conflict, and incidences of terrorism. The Arab Spring is the outcome of several factors, but foremost amongst them are the democratic aspirations in a region characterized by monarchical or authoritarian regimes, and the social frustrations generated by the combination of rapid population growth and stagnant economic opportunity.

In short, sustained economic growth of 8 to 10 per cent per year is needed for a generation or more in order to address simultaneously the demographic pressures, democratic aspirations, energy security needs, and food security. In the past, the main source of hope came from the fossil fuel sector. In the future, as the world grapples with the best way to address climate change, policy makers in the region will have to develop strategies that enable the achievement of these domestic goals as well as effective engagement in international discussions. Similarly, the global climate policy also needs to acknowledge the realities in the Arab region, so that its social and economic progress does not get caught in a vicious cycle of a faltering growth engine, rising demographic pressures, declining welfare because of rising energy and commodity prices and food stress, and frustrated social and democratic aspirations. Besides the obvious welfare implications for the region, it would have negative implications for global economic growth as well as peace and security.

Article 8 of the UN Framework Convention on Climate Change asks that due consideration should be given to the specific needs and concerns of several categories of developing countries “arising from the adverse effects of climate change and/or the impact of the implementation of response measures”. Among these “vulnerability categories” the ones that are clearly applicable to Arab countries are “(h) countries whose economies are highly dependent on income generated from the production, processing, and export and/or on consumption of fossil fuels and associated energy products”, and (e) countries with areas liable to drought and desertification.

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<sup>4</sup>See remarks by **H.E. Mr. Cherif Rahmani**, Minister of Spatial Planning and Environment, Algeria, at the inaugural session of the Workshop. Annex 2, *infra*.

## The Climate Roadmap

The brief background on the Arab region can help motivate a discussion of the strategic issues involved in climate negotiations. It is fair to say that while the issues outlined above regarding the situation of the Arab region have figured only peripherally, if at all, in recent climate discussions, they were far more visible at the start of the process. While each step in this process was important in its own right, four milestones stand out because of their longer term impact:

- **The Agreement on Principles (UNFCCC1992):** From the perspective of developing countries, the success of UNFCCC lay in the agreement on a set of foundational principles, in which pride of place is given to common and differentiated responsibilities. It is supported by a raft of other principles, including the polluter pays principle, the historical responsibility of developing countries for causing the problems as well as for taking the lead in resolving it and assisting developing countries, the explicit acknowledgment of the right to sustainable development, the reiteration of the principle of national sovereignty over natural wealth, and according due consideration to the special needs of countries suffering under particular disadvantage.
- **The Turn to the Market (The Kyoto Protocol 1997):** The adoption of something akin to a cap-and-trade system, namely “binding” quantitative commitments of developed countries and transition economies to cut emissions, the establishment of mechanisms to buy and sell emissions rights, and the exemption of developing countries from climate obligations except on reimbursement of incremental costs.
- **The Turn to Disclosure (The Bali Road Map 2007):** The agreement on making all international commitments (binding or conditional) subject to monitoring, reporting, and verification (MRV), and explicit tying together the MRV of both sides of conditional commitments (emissions commitments by developing countries and financial commitments by developed countries).
- **The Search for a Grand Bargain (The Copenhagen Accord 2009):** Although not a consensus document, the main features of the Accord are the explicit financial commitment, the first time in history, of \$30 billion in quick start funding for 3 years, rising to \$100 billion annually by 2020; the acceptance of the 2-degree as the upper bound of safety; and procedures for MRV-ing of voluntary commitments of developing countries.<sup>5</sup>

Copenhagen was widely perceived as a failure. Although it had been billed as major opportunity for reaching binding agreements, and the mobilization of perhaps the highest level of political engagement in recent history—with 119 heads of state or government and 45,000 participants—the result left everyone dissatisfied both regarding the process and the outcome.

The failure of Copenhagen revealed two kinds of gaps—on the one hand between scientific imperatives and political will, and on the other hand between the perception of climate change as a scientific issue and development as a political preference of developing countries. The convening of the Rio+20 Conference has to be seen as one of the efforts to find a way of closing these gaps. Other efforts include the establishing of high level advisory groups or task forces on energy (AGECC), finance (AGF), and global sustainability (GSP), scientific panels on energy (GEA), biodiversity (TEEB and IPBES), and green economy, and cooperative initiatives by several countries (e.g., G20, Energy+, 3GF, Paris-Nairobi Initiative). These efforts seek to create alternate forums for the discussion and resolution of strategic

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<sup>5</sup>The Accord acknowledged that peaking of emissions would be needed as soon as possible, and that development and poverty eradication were the first and overriding priorities (though supposedly only *of developing countries*), for which low-carbon development strategies were needed. It also set the stage for Cancun by agreeing on the need for new institutions.

issues, and must be viewed not as parallel processes but as complementary elements of the response to a single challenge.

Since then, COP16 at Cancun has succeeded in rebuilding confidence in the climate process by switching it into a more pragmatic track, opting for incremental progress on institutional issues instead of seeking a grand bargain. At Cancun, governments almost unilaterally agreed to set in motion a broad number of new mechanisms that will define both the operational potential and the institutional shape of the climate regime beyond 2012.<sup>6</sup> However, no decision could be reached on the second commitment period for the Kyoto Protocol.

The next milestone in international negotiations is the Durban Climate Conference (COP17), 28 November to 9 December. The expectations are that Durban will put a finishing touch on the work that was started at Cancun, and in particular to finalize the establishment of the new institutions and mechanisms.

Durban is important for a number of reasons. First and foremost, it is a test whether countries are able to sustain the recent progress by operationalizing the new mechanisms and mobilizing the requisite funding. Second, it is an opportunity to demonstrate delivery on past commitments.<sup>7</sup> Developing countries expect Durban to be an opportunity for developed countries to show and honour their commitments, founded on common but differentiated responsibilities and respective capabilities.

Third, Durban will take place on the African continent which was already suffering from the devastating impacts of climate change. Arab countries, in Africa as well as Asia, have become increasingly aware of the high and growing vulnerability to climate change and the link between environmental pressures and human and economic development. Accordingly, they have expressed a shared commitment to address this vulnerability through collaboratively building momentum in their pursuit of climate resilient development opportunities, including through their support for the establishment of ACRI in 2010 by UNDP-RBAS.

Finally, Durban is an opportunity to place the incremental progress in the context of the longer term and strategic objectives. Cancun agreed to establish a mechanism to review the adequacy of the overall goals (i.e., the 2°C target) between 2013 and 2015. But the challenge is even broader, namely how could developing countries realize the twin objectives of socio-economic progress and greenhouse gas abatement, how to broaden the climate discussion from its narrow focus on emissions towards the reorientation of economies as 'green' economies. These broad considerations are increasingly being compiled under the aegis of the Rio+20 Conference.<sup>8</sup> By lowering the temperature of the negotiations the post-Cancun process has been able to guarantee steady if incremental progress, and ensure that the best will not remain the enemy of the good. However, there is now the opposite danger, namely that while the individual bricks will continue to be put in place one by one, we will lose sight of the overall challenge. In the meantime, the aspirations attached to Rio+20 have responded to these developments.

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<sup>6</sup>Cancun established a NAMA registry, the Adaptation Framework, the Green Climate Fund, a formal REDD mechanism, and a Technology Mechanism. It also refined some procedures (for CDM, JI, and sectoral crediting of NAMAs), and expanded access to technology for some Annex 1 Countries (EITs and Turkey).

<sup>7</sup> See remarks by H.E. **Mr. Mourad Medelci**, Minister of Foreign Affairs, Algeria, at the inaugural session of the Workshop. Annex 1 *infra*.

<sup>8</sup>The objective of the Rio+20 Conference is to renew political commitment to sustainable development, assessing progress and gaps in implementation of past decisions, and addressing new and emerging challenges. The conference has two themes, namely green economy and institutional framework. The reference to past decisions invokes not only the Rio Earth Summit (UNCED 1992), but also the Stockholm (UNCHE 1972) and Johannesburg (WSSD 2002) Conferences. See [www.uncsd2012.org](http://www.uncsd2012.org).

As the climate discussions have increasingly turned towards tactical and pragmatic considerations, the search for more strategic and longer range solutions has had to find other forums, most notably Rio+20.

These, then, define the four key objectives of the workshop: (a) to provide negotiators with an overview on recent developments and issues involved in the operationalization of the newly established mechanisms; (b) to review the record of past commitments to assess and the prospects of their being honoured; (c) to review national and regional plans on coping with climate change in order to assess how they could be supported by international action; and (d) to link the issues to the larger set of challenges facing the global community, especially those being discussed in the Rio+20 process.

## The Climate Process and Commitments

The recognition that climate change is a system wide challenge, pertaining to the entire global economy, has led to the call for innovative solutions, low carbon development strategies, and integrated approaches. These calls are particularly relevant to the situation of developing countries, including those in the Arab region. In reality, however, these calls have remained more or less rhetorical in nature. Until the emergence of the concept of the green economy, there was little concrete guidance on what a low carbon development path will look like, nor what it policies will make it happen, nor how to tailor such guidance to the situations of specific countries or regions. In practice international climate policy has focused on greenhouse gas emissions to the exclusion of everything else. Overall, there are three major planks of the global climate response, although by all accounts, progress on all three fronts has fallen far, far short of what is needed:

- **Emission Targets:** First, how to assign the required emissions reduction targets to different countries based on the principle of common but differential responsibilities and respective capabilities. This has generated a raft of ad hoc (and voluntary) targets announced by Annex 1 countries, initially under the Kyoto Protocol, but increasingly of an independent and contingent character.
- **Support for Developing Countries:** Second, how to devise a package of financial and technological support that enables developing countries to take on emissions cuts without endangering their developmental needs. In other words, leaving each developing country to work out its own optimal pathway. Thus far, this track has channeled support for incremental costs through the GEF, financing for offsets through the CDM, and funding for viable projects through the World Bank's Clean Energy and Climate Finance Initiatives. The relatively small size of these flows compared to the challenge has undermined their ability to bring about a strategic change in direction.
- **Adaptation:** Third, how to prepare countries for adapting to the climate change that is already occurring or will be inevitable in the future. Again, with virtually no funding available, this was in the nature of a pious wish rather than a real world programme.

This structure has defined the strategies of developed as well as developing countries and economies in transition. Developing countries expect developed countries to honour their past commitments on emissions, finance, and technology. Developed countries wish to include at least the larger developing countries in an emissions regime and to keep down the level of international support.

## Emission Targets

This is one of the most contentious areas in climate negotiations. The major issues in this domain are the future of the Kyoto Protocol, the level of quantitative commitments by developed countries, the

means of enforcing compliance, the status of developing country commitments, and the renewed commitment to the key Rio principles.

The wide gap between what needs to be done to address climate change and what policy makers are collectively willing to commit to do is not a secret. Nor is the one between commitment and delivery. The Copenhagen Accord recognized the urgency of reducing greenhouse gas emissions with the goal of limiting global warming to less than 2°C above pre-industrial levels. Yet, the sum-total of all the commitments made pursuant to the Accord would result in a future of 3°C of warming or more. The failure to commit to a renewal of the Kyoto Protocol has weakened the only elements of a binding nature.

In fact, even the major breakthrough in Copenhagen, namely the commitment of real financial resources for developing countries also falls far short of the most conservative estimates of what is needed. Subsequent discussions have eroded this commitment as well by interpreting it as gross flows (namely access to credit) rather than public sector commitments, which would indicate the reimbursement of incremental costs.

In regards to the Kyoto Protocol, the EU is thus far the only significant bloc to support a second commitment period, and it too has announced that its commitment is conditional upon the adoption of legally binding commitments by other major emitters including China and India. Meanwhile Russia, Canada and Japan have joined the US in the list of countries that refuse to sign up to a second commitment period under the Kyoto Protocol.

Developing countries have consistently demanded that Kyoto be extended.<sup>9</sup> This creates a potential for deadlock at Durban. Underneath the surface, the real bone of contention is the status of one of the foundational principles of climate policy, namely “common but differentiated responsibilities and respective capabilities”. The UNFCCC adopted a suite of principles that assigned to developed countries the responsibility both for causing climate change and of being the first to address it. Since then, developing countries have consistently stressed the primacy of this principle in international negotiations on matters pertaining to climate change, sustainable development, and development cooperation.<sup>10</sup> In recent years, developed countries have begun to resist exclusive references to this principle, preferring a more generic reference to all the Rio principles.

The failure to agree on the renewal of the Kyoto Protocol is a de facto dilution of this principle, since it removes one of the main markers of the difference between developed and developing countries in the climate context. In the absence of an overarching political framework, the commitments of developed countries also acquire a non-binding character.

Be that as it may, several countries have announced their own emissions targets for 2020. Of the Annex 1 countries, targets have been announced by Australia (15 or 25% against 2000), Belarus (5-10% against 1990), Canada (17% against 2005), Croatia (5% against 1990), EC27 (20-30% against 1990), Iceland (30% against 1990), Japan (25% against 1990), Lichtenstein (20-30% against 1990), Monaco (30% against 1990), New Zealand (10-20% against 1990), Norway (30-40% against 1990), Russia (15-25% against 1990), Switzerland (20-30% against 1990), Ukraine (20% against 1990). In addition, Kazakhstan announced a target of 15% against 1992, and USA announced provisional targets for 2020 (17%), 2030 (42%), and 2050 (42%) against a 2005 baseline, contingent on the support of Congress. However, some countries have begun to announce more ambitious domestic plans. For example, the UK has announced

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<sup>9</sup> This was repeated by several delegations at the Algiers Workshop.

<sup>10</sup> Again, this was a consensus view at the Workshop.

a target of 50 per cent cuts in greenhouse gases by 2025. This adds to the list of other countries, including Germany, Norway, and Japan, with ambitious targets.

At this point, all these targets are being proposed on the basis not of what needs to be done, nor of a sense of equitable burden sharing, but of what each country feels comfortable on the basis presumably of internal calculations. However, it is possible to undertake the analysis of what needs to be done, both in the aggregate and for each country, based on its historical responsibility and current capacity. The foremost example of such a comprehensive analysis today is the greenhouse development rights framework (GDR) by Eco-Equity. This framework is an attempt to operationalize the principle of common but differentiated responsibilities and respective capabilities. It starts with the aggregate need for cutting emissions as indicated by the latest science, and then provides a rigorous series of calculations, based on both responsibility and capability, to calculate the share of each country. This framework also provides a transparent basis for estimating the international support to be provided to each developing country.

Despite the absence of a meaningful package of financial and technical assistance for developing countries, several advanced developing countries have also announced emissions related targets for 2020. These include China (40-45% reduction in carbon intensity), Brazil (36-39% by improved protection of the Amazon forests), South Korea (4% in 2020 against 2005 levels), and South Africa (34% below BAU). Mexico announced plans to reduce emissions by 50 million tons/year starting in 2012. However, all these countries are careful to point out that these are national targets and that any monitoring or verification is purely an internal matter.

At the second tier below emissions commitments are the decisions to implement nationally appropriate mitigation actions (NAMAs). There is a difference between “actions” and “targets”, in the sense that actions need neither be tailored to a particular target nor necessary lead to its achievement. Several non-Annex 1 countries already have NAMAs in place. Overall, the developing country governments are being urged to prepare and implement NAMAs as well as Low Carbon Development Strategies (LCDS). This encouragement has taken the form of the establishment of a NAMA registry, the clarification of MRV requirements (international MRV for actions that receive international support and domestic MRV for others), and reporting of actions through new, enhanced national communications every four years.

## **Support for Developing Countries**

Developing countries in general and Arab countries in particular need a prolonged period of sustained growth in order to be able to meet their human development thresholds. The development literature has identified three types of support: finance, technology, and capacity building. The discussion on these questions has proceeded quite slowly. However, Copenhagen may have provided a badly needed turning point.

In recent years, developed countries have been reluctant to include any reference to such terms as “new and additional resources” or transfer of technology on “preferential and concessional terms”. There was a failure of sustainable development discussions at the GA in New York specifically over the inclusion of agreed language on these and other issue. This suggests a hardening of positions on assistance to developing countries. Developing countries reiterate at all meetings their commitments under Agenda 21, and to remind Parties of the financial and technology clauses under the Bali Action Plan.

## Financing

Financing is a sticking point in climate negotiations. There are disagreements over what needs to be financed, how much needs to be financed, how much is the concessional component of the needed finance, who will provide the finance, and through what channels will it be delivered.

The basic principle is not in dispute, namely that developing countries will be compensated for all incremental costs of climate change. However, the practical application of this principle has been difficult. One reason is that after two decades there is no consensus on the estimate of incremental costs of mitigation and adaptation. Most estimates run into hundreds of billions of dollars, and many are several multiples of current ODA levels. National action plans for adaptation (NAPAs), with solid budget estimates, have failed to attract resources.

One obstacle to the rapid mobilization of funds is the very broad nature of climate action. The narrowing of the focus to forests under the REDD initiative (please see below) has succeeded in creating greater ownership among developed countries. Currently, a number of initiatives have been floated in the energy sector by leading developed governments (Denmark, Norway, France, and the G20) in consultation with some developing countries.

A central feature of the mainstream climate approach is the faith in market based solutions, including carbon markets, CDM, JI, and proposals of a carbon tax. Developed countries prefer to view carbon offsets as the primary vehicle for supporting mitigation actions in developing countries, thus diluting further their own rather unambitious targets. However, the equity implications of such measures have rarely been worked out explicitly. This is of special importance to countries whose growth prospects rely centrally on carbon intensive sectors, especially oil and gas industries, as well as those where energy access continues to remain a daunting challenge.

Project activity in the CDM has dropped significantly, partly because of the low carbon prices and partly because of new restrictions by the EC on the use of CDM credits. According to the World Bank, primary CDM transactions almost halved from \$2.7bn in 2009 to \$1.5bn in 2010. Business groups have highlighted the irony that governments are suffocating the CDM at the same time as discussing new mechanisms for scaling up finance to developing countries. There is a buzz around the fact that larger developing countries, including Brazil, China and India, will oppose the CDM if there is no second commitment period under Kyoto. This indicates that they believe that developed countries need the CDM credits more than developing countries need the financial flows and technology transfer from the CDM projects.

The Copenhagen Accord was the first time that concrete figures (\$30 billion in quick start funds and \$100 billion per year to be mobilized by 2020) were mentioned.

Developed countries maintain that they are making good progress on honoring their financial commitments, but recent research by the WRI shows that only \$12 billion out of the \$30 billion committed as quick start fund had been budgeted, and even less delivered. In some cases, as little as 30 % of the budgeted amounts had been delivered.

To assist in the operationalization of the Accord, a high level advisory group (AGF) was established. However, its report reveals continuing differences on some essential issues, including whether the figures pertain to the concessional component or to total financing (i.e., loan) requirements, whether the reference was to public resources or aggregate financial flows, and whether this financing represents charity or compensation for damage. This has implications for the channeling of funds, since the former interpretation supports the desire of developed countries to use IFIs, which are controlled by them. In contrast, developing countries have consistently argued that the financial mechanism has to be

controlled in a more balanced, democratic, and transparent manner. The GEF was established as an interim financial mechanism, but has not received adequate funds. The larger volume of (loan) funds still continues to flow through the World Bank.

The Cancun Agreement formalized the commitment made in Copenhagen by establishing the Green Climate Fund (GCF) as an operating entity of the financial mechanism of the UNFCCC, alongside the GEF, and adopting the goal of mobilizing \$100bn per annum by 2020 from multiple sources.<sup>11</sup> It also took note of the report of the SG's High-level Advisory Group, but did not put in place any procedure to follow up on its recommendations. In response to a key demand from developing countries, the Fund will have the capacity to provide "direct access" to national institutions, without the intervention of international implementing agencies like the World Bank and the United Nations. The agreement also made major amendments to the CDM, adding carbon capture and storage (CCS) to eligible activities, and refining some procedures to ensure better regional and sub-regional distribution of CDM funds.

A plan on how the Arab countries can best benefit from the GCF and Adaptation mechanisms is of utmost importance for the Durban negotiations, with specific input to be put forward on their design. In particular as water scarce countries, there should be a push for funds specifically focused on around adaptation and resilience in water. Furthermore, it was emphasized that the Fund needs more money than currently slated to meet upcoming catastrophes and countries should push for an increase. There was concern that though Arab countries are represented on the GCF (Egypt and Algeria), demands are not necessarily being heard.

Many delegations were of the view that AGF recommendations were not adequate and that they implied a huge set of obligations that will not be agreed. There is also slow progress on financial mechanisms related to the convention and there is a need to mobilize support for GCF, focusing on the specific criteria of LDCs. Some delegations felt that financial issues should be in a parallel track of negotiations to the political one, and the neither should detract from the other.<sup>12</sup>

In regard to forests, Cancun answered a number of questions that have been prominent since the Bali Action Plan in 2007. It established the formal REDD mechanism, clarified overall goal of the activities to be undertaken – to slow, halt and reverse forest cover and carbon loss – as well as the scope of what will be considered relevant activities, and the role of developed countries, namely to provide financial support and address their own actions that drive deforestation. For developing countries, it supports a phased approach, starting with readiness and pilot phases that require significant capacity building and technical assistance, and graduating to a results-based phase. It provided some initial guidance with regards to "readiness" by listing the activities REDD+ countries should undertake (and for which they should be supported) as part of engaging in actions to achieve REDD+ emission reductions. These include developing national strategies or plans, national reference emission levels, robust national systems for MRV of actions, and a system for monitoring and reporting compliance with safeguards. Several questions remain, however, including who will use information on safeguards, whether this information will be effective and will empower parties and stakeholders to work together, how reference levels will be set, how are forests and degradation to be defined, and whether there will be a relation between REDD and NAMAs.

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<sup>11</sup>The GCF is being designed by a transitional committee of 40 members, who will make recommendations to the Durban COP. The TORs agreed are intended to ensure wide stakeholder participation; environmental and social safeguards; fiduciary standards and sound financial management; and subject to independent evaluation.

<sup>12</sup>Overseeing the new fund, as well as the GEF and Adaptation Fund, will be a new Standing Committee on finance under the Convention. The Committee can help the COP bring greater coherence to coordination of climate finance both within and outside the Fund, mobilizing financial resources and measuring, reporting and verifying (MRV) their delivery.

## Technology Transfer

Technology transfer has been the subject of every major international agreement or declaration on development. It was a key objective of the UNFCCC and has acquired even more importance with the increased awareness of the threat. There is universal acknowledgment that addressing climate change will require the widespread deployment of existing low-carbon technologies as well as the development of new ones. Yet, there has been no progress in this regard besides desultory efforts to undertake technology needs assessments, ad hoc capacity building projects, or a blind faith that IPRs or CDMs would miraculously achieve the desired results—even though all available evidence proves to the contrary.

Once again, Cancun was able to push the envelope by establishing a new Technology Mechanism that takes a forward looking approach to the question, insofar as it relied centrally on national mechanisms (CTCN) to drive the process. However, Cancun was not able to make any headway on the main sticking point of intellectual property rights (IPRs).

The basics of the technology question are well known. They involve a balancing between protecting the competitive advantage of countries or corporations, and ensuring that such protection does not undermine other vital interests—and thus create a basis for conflict and instability. Nationally as well as internationally, the aim has been to set up systems that balance the competitive and public interests. In recent years, however, the international system has run into an impasse on this point, as some countries have abandoned the public dimension entirely in favor of an undiluted support for private intellectual property rights. This will continue to be an underlying challenge for climate cooperation. The situation has worsened in recent years as developed countries have become allergic even to references to previously agreed language on concessional and preferential terms for technology transfer.

In principle, the technology challenge can be decomposed into three components: cost, exclusion, and local adaptation. First, many technologies are too costly for developing countries. A good example is renewable energy. If the average income of a country is 2 or 3 dollars per day, energy costs of 10-30 cents per kWh will place it beyond the reach of all but a minuscule minority. True, governments can subsidize access for targeted groups but this is limited by fiscal and institutional capacities. This means that reducing the cost of technologies is essential for developing countries. The agreement on access to life saving drugs is a good example of a possible solution. Several delegations are of the view that the money from the GCF should be made available for making energy technologies affordable.

Second, access to essential technologies may be restricted because of proprietary, political, or strategic considerations. Some technologies are not in the public domain; and others are subject to governmental restrictions. Significant areas of information technology provide a good example of this situation.

Third, technologies are country and sector specific. There is no silver bullet or 'one size fit all' technologies. It is not enough for a plant or production process to be located in a country, or for a service to be provided to it. What countries need is the opportunity to adopt and adapt the technological information to local needs. This requires a dynamic process that builds upon and enhances national institutional capacities. The easing of the non-cooperative stance on technology cooperation is a necessary but not sufficient step in the process. In African and Arab countries, access to electricity and energy is at the crux of the technology discussion. The region has considerable assets that need to be harnessed and scaled up, with potential for export.

The Cancun Agreement has tried to go beyond the conventional, static, approach to technology transfer—based on capacity building and needs assessments—towards a more 'dynamic' stewardship of the process, promoting innovation in recipient countries through a combination of instruments: public-private partnerships, technology action plans, joint R&D activities, and national, regional and

international technology centres. The agreement established the Technology Mechanism, with three elements, a Technology Executive Committee (TEC), a Technology Centre, and a Technology Network (referred together as CTCN). The main goal of the Mechanism is to accelerate the development and transfer of climate friendly technologies, in particular to developing countries, to support action on climate mitigation and adaptation. It is premised on the wide recognition that the large scale diffusion of these technologies is pivotal to global efforts to reduce greenhouse gas emissions.

- **TEC:** The TEC will have 20 experts, 11 from developing and 9 from developed countries. It will identify technology needs, coordinate international efforts, and make recommendations. Parties now need to nominate high-level experts for the committee (and develop qualification criteria for TEC members). While the TEC can start its work immediately, negotiators will still need to determine the detailed modalities for the Centre and Network, and how these will relate to each other and to the TEC.
- **CTCN:** The Centre and Network may well imitate the CGIAR network, with small center and large network, probably including regional units, so that it builds on existing initiatives and coordinates them better, and takes off quickly. Where the center will be, what the network will look like, and how they will operate and interact still needs to be defined in 2011. Technology negotiators have put these questions in their workplan for next year, but it will be challenging to resolve them all.

However, there are many challenges and questions. Will the mechanism have adequate resources? What will be the relationship, if any, between the technology mechanism and the financial mechanism? What will be the relationship between the TEC and the CTCN? Would the supervisory role assigned to the TEC result in the politicization of the technology agenda? Finally, there are concerns regarding the diffuse and unfocused scope of action, with considerable potential for overlap and duplication. The envisaged scope of action includes R&D, deployment and diffusion of soft and hard technologies, national systems of innovation, development of technology action plans, and technical assistance.

Developing countries have consistently pressed for the inclusion of intellectual property rights (IPRs) as a barrier to technology transfer. However, the United States in particular and developed countries in general views IPRs as essential for promoting innovation, and oppose any proposal that may moderate the protection of IPRs. Debates on this issue have become highly polarized and even tendentious. Because of this opposition, in particular by the United States, all references to IPRs were deleted from the Cancun final outcome. The view of developing countries is that knowledge that is needed for survival of populations and rights to life should not be limited or regulated. Research and development is very costly and should not be narrowly available. Proposals include introducing an IPR mechanism into CDM discussions so as to hold developed countries to their financial commitments. One view is that wealthier nations should support and subsidize the companies implementing research and development in key technologies, so that developing countries do not bear the burden of accessing them. Another view is that instead of funding technology and everyone buying the technology as they need, governments should buy up the patents first in order to free up the technology for countries that need it and this will encourage internal knowledge development in the long run. India has made a submission on technology transfer for Durban, which has received considerable support from other developing countries.

The Cancun approach of a bottom up process for technology development and transfer has generated considerable excitement. By placing the primary emphasis on national and regional institutions, the Mechanism can lead to rapid development. The Arab region has a significant technology base (examples from Egypt and the Gulf), and what is needed it to develop centers of excellence and collaborative

knowledge sharing. Countries cannot identify correct technologies and adapt them to their local needs without capacity building of national institutions. Science technology and innovation reviews are available through UNCTAD upon request from governments. Be very specific on the needs of firms, institutions, and governing bodies. UNDP can facilitate the development of a regional network on existing capacities and centers of excellence in the region and connect them to the UNFCCC technology mechanism. This capacity development can help countries in developing indigenous and scalable projects and engage in south-south cooperation.

Existing centers and networks in Arab countries in the area of renewable energies and climate change technologies can contribute to and benefit from the CTCN.

### **Capacity Building**

Delegations also identified a number of needs, including capacity building, awareness creation in the business sector, and enhancement of public-private partnerships. There was a need to advocate investments and return instead of aid and financing. There was a need to consider both market-led financing and state-led development strategies, and consider an approach to financing which combines both when appropriate. There was a good discussion of feed in tariffs, and it was suggested that support be provided for piloting of such programmes as well as other useful financial mechanisms. - Need for capacity building and training in the areas of negotiating and concluding technology licensing agreements in the area of clean energy and renewables

### **The National Framework: Coping and Adaptation**

The above issues pertain largely (though not exclusively) to global needs, namely how to protect the global climate system as a public good. The national challenges and needs figure only as binding constraints. However, these questions cannot be put off much longer because of the rising evidence of climate impacts.

Observers point to the increasing frequency and intensity of extreme weather events, especially floods and hurricanes, which led to considerable loss of life and property, huge costs of reconstruction and rehabilitation, and growing stress on the institutional and fiscal bases of national as well as local authorities. There is widespread recognition that the impacts of climate change are already being felt in the region, and that these impacts are likely to get worse. Taken as a group, the countries represented at the meeting suffer from water stress, which has increased in recent years. These resulting changes have spillover effects in all other domains, including economics, politics, food insecurity, civic unrest, migration, and pressure on natural resources.

This suggests that climate change needs to be seen as a development issue. However, opinions are divided whether this would be an effective political strategy. Some feel that the multi-faceted vulnerability of the region and the developing world more generally was insufficient for motivating the developed world to act on its commitments. In other words, if climate change was framed as primarily a development effort, it will give the North an excuse to walk away from their pledges, and will undo the gains that have been made thus far under the UNFCCC process. Others emphasize the urgency of development and adaptation related needs in the region, and argue that these should form the central plank at the negotiations. This is currently a neglected issue. At Cancun a proposal was made to address water security, which is at the crux of the developed world's right to existence and development, but received support from only 6 countries.

Water plays a pivotal role in adaptation to climate change, but adaptation measures in water management are often underrepresented in national plans or international investment portfolios. Water is the primary medium through which climate change influences Earth's ecosystem and thus the livelihood and well-being of societies. Higher temperatures and changes in extreme weather conditions are projected to affect availability and distribution of rainfall, snowmelt, river flows and groundwater, and further deteriorate water quality. The poor, who are the most vulnerable, are the most adversely affected.

Water stress is already high in the Arab region. While future impacts cannot be predicted with high certainty, it is clear that agriculture, which uses more than 70 percent of all water withdrawals, must adapt to a future in which water stress will rise because of reduced availability of water in some areas (including in the Mediterranean Region), further depletion of non-renewable groundwater resources, increased evaporative demand from crops, and growth in competing demands for water. These will lower crop yields and agricultural productivity.

To recognize this reality and to respond accordingly presents development opportunities. Various necessary adaptation measures that deal with climate variability and build upon existing land and water management practices have the potential to create resilience to climate change and to enhance water security and thus directly contribute to development. Water resources management affects almost all aspects of the economy, in particular health, food production and security; domestic water supply and sanitation; energy and industry; and environmental sustainability. If addressed inadequately, management of water resources will jeopardize progress on poverty reduction targets and sustainable development in all economic, social and environmental dimensions.

Turning to the nature of climate impacts, borrowing a typology coined by Joel Cohen,<sup>13</sup> these are “bumps”—catastrophic events that occur in minutes to months and have profound global impact, like floods, hurricanes, and other fast moving disasters—which can be distinguished from “grinds”, namely persistent, gradually unfolding trends that have an equally profound impact, such as drought and desertification, slow moving migration, or changes in disease vectors. While much attention is focused on “bumps” because of their greater visibility and concentrated impact, “grinds” may pose a greater threat, specifically because of the inability to mobilize action or build solidarity. In the Arab region, the major impacts of climate change are of this variety, especially droughts and desertification, which make them more difficult to manage and address. The human impacts of these changes are far reaching and profound. Besides the immediate impacts on lives and livelihoods, they also affect security, public institutions, and safety networks.

If these stresses continue to worsen, the entire region, or large swathes of it may become uninhabitable. This is the drylands version of the small island crisis. Climate change is likely to threaten the very right to exist of several nations, not only small island states, but also some drought-prone areas.

A key strand of adaptation analysis focuses on building technical, institutional, and political capacity, especially at local and community levels, including through building information flow mechanisms, collective action arrangements, and social protection systems.<sup>14</sup>

Regardless of the type of impact, the response to climate change incidences has generally been through ad hoc means. The impact on human lives has been highly correlated with levels of income and capacity.

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<sup>13</sup> Joel Cohen, *Disaster Watch: A Review of “Global Catastrophes and Trends”* by Vaclav Smil, New York Review of Books, 2009, <http://www.vaclavsmil.com/wp-content/uploads/docs/smil-bookreview-global-catastrophes-new-york-review-books-2009.pdf>.

<sup>14</sup> See *Closing the Gaps: Report of the Commission on Climate Change and Development*, [http://www.ccdcommission.org/Filer/report/CCD\\_REPORT.pdf](http://www.ccdcommission.org/Filer/report/CCD_REPORT.pdf).

The long-standing commitment to provide support for adaptation needs in developing countries has not yet translated into secure and predictable funding. The only exception is the funding provided by the GEF for the preparation of NAPAs, which cover both adaptation action and adaptation capacity, though not much in the way of implementation of the plans. However, as the prospect of future shocks continues to increase, there will be a need for more systematic responses and secure funding.

The Cancun Agreements achieved significant progress and introduced important innovations, which will raise the importance of adaptation and enable more focused and coherent action. The challenge for Durban is to bring these to a head by operationalizing what was agreed. Cancun created a new Adaptation Framework and established a new Adaptation Committee.<sup>15</sup> Like the Technology Mechanism, it takes a bottom up approach, building on national adaptation plans through international as well as regional centers and networks. There is attention to both ecological and socio-economic resilience, as well as climate induced migration, disaster risk reduction (and an explicit link to the Hyogo Framework), strengthening of institutions, Improving research, observation and information management systems, and a work programme for losses and damages (i.e., those that cannot be reduced through adaptation) to consider how to reduce or offset the negative impacts on developing countries..

However, a number of issues were left unresolved. These include the contentious question regarding how to make decisions to allocate adaptation finances to various countries, as a number of criteria (e.g., “most vulnerable” and “particularly vulnerable”) are used without proper definitions. There are also questions regarding the precise relationship of the Framework and Committee to new and old funds.

In regard to the Arab region, actions need to be taken at both national and regional levels. Adaptation has to be viewed in the context of an Arab and African strategy, and not just relegated to the national level. The Arab League has put forward a regional strategy to limit the effects of natural disasters, but greater action on this strategy was needed, highlighting the dire issues of drought and water scarcity, and subsequent socioeconomic impacts, referencing a study in Syria.

Nationally as well there are significant gaps that need to be filled through targeted capacity building efforts and supported by the international process. For example, there were no concrete and coherent policies around risk reduction or risk management in the Arab region. Such planning needed to receive greater specificity and focus within the negotiations.

A view emerging in the Arab region is that while countries should continue to *aim* for a ‘2C degree’ maximum target in negotiations, they should *plan* for a ‘3-4C degree’ scenario in their national planning processes.

## Food Security

In the Arab region, the main impacts of climate change are occurring through adverse changes to the water cycle, which affects agriculture and food production and food security. Food security pressures and processes were not only related to agriculture, and were not a purely moral challenge for the international community. They had implications for internal and external migration, urbanization, urban social stability, economic growth, and environmental health. There is a need to develop effective national, regional, and global responses.

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<sup>15</sup>The Framework covers the project/program development, institutional development, impact assessment, and vulnerability and needs assessment. The Committee will provide technical support and guidance, consolidate information, promote synergies, strengthen engagement with national, regional and international organizations, and serve as a “match-maker” for funding.

The year 2008 provided an image of what may recur repeatedly because of climate change. The FAO food price index rose by an unprecedented 40 per cent (graph), which added an estimated 100 million to the ranks of the hungry.<sup>16</sup> Since then, prices declined temporarily before reverting to and exceeding the peaks of 2008. OXFAM predicts that food prices will double by 2030, and warns of rising social frustration, political instability, and widening conflicts. According to ICARDA, by 2050, the most effected food deficit zones will be Africa and the Middle East, and only handful of countries control global food production. While the recent unrest in the Arab Region may have had longer term structural causes, the food price shocks are widely believed to have acted as a trigger as well as an exacerbating factor.



Much of the policy response to the food crises has concentrated, rightly, on urgent challenges, especially through food support to deficit countries. However, such a band-aid solution to a structural challenge is highly problematic. This is one of the reasons why the water, energy, and food nexus has risen to prominence in the Rio+20 discussions. These discussions include recommendations for mainstreaming adaptation activities within the development context, strengthen water governance, enable international cooperation over water and land management, generate and share information on the link between water and climate, promote investments in smart water management and smart agriculture, provide preferential access to relevant technologies, protect the interests of poor and vulnerable populations, and target support to small farmers, women farmers, and indigenous populations.

In the Arab region, because of the already high level of water stress and food imports, there is an urgent need for national as well as regional plans and strategies. At national levels, there are a number of win-win options, including water re-use, which is actively being discussed in Jordan, shift to renewable inputs and renewable energy in agriculture or the adoption of organic farming options, and more sustained partnerships between national and local governments, institutes, NGOs, private sector entities and farming communities.

At the regional level, LAS has developed a regional strategy on food security but it has yet to receive broad political commitment.

<sup>16</sup>The reasons for the 2008 food price increase are quite complex, and include short term as well as long term factors: draw down of inventories, food speculation, and short sighted policies, as well as such structural causes as climate change, water stress, environmental pressures, stagnating yields, rising food demand, and changes in demand composition.

In regard to the international dimension, the debate on food security had to be undertaken in its own right, and be independent of the mitigation track. From the South's perspective, adaptation is already the central focus, which means a focus on agriculture, food security, coping with water scarcity, and ensuring survival. International agreements need to mobilize adequate financial support for achieving these goals and not only for agriculture as an instrument for carbon sequestration or greenhouse gas mitigation.

There is also the concern over climate migrants, which could be one of the visible manifestations of the food security and climate change syndrome. There is a need to highlight this point in the negotiations especially to developed countries contributing to adaptation funds, as it affects them as well. The extreme and dire example of Somalia's famine is already in evidence.

## The Strategic Challenge: Green Economy

As may be evident, the bulk of the above discussion takes the development process as a given, and tries to impose a climate constraint on it, to be eased slightly by the provision of finances and technology. While there has always been talk of a low carbon pathway, climate friendly development, and so forth, it has remained as a form of moral guidance rather than practical advice. The idea of the green economy is the first time that the policy system has tried to address head on what such an alternative economic pathway may look like. While it may not yet have all the answers, especially for a region that relies excessively on fossil fuels, it is asking the right questions, and it is doing so systematically and responsibly rather than in an off-hand or cavalier fashion.

The main question is whether there *is* another pathway to the kind of rapid development that industrialized countries have achieved and newly industrializing countries are in the middle of achieving, but one that is consistent with low carbon emissions and environmental conservation? If such a pathway does exist, then the title green economy is as good as any. In response to the promise as well as the unanswered question, the UN General Assembly included "a green economy in the context of sustainable development and poverty eradication" as one of the two themes of the Rio+20 Conference.

While the term "green economy" is at least two decades old,<sup>17</sup> it has come into prominence since 2009 to a large extent because it offered an alternative response to the multiple crises of 2008. There is no unique definition of the green economy, although it is understood as emphasizing the importance of the *economic* dimensions of sustainability,<sup>18</sup> and presented not as a goal but as an approach for generating wealth, jobs, growth, competitiveness, and the conservation of natural resources. UNEP, which is the foremost champion of this concept, claims that it represents a new economic growth paradigm, friendly to ecosystems as well as other sustainable development goals, especially poverty alleviation. In some renderings, it refers to an economic system, which instead of inevitably generating climate change and other crises will proactively address and prevent them.

As an overall vision it is quite attractive, but, like sustainable development, it has been difficult to put into practice. When it comes to concrete ideas, the main solutions are a combination of microeconomic or sectoral approaches. One set of recommendations invoke the lessons from "success stories", the large number of case studies in which a local community, business enterprise, civil society organization, or government agency was able to achieve multiple goals, especially economic profitability as well as

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<sup>17</sup> See David Pearce, Anil Markandya, and Ed Barbier, *Blueprint for a Green Economy*, London: Earthscan 1989. Also see, Tariq Banuri, ed. *Green Economics*, Islamabad: SDPI and HBF, 1995.

<sup>18</sup> To cite the UNEP report on the Green Economy, the "growing recognition that achieving sustainability rests almost entirely on getting the economy right".

environmental conservation and social responsibility. These have been documented in study after study,<sup>19</sup> and recognized through various prominent initiatives.<sup>20</sup>

A second approach is to focus on “green sectors”—i.e., renewable energy, public transport, biodiversity, green buildings, afforestation, energy and water conservation, land rehabilitation, organic agriculture, etc.—which have registered increased investments, and could be supported through targeted public sector investment and policy support, including especially through the stimulus packages.<sup>21</sup>

A third approach focuses on market failure and seeks to internalize externalities by “getting the prices right”, e.g., carbon taxes, elimination of environmentally harmful subsidies, payment for ecosystem services, full cost valuation of natural resources, and construction an environmentally appropriate measure of economic welfare as an alternative to GNP.<sup>22</sup>

The lack of a common understanding of the term has led to concerns about risks and challenges, particularly for developing countries, for which economic development can become more demanding as a result, especially if the new concept ends up being used by developed countries to introduce protectionist policies or aid conditionalities.<sup>23</sup> Green Economy could become a Trojan horse and defined or operationalized in such a way as to justify disguised forms of trade protection (under the guise of environment) or conditionalities on aid, loans, and debt rescheduling or debt relief.

There are also concerns that the green economy focuses heavily on the growth of markets to the neglect of the social and human aspect of development. If green economy is seen mainly as a commercial option it may run counter to its value as an environmental option. There is also a fear of a one-size-fits-all approach in which the import of green technologies is justified mainly to encourage investment and commercial interests of multi-nationals rather than the needs of the populations of different countries.

In order to move beyond the impasse, it is important recognize that economic growth is a process of structural change in which some activities expand, based on new technological knowledge, while others contract. These changes are not just a byproduct of growth but their prime mover. The transition to a green economy has to be understood as precisely such a technological revolution, but one that will not happen without active government support and leadership as well as explicit international cooperation, including in regard to IPRs.

Ocampo et al 2011 recommend, therefore a combination of industrial policy (or “production sector policy”), a technology policy, and international cooperation. Industrial (or production sector) policy refers to an investment-led strategy.

**Industrial Policy:** The state has traditionally had a strong developmental role in developing countries: it now has to take on a *sustainable* development role, including of course, the encouragement of strong

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<sup>19</sup> See, e.g., UNEP, *The Economics of Ecosystems and Biodiversity*, 2011; UNEP, *Green Economy Handbook*, 2010.

Also see Tariq Banuri and Adil Najam, *Civic Entrepreneurship*, 2002.

<sup>20</sup> See e.g., The Equator Initiative, <http://www.equatorinitiative.org/>.

<sup>21</sup> Some questions regarding these recommendations are, first, whether developing countries have of fiscal space to deploy stimulus packages; second, whether it will slow down economic growth; and whether they can be tailored to benefit low income and rural populations.

<sup>22</sup> The distributional impact of such measures need to be assessed carefully and used to identify and develop suitable ancillary policies and instruments, including safeguards, safety nets, targeting, capacity building, and requisite international support.

<sup>23</sup> See J. A. Ocampo, M. Khor, and A. Cosbey, *The Green Economy: Benefits, Risks, and Challenges*. New York: UN. The study was prepared in response to a request from several delegations at UNCSD’s first Preparatory Committee in May 2009.

private-sector responses.<sup>24</sup>In regard to industrial policy, the Arab region's green economy strengths and vulnerabilities may lie in the energy sector (carbon capture and sequestration as well as solar energy); water and food (including rebuilding the agricultural support system); green building standards (including traditional vs. modern buildings); and the transport sector within the adaptation framework (and supported ICAO, WMO, IMO). There is a strong view that developing countries should not wait to develop their national plans and strategies around the green economy until all matters of funding and finance have been settled.

**Technology policy** refers to a strategy of adapting and disseminating green technologies, including treating green economic activities as "infant industries" that require support in the form of subsidies, preferably time-bound, access to credit, and some level of protection. We cannot have a green economy without the development of knowledge and technical skills with which to harness the technological products themselves.

**International cooperation:** In order for these two strategies to be effective, they will have to be supported by appropriate forms of international cooperation, especially on research and development in all areas relevant for green growth, diffusion of those technologies to developing countries, and ensuring that the technological options are affordable and accessible by countries at various levels of economic and scientific development.

There is a need for the reinstatement of the public good character of knowledge, which may conflict with the current operation of the IPR regime. Such a regime would protect the intellectual property base in the South, while regulating monopolies within the new knowledge economy, to ensure that high costs due to proprietary knowledge and monopoly pricing does not restricting developing countries from access to the needed technologies or competitiveness in the market. One specific recommendation is to expand the space for technologies in the public domain, and to stimulate the transfer to developing countries of publicly-funded technologies. There could be a proposal for a Convention to establish a single global body for individuals, firms and nations to acquire IP rights and disseminate technological knowledge, supported by a private fund and governed by the same legal structure being developed under the GCF.

In the Arab region, as can be understood, there is the issue of whether compensatory measures can already be instituted for the decline in oil extraction, in relation to the exacerbation of desertification and poverty.

In short, there are two broad views of the green economy. A microeconomic view focuses on fixing prices, while a macroeconomic view advocates the use of an industrial-cum-technology policy to facilitate the transition.

## Is There a Green Economy Pathway?

This report has followed the logical structure, starting with the challenge faced by Arab countries (and developing countries generally), the emerging climate solutions and how best to shepherd them along, the outstanding issue of support for national actions, especially on adaptation, and then to the idea that there might be win-win solutions in the "green economy". The evidence on the positive features of the green economy is building up rapidly, but it is not yet a coherent framework, nor gives any assurance

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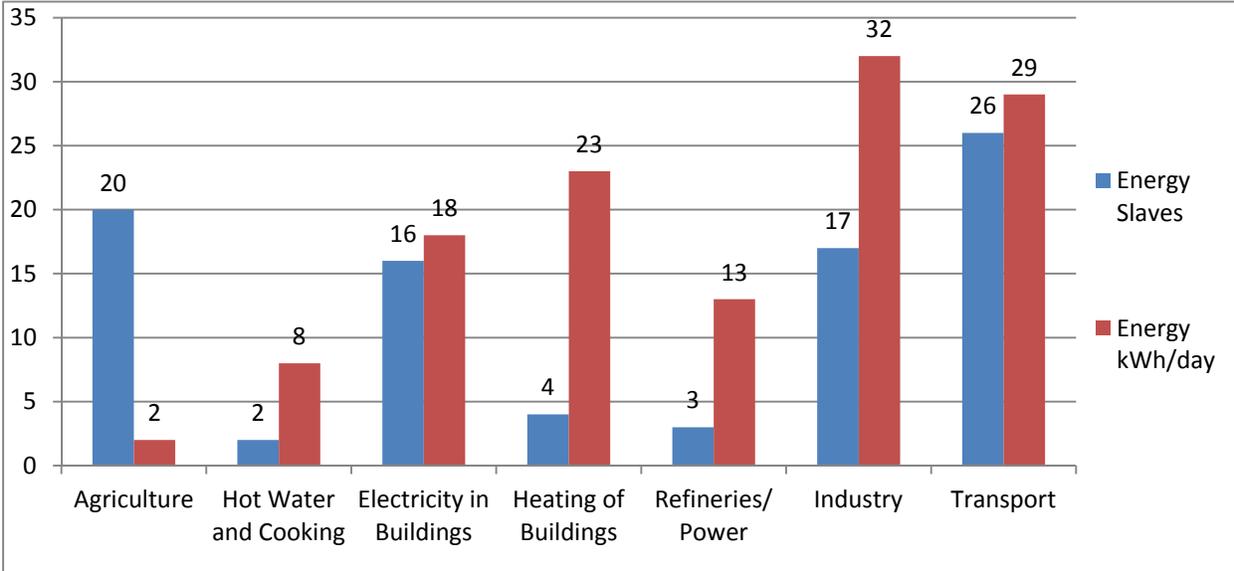
<sup>24</sup>They draw favorable attention to the role played by **agricultural extension** services in the green agricultural revolution, and recommends similar mechanisms to spread knowledge about better building practices to household and construction firms, and about energy-saving technologies, and others.

that developing countries would be able to embark upon a period of sustained growth in a climate constrained world if only they fixed a few prices and incentivized some investments. The default option is for every developing country to continue to act as it has done in the past in order to not jeopardize its developmental prospects.

The issue is even more acute for oil producing countries. Consider the Arab countries, which produce roughly 8 billion barrels of oil annually, of which about 70 per cent (roughly 5.5 billion barrels) are exported. At roughly \$100 per barrel, this represents a revenue stream of \$550 billion annually, which contrasts with the \$125 billion of ODA and the \$100 billion of eventual climate funding. The simple math shows that international compensation is unlikely to be able to offset a significant decline in oil revenues.

To get into a discussion of an alternative developmental pathway, three points are useful to keep in mind. First, the message of sustainable development is a simple one: all things are connected. For practical reasons, we often address different issues in different contexts, but structural challenges cannot be addressed in this way. The recent series of food, energy, climate, financial, and economic crises are generally been pursued through parallel processes. However, this can only address the symptoms not the structural causes.

Second and following up from the first point, the recent set of crises are not entirely new. In fact, the



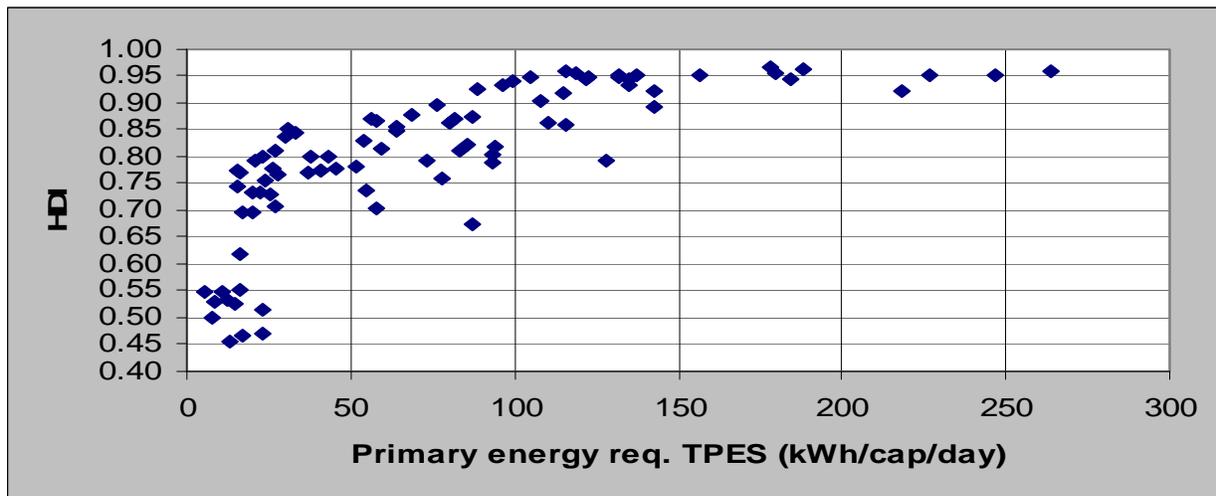
decade of the 1970s offered a relatively milder preview of the current situation. At that time as well, food and energy prices shot up, were followed by a severe financial crisis, as interest rates rose to record levels in developed countries and developing country indebtedness became “unmanageable” almost overnight, and eventually to a drawn out global recession. It is also easy to see in retrospect that the policy response to this syndrome of crises took the form of various forms of economic liberalization—the so-called Washington Consensus, getting prices right, hard-nosed structural adjustment programs in developing countries, decimation of the public sector in developing countries, undermining of trade unions, and dismantling of social protection programs. The success of these policies, if it could be called “success” at all, was incumbent upon exacerbating the levels of inequality within and between countries.

In other words, the challenge is not only climate change, but rather the fact that since 1970, we have begun to hit against the boundaries of nature. This is not a problem for some unforeseeable future, but for the here and now. The long period of crisis, 1970-2011, is a testament to the permanence of this

problem. It will not be addressed by treating mere symptoms—however hubristic it might sound to call climate change a “mere symptom”—but by addressing the root causes of the problem. This is why the idea of a green economy is helpful.

However, in order to pursue this line of inquiry, we have to disabuse ourselves of the idea that only problem with the current economic system is that it undervalues natural resources. Rather, the problem is that we need a new engine for growth. We do not have to raise the price of train tickets in order to make it move—no matter how cheap the tickets are—but to restart the engine.

This is why a focus on energy is critical. Energy is not merely a sector of economic activity; it is the primary physical driver of economic activity. The industrial revolution was arguably made possible by the dramatic expansion in access to fossil fuels. This access, combined with the rapid strides in energy efficiency, has enabled enormous expansion in economic welfare—on average, each person has the equivalent of 55 kilowatt hours per person per day (or, in more colloquial terms, 30 “energy slaves”, see Chart with representative data for France, from [www.manicore.com](http://www.manicore.com)). Not only has this brought normal comforts (cooking, food production, clothing, shelter, and mobility) within the reach of an expanding circle of the world’s population, it has enabled increased cooperation in production and distribution of goods and services—and indeed cooperation in political affairs as well. More importantly, the seemingly infinite potential for expanding the quantum of per capita energy availability has created the vision of unending growth, and thus of translating the economic sphere from a zero sum game to a positive sum game. This, in turn has been one of the factors responsible for elevating the value of cooperation over that of conflict.



However, energy services are distributed very unequally, ranging from over 250 kWh per person per day in some rich countries to less than 10 kWh per person per day in the least developed countries (see Chart). The distribution of safer and more efficient modern energy services is even more skewed. Bringing everyone to a decent standard of living will require either a significant expansion in energy production or a massive transfer from the energy affluent to energy poor. Parenthetically, it could be mentioned that the unequal global distribution of energy services is mirrored in the Arab region as well, where GCC countries have close to universal access to modern energy while the LDCs have extremely low levels of access.

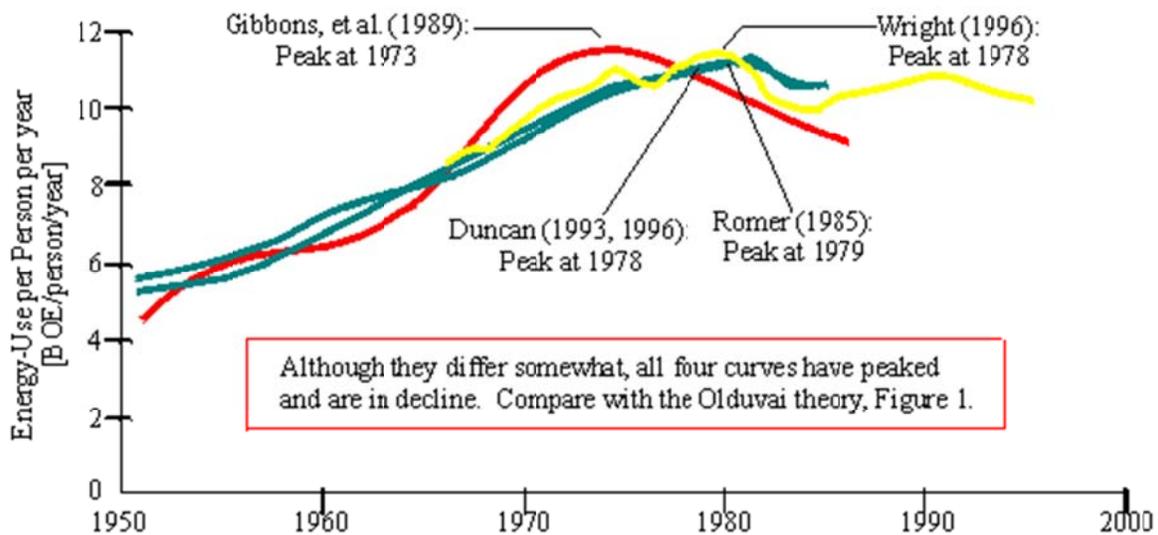
Energy is also the solution for emerging problems, including environmental problems. In the past, it was possible to substitute every emerging scarcity with the use of greater energy. If this cannot be assured in

the future, it will become doubly challenging to abate the pressure on nature resources; e.g., the move to a zero waste economy will be possible only through increased use of energy services.

The energy bandwagon has been disabled. Researchers disagree when this happened, but most date it somewhere during the 1970s. One indicator is the average energy use per capita per year. After rising consistently since the advent of the industrial revolution, it reached a peak in the 1970s and started declining. At the same time, the two-century long trend of declining energy costs also reversed itself more or less permanently (see Chart).

In short, this is a structural rupture of huge proportions with equally huge and long lasting impacts. Looking back at the last four decades, it is easy to see that the result is a period of persistent economic uncertainty, marked by the end of the era of the Keynesian consensus, and the emergence of recurrent recessions, stagflation, commodity price shocks, financial market gyrations, debt crises, structural adjustment, jobless growth, and dismantling of mechanisms for social protection. Much of the adjustment to these developments has taken place through increased inequality within and between countries.

The pessimism over climate change is due in significant measure to the fact that it has turned a solution into a problem, and it has done so far “too early”, namely at a time when energy access continues in most places to be highly inadequate and unequal. Put simply, unless the world finds a solution to the energy problem, it will be impossible to find solutions for climate change, economic development, global recession, and persistent poverty.



This structural break was ostensibly the result of a perfect storm of factors—doubling of coal prices because of worker safety and environmental legislation, peak oil in the US, quadrupling of oil prices, tripling of electricity prices, the end of the dam-building era in developed countries (“peak hydro”), the nuclear disaster in Three Mile Island and an unstated moratorium on nuclear energy in some countries (“peak nuclear”).

The current series of crises bears an uncanny resemblance to these, although they are far more acute in character. Briefly, it could be argued that by 1970s the developed world had reached its last environmental frontier, and by 2010, the whole world has reached the same point. The difficulty is that

in 1970 the developed world had already achieved a decent quality of life for its citizens. In 2010, the developing world needs another half a century of growth to reach this point.

The shocks of the 1970s and the 2000s are the end result of the same underlying social and environmental limits, and have manifested themselves similarly, initially in the form of energy and commodity price shocks, secondarily as financial crises or collapses, and finally as an economic recession. The differences are only in the gravity of the shocks. Instead of acid rain there is climate change. Instead of peak oil in the US, peak oil looms globally. Instead of Three Mile Island, we have Fukushima. Instead of “peak-hydro” in developed countries, social and environmental costs of dam building have become global in reach. Instead of mining safety concerns, there are concerns about the impact on human health of an entire range of production processes. As Yogi Berra once said, “its déjà vu all over again”.

The temptation is, of course, to recycle the failed solutions from the previous crisis under new names—a kind of Green Washington Consensus that principally on getting prices right. In the 1970s and 1980s, the mainstream recipe was to tinker with the prices of labor, currencies, and tradable commodities. Today, it is the turn of the prices of natural resources and sinks—carbon pricing, payment for ecosystem services, full cost pricing, and so on. Once again, neither the distributional impact of such solutions nor the availability of ancillary or offsetting policies has been studied with sufficient care. Once again, there is the danger is that the recipes will turn out to be inequitable without being effective. An alternative is to concentrate on policies that promote investment and cooperation. These do not exist solely or even primarily in the climate domain, although progress on climate policies would both help and be helped. They have to be discussed in an appropriate forum or forums. Rio+20 could well be such a forum.

**So, what then is the solution?** The Secretary General’s Advisory Group on Energy and Climate Change has studied this issue with some care, and has advanced an agenda with three goals for the year 2030: 100 per cent energy access, 40 per cent increase of energy efficiency, and 30 per cent share of renewable energy. Several countries and political groups have begun to engage on these goals. In particular, it is possible close the energy access gap (1,500 mill globally have no electricity) through simple technologies that are already available – what is needed is political commitment and will to take advantage of the Rio+20 processes in pushing for a range of funding mechanisms and pathways. Norway has announced an Energy+ initiative, inspired by REDD+, for mobilizing, pooling, and channeling funds for energy access and efficiency; although this not directly linked to UNFCCC processes or funds, such linkages could be created, e.g., if some countries prepared NAMAs around sustainable energy initiatives or feed-in tariff programs. The Paris-Nairobi Initiative aims to support the AGECC goal of universal energy access by securing and channeling climate financing into sustainable electricity projects in Africa and other vulnerable regions. The EU may table a formal proposal on renewable energy targets for Rio+20.

The era of fossil fuels has reached its peak. The human race has two options. Either, it has to find a new source of energy to power the global economy and future economic and social growth; or it will have to drastically reduce the level of aggregate consumption. The latter is a problem especially because the current economic system does not know how to reduce consumption while maintaining growth of the weaker segments of society. Fortunately, it is possible both technologically and economically to harness renewable energy at a mass scale, provided the costs could be brought down to affordable levels.

Several institutions and researchers, working independently, have found that a systematic agreement to invest in renewable energy will bring down the costs to affordable levels within a decade.<sup>25</sup>

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<sup>25</sup> See DESA Technical Note, *A Green New Deal for Climate, Energy, and Development*, New York: UN-DESA 2010.

The IPCC's Special Report of Renewable Energy (SRREN), released in May, found that renewables could meet nearly 80 per cent of the world's energy demands by 2050. This debunks the myth, popular among world leaders, that renewable energy alone, without nuclear power, will not be able to meet global energy demand. Meanwhile, Germany has become the largest nation to date to pledge itself to a nuclear-free future in the wake of the Fukushima crisis in Japan. Among Arab countries as well, there is much discussion and call for investigation of nuclear energy options and related questions (i.e. affordability, human capacity needs, environmental safety, regulatory policies, and appropriateness). Jordan is developing a nuclear program but is weighing it carefully with other options in terms of externalities and risk.

This still leaves the challenge confronting oil exporting countries. However, once the longer term challenge is recognized, the solution becomes more tractable. At this point, the Arab oil exporting countries already have the highest reserves to production ratios, which means that they are already extracting oil at a slower rate than the other countries. The climate challenge means that over time the aggregate trajectory must point downwards, and eventually move to a point where fossil fuels are used mainly for non-combustive uses. The challenge for the oil producers is how to facilitate this transition on their own terms, consistent with their developmental and social goals. This would mean using the oil wealth to create new, modern, and green economies.

There are signs that the region has taken the lead on these questions. Algeria has made great advances in sustainable energy (integrating 40% renewables as part of its energy strategy) and the delegates would like to know how to better learn from the Algerian experience, and explore what kinds of incentives and mechanisms can be adapted to other countries in the region, and what kinds of cost comparisons Algeria made between renewable and traditional sources.

There is a need for greater financing and market creation around sustainable energy (i.e. off-grid applications, microfinance, end-user finance, mobilization of public-private partnerships, etc). In the Arab region, a regional platform around sustainable energy and wider energy access could be developed, with a focus on getting finance and funding and direct investment and mobilization of public-private partnerships. Options include off-grid applications of renewable energy and a focus on rural electrification. The region should push for internally developed sustainable energy plans and legal frameworks. It is important to use institutions, such as IRENA, to catalyze knowledge sharing and south-south technology transfer in energy.

A new institution, IRENA, has been established to champion the renewable energy agenda. The General Assembly has declared 2012 to be the year of sustainable energy for all. Several countries have started looking at alternative models of energy cooperation. The energy issue has risen to the top of the list in the Rio+20 process. There is also a need for relevant institutions in the field of sustainable energy to combine their efforts around shared goals (such as the common aims of UNIDO and IRENA) and continue collaborative approaches. There is high support in the region for IRENA to further synergistic work through a regional initiative in technology transfer (with special focus on addressing property rights issues).

## ANNEX 1:

### ANNOTATED PROGRAMME WITH SUMMARY OF PROCEEDINGS

The workshop, taking place over 3 days, consisted of 8 thematic sessions facilitated by ministers and other senior representatives from the relevant ministries of the Government of Algeria, as well as experts from UN agencies, centers of excellence and other regional governments. Sessions included 18 presentations by speakers on a range of topics, including: the main political considerations and questions at play in both climate and sustainable development negotiations; strategic approaches to Mitigation for the Non-Annex I countries; options for planning and positioning around sustainable energy; preparing for Adaptation planning, with particular attention paid to food and water security; methods of technology transfer, development and planning; various modalities of climate change related finance; and developing a 'green economy' approach appropriate for the Arab countries. The workshops also included a visit for delegates to the Algerian Ministry of Energy and Mines where two of the country's flagship projects in green building and CCS (carbon capture and storage) were showcased.

#### 11 October 2011, 1000-1130: OPENING AND WELCOME

The opening session was a high level event, involving the participation of two sitting ministers and senior representatives from UNDP. Its purpose was to set out the objectives of the meeting in the context of underlying challenges and concerns.

**H.E. Mr. Mourad Medelci**, Minister of Foreign Affairs, Algeria, welcomed the delegates and participants and officially opened the workshop. In his remarks he underscored the importance of COP-17 not only because it will determine the commitments of developed nations, founded on common responsibilities and differentiated capacities, but also because it was taking place on the African continent which was already suffering from the devastating impacts of climate change. Climate change thinking should move beyond a narrow focus on emissions towards the reorientation of economies as 'green' economies. The decisions to establish the Green Climate Fund, the Adaptation Committee, and the Tech Transfer mechanisms are welcome and the international community must take steps to operationalize these and mobilize necessary funding. As Algeria will chair the G-77 in 2012, it is keenly aware of the challenges of climate change in the context of sustainable development. Nationally, Algeria has undertaken a number of initiatives including carbon capture and sequestration projects (*see field visit info*). Everyone must devote their energies to ensuring that economies and development paths respect the environment.

**H.E. Mr. Cherif Rahmani**, Minister of Spatial Planning and Environment, Algeria expressed his appreciation for the workshop as an instrument for establishing common ground and positions; another important occasion was the LAS ministerial conference in Cairo. In his remarks, he drew attention to the rising toll of climate impacts in the MENA region, and the urgent need for attention to both adaptation and mitigation by addressing rainfall, drought, health and environment impacts, and harnessing new sources of energy. Cancun reversed the trend of Copenhagen fortunately, and Algeria is confident and supports the UN system and the restored confidence in the system from Cancun. At Cancun, the Arab/African world emerged strongly in terms of their capabilities and skills at negotiations, and there has been a qualitative improvement due to the work of the UN. Success was due to the dynamics of negotiating and not just the outcome. Africa should be seen as the representative continent for adaptation. Success at Durban will depend on the success of the African and Arab states understanding the positions, strategies, and underlying domestic dynamics of the other states, particularly the US, other

developed nations, and other big players (Russia, China, Brazil). In the recent meeting in Panama, discussions on the persistence of world financial crises and energy market fluctuations were apparent, and these must be addressed further at Durban. Civil society and public opinion should be present at both the Durban and Rio conferences. The 5 expectations of the Arab/African nations from Durban were the realization of the financial promises on climate change from the developed world, which is necessary for garnering support from developing world, the renewal of the Kyoto Protocol; formalization and activation of the Adaptation Committee; operationalization of the Green Fund; and ensuring that Durban becomes a stepping stone to Rio.

**Mr. Mamadou Mbaye**, UN Resident Coordinator and UNDP Resident Representative of Algeria, thanked the Algerian government for co-organizing the workshop and for its long-standing commitment to climate change and environmental matters. Existing climate change accords are not adequate to reduce emissions to the extent needed. The Kyoto Protocol expiration means there is a real need for a broader and sophisticated international framework to reduce emissions. Capacity building efforts, such as the workshop, were extremely important for enabling Arab negotiators to participate effectively in the negotiations. The lack of capacity led to pessimism and cynicism, such as the question by a journalist at a press conference the previous day “What is use of negotiating with northern countries who will impose their wishes and power anyways?” Progress can only be made when negotiators become better at conveying their needs and experiences and clarifying their points with specificity and strength. As Secretary General Ban Ki Moon has said we cannot move to the future while scorching the earth; climate change is not just about the environment, it is related to health, migration, security, water, and food, and to the future of the planet without borders.

**Mr. Adel Abdellatif**, Chief of the Regional Programme Division at UNDP RBAS emphasized that the workshop itself was not a negotiating forum, but a contribution to enable Arab countries and experts to exchange views. He recalled that of the ‘5 priorities’ announced by him at the opening of the General Assembly session,<sup>26</sup> Secretary General Ban Ki Moon had singled out sustainable development as the first and the greatest—the imperative of the 21<sup>st</sup> century. This was because of the cross-cutting nature of sustainable development and its potential for going beyond thinking about the economy to bridge disparities. Sustainable development challenges in the Arab region stem from geographical conditions as well as deepening structural weaknesses that could affect stability—including the high rate of population growth, rapid urbanization (reaching 60 per cent overall, and most countries in the region almost wholly urban), energy consumption, hydrocarbon dependence, and water scarcity.

## **11 October 2011, 1130-1300: THE POLITICAL PROCESS: Bali, Copenhagen, Cancun, Durban, Rio+20, and beyond**

The objective of this session was to provide a snapshot picture of the international negotiations processes, including the critical questions, milestones, players, negotiating blocs, the major points of convergence and divergence between countries, progress achieved in recent years, and expectations from the future. It featured keynote interventions by **H.E. Ambassador Lumumba Di-Aping**, Ministry of Foreign Affairs, Republic of South Sudan, who was the main negotiator on behalf of the Group of 77 and China (G77) during the Copenhagen meeting in 2009; and Ms. Fatmah Al-Mallah, Advisor to the Secretary General of the League of Arab States on Climate Change.

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<sup>26</sup> See <http://www.un.org/News/Press/docs/2011/ga11147.doc.htm>. The “five imperatives — five generational opportunities to shape the world of tomorrow by the decisions we make today,” are sustainable development; preventing and mitigating conflicts, human rights abuses and the impacts of natural disasters; building a safer, more secure world; supporting countries in transition; and boosting opportunities and participation for women and young people.

The keynote speakers set out the major political issues implicit in the climate process, including the main principles, points of contention, and areas of convergence. From the perspective of developing countries, it was important to reiterate the long-standing consensus on fundamental principles, including common but differentiated responsibility, the polluter pays principle, the responsibility of Annex-I countries to meet their Kyoto commitments, and the historical responsibility of the developed world for reducing emissions based on scientific evidence. The speakers also laid out the progress that had been achieved in selected areas, including the establishment of new mechanisms and initial commitments on funding.

In the discussion that followed, there were repeated calls for the reaffirmation of these principles. Several delegations requested that, as future leader of the G77, Algeria act also as a leading voice for Arab concerns at the negotiations.

There was significant discussion of financing issues, which was taken up later in the dedicated session on this theme. Some delegations proposed that the Green Climate Fund be called upon to develop criteria for developing countries based on their priorities.

A plan on how the Arab countries can best benefit from the Green Climate Fund and Adaptation mechanisms is of utmost importance for the Durban negotiations, with specific input to be put forward on their design. In particular as water scarce countries, there should be a push for funds specifically focused on around adaptation and resilience in water. Furthermore, it was emphasized that the Fund needs more money than currently slated (more than \$100 billion) to meet upcoming catastrophes and countries should push for an increase. There was concern that though Arab countries are represented on the GCF (Egypt and Algeria), demands are not necessarily being heard.

There is a gap between the technical track at negotiations and the political track. A strategy to combine and bridge a relationship between these two sides of the climate change talk must be developed.

In its efforts for full recognition and membership within the international system, Palestine would like support from the region in requesting full participation and membership to the UNFCCC and COP processes, and to participate in Durban.

The question was raised that, in a region that is home to a number of fossil fuel exporters, what is the contingency plan for scenarios when other energy markets surpass that of oil?

There was a request to receive more information from LAS on what the Arab focus and strategy at Durban will be, and Ms. Fatmah El Mallah of LAS replied that this will be developed further at the upcoming meeting in Cairo on Oct 19. A regional strategy should be circulated for comments in preparation for Durban. She clarified that LAS' position remains the same, and rather it is the position of developed countries in keeping Kyoto commitments that needs clarifying.

## **11 October 2011, 1430-1545: MITIGATION**

The objective of this session was to assess the state of play on the first major pillar of the climate challenge, its key features and challenges, recent history, science-policy debates and trends in emissions scenarios, and future prospects. It was connected to the previous session on political issues, in the sense that the bulk of political interest in climate change had focused on mitigation. It was also connected to the next session on energy, which was the source of the bulk of greenhouse gas emissions, and also a potential solution to climate change as well as human development.

The session featured a presentation by Mr. Fernando CastellanosSilveira, Programme Officer, Executive Direction and Management Programme, UNFCCC Secretariat, who presented a factual picture from the latest round of climate negotiations in Panama City, and the expectations from COP17 later in the year.

This was followed by an analytical presentation by Dr **Mr. Thomas Athanasiou**, Executive Director, Ecoequity, on a decision framework based on the principle of common but differentiated responsibility and respective capability—the **Greenhouse Development Rights Framework**. The presentation stimulated interest and discussion, both with regard to its seminal contribution of placing income and disparity at the center of climate change negotiations (not just historical responsibility and polluters pay options), and its pragmatic implementation including how to choose what income levels to use. There was consensus that mitigation should be pro-poor, and driven by capacity building, technology and research and development that is cost-effective and with the greatest, broadest impact.

This background enabled a continuation of the issues raised in the previous session, and brought out several points of elaboration or emphasis. There was a repeated emphasis on the need for a framework climate agreement. The impacts of climate change are already being felt in the region and are likely to worsen. Since 1992, there is a consensus that the developed countries bear historical responsible for the bulk of the problem as well as its possible solutions. This was reflected in the Kyoto Protocol, but today the negotiations are in crisis and the continuation of the Kyoto Protocol is in jeopardy. There was a debate and differences of opinion whether to move on from the Kyoto Protocol, or whether to keep pushing for the KP commitments. A position must be taken on the options on the table at Durban, which are: 1) a 2<sup>nd</sup> commitment period on the Kyoto Protocol with commitments fulfilled by all Parties (though there is no political will for this outcome); 2) no extension of the Kyoto Protocol 3) a new system/framework to replace Kyoto.

There was support for strategizing around bypassing carbon-intensive development paths and skipping to green growth paths.

At Cancun, the G77 countries attempted to introduce some items on long-term goals (including around unilateral trade measures, financial support and tech transfer), but the developed countries pushed to limit this shared vision. What can they do at Durban to rectify this?

## **11 October 2011, 1600-1730: SUSTAINABLE ENERGY**

This goal of this session was to zoom in on energy, which is perhaps the single most influential driver of climate change (from both mitigation and adaptation perspectives) as well as human development, an equally compelling element of potential solutions, and the major asset (and therefore the principal source of development and prosperity) in several countries of the region.

The session heard expert presentations by representatives of two key institutions active in this area, namely UNIDO and IRENA. **Mr. Guillermo Jiménez-Blasco**, UNIDO Representative in Algeria, briefed the meeting on the findings and recommendations of the Secretary General's Advisory Group on Energy and Climate Change (AGECC); and **Ms. Rabia Ferroukhi**, Senior Policy Officer, IRENA reviewed the mission and plans of her institution. The two presentations highlighted the inter-related challenges in the energy sector, namely universal energy access, harnessing of renewable energy, and enhancement of energy efficiency. In particular, it is possible close the energy access gap (1,500 mill globally have no electricity) through simple technologies that are already available – what is needed is political commitment and will to take advantage of the Rio+20 processes in pushing for a range of funding mechanisms and pathways.

There was a call for institutions in the sustainable energy field to combine their efforts around their shared goals (such as the common aims of UNIDO and IRENA) and continue collaborative approaches. There was support for IRENA to further synergistic work through a regional initiative in technology transfer (with special focus on addressing property rights issues).

In the Arab region, a regional platform around sustainable energy and wider energy access should be developed, with a focus on getting finance and funding and direct investment and mobilization of public-

private partnerships. Options include off-grid applications of renewable energy and a focus on rural electrification. The region should push for internally developed sustainable energy plans and legal frameworks. It is important to use institutions, such as IRENA, to catalyze knowledge sharing and south-south technology transfer in energy.

There was much discussion and call for investigation around nuclear energy options and related questions (i.e. affordability, human capacity needs, environmental safety, regulatory policies, and appropriateness for the Arab region). Jordan is developing a nuclear program but this option must be weighed carefully with other options in terms of externalities and risk.

Algeria has made great advances in sustainable energy (integrating 40% renewables as part of its energy strategy) and the delegates would like to know how to better learn from the Algerian experience, and explore what kinds of incentives and mechanisms can be adapted to other countries in the region, and what kinds of cost comparisons Algeria made between renewable and traditional sources.

It was emphasized that, as a region, countries should explore and show the link between renewable energy and mitigation actions.

There was a call for greater financing and market creation around sustainable energy (i.e. off-grid applications, microfinance, end-user finance, mobilization of public-private partnerships, etc.)

## **12 October 2011, 0900-1030: ADAPTATION**

The goal of this session was to review challenges, features, approaches, and progress on the second pillar of the climate agenda. There is widespread recognition that the impacts of climate change are already being felt in the region, and that these impacts are likely to get worse. Taken as a group, the countries represented at the meeting suffer from water stress, which has increased in recent years. This session was linked to the next session on Food Security, as the immediate

The session began with presentations from two recognized experts, both of whom emphasized the vulnerability of the region to climate change and the fact that climate was a development issue. **Mr. Martin Frick**, Programme Leader, Third Generation Environmentalism (E3G), who spoke on **Climate Change, Security Implications, and Disaster Preparedness**, highlighted the growing evidence of climate change impacts globally, as well as in the region, and linked these to changes occurring in seemingly unrelated domains, including economics, politics, and the environment, including food insecurity, civic unrest, migration, and pressure on natural resources..

**Mr. Shivsharan Someshwar**, Director, Asia Pacific Regional Program, International Research Institute for Climate and Society, Columbia University, on **Bringing Science to the Field: Capacity Building for Adaptation**. He contrasted the global level, which was the focus of the bulk of climate research and modeling and the local level at which the impacts were being felt by communities and households. This called for a need both to build adaptation capacity in local areas and to support research that could bridge the gap between global analyses and local needs.

The presentations led to a wide-ranging discussion that highlighted several key points. There was a debate over the technical and political implications of viewing climate change as a development issue. Some felt that the multi-faceted vulnerability of the region and the developing world more generally was insufficient for motivating the developed world to act on its commitments. In other words, if climate change was framed as primarily a development effort, it will give the North an excuse to walk away from their pledges, and will undo the gains that have been made thus far under the UNFCCC process.

Others emphasized the urgency of development-related needs in the region, which revolved around the agenda of adaptation. They proposed that the Arab region should push for more specific adaptation needs at the negotiations. An example was given of a proposal at Cancun to address water security, which is at the crux of the developed world's right to existence and development; however, only 6 countries supported it. This specific issue needs greater political action at Durban. There was concern as to why the UNFCCC has not linked climate change and human rights.

There was also a discussion of the actions that needed to be taken at national and regional levels. Adaptation has to be viewed in the context of an Arab and African strategy, and not just relegated to the national level. The Arab League has put forward a regional strategy to limit the effects of natural disasters, but greater action on this strategy was needed, highlighting the dire issues of drought and water scarcity, and subsequent socioeconomic impacts, referencing a study in Syria.

Nationally as well there were significant gaps that needed to be filled through targeted capacity building efforts and supported by the international process. For example, there were no concrete and coherent policies around risk reduction or risk management in the Arab region. Such planning needed to receive greater specificity and focus within the negotiations.

It was suggested that while countries should continue to aim for a '2C degree' maximum target in negotiations, they should plan for a '3-4C degree' scenario in their national planning processes. Another suggestion was to link the temperature target directly to impact factors and in the limit to the Arab countries' "right to existence". The threat posed by high temperatures to food security in water stressed regions threatens the very right to exist of the countries in the region, besides also threatening their right to development. The right to exist needed to be highlighted above the right to development.

One delegate highlighted an International Meteorological Organization meeting on Nov 23, at which countries will have an opportunity to exchange experiences in impact planning, how to develop seasonal forecasts, review different emergency plans, and connect with others at an international level

## **12 October 2011, 1100-1230: FOOD SECURITY**

As in the case of mitigation and energy, this session was designed to go deeper into adaptation by looking at food security, which is one of the key dimensions of climate change impacts and adaptation to them. It is particularly relevant in the Arab region, where water stress has exacerbated an already vulnerable situation.

The session started with presentations by two experts from ICARDA, namely **Mr. Mohamed El Mourid**, Regional Coordinator for North Africa Program, and **Mr. Rachid Serraj**, Director of Diversification and Sustainable Intensification of Production Systems Program. They showed by 2050, the most affected food deficit zones will be Africa and the Middle East, and only handful of countries control global food production. Food security pressures and processes were not just agricultural issues but were also urban ones, and had other implications, including internal and external migration. They proposed the ICARDA toolbox for agriculture and climate resilience and urged countries to secure resources for national level implementation.

The presentations led to a sustained discussion of practical steps needed at national, regional, and international levels to ensure food security in the context of looming climate change. At national levels, some delegations emphasized the need to re-use water re-use was discussed, with Jordan in particular weighing in on perspectives, policies and approaches in this regard. Certain challenges related to climate change and food security could also be seen as opportunities to shift to more productive and

sustainable pathways, e.g., to introduce renewable inputs and renewable energy or adopt organic farming options. Greater partnership was needed between national and local governments, institutes, NGOs, private sector entities and farming communities on this issue.

At the regional level, LAS emphasized that a regional strategy on food security did exist but that unfortunately it had yet to receive broad political commitment.

In regard to the international dimension, delegates emphasized that the debate on food security should be independent of what moves forward in the mitigation track. From the South's perspective, adaptation must be the central focus, and this meant a focus on agriculture, food security, coping with water scarcity, and ensuring survival. The international agreements needed to ensure that there was adequate financial support for achieving these goals and not only for agriculture as an instrument for carbon sequestration or greenhouse gas mitigation. Concern was raised over climate migrants and it was suggested that this point be highlighted in the negotiations especially to developed countries contributing to adaptation funds, as it affects them as well. It was also suggested that the extreme and dire example of Somalia's famine should be highlighted at Durban to drive the message home to the Annex I countries.

## 12 October 2011, 1300-1430: FINANCING

This session was designed to address the fourth pillar of climate negotiations, Financing, providing information on the Copenhagen Accord, the recommendations of the SG's Advisory Group on Finance, and the deliberations in the Transition Committee on Climate Financing. It started with two expert presentations, the first by Mr. **Michael Clark**, Senior Interregional Adviser, UNCTAD, who provided an assessment of the **Prospects for Climate Financing**, based on a reading of the technical as well as political processes—including the Secretary General's High Level Advisor Group on Finance (AGF), the deliberations in G20 meetings, and recent analytical studies. While there was no consensus on the scale of financing needed for climate mitigation and adaptation efforts in developing countries, Copenhagen took a step forward in the form of the commitment of \$30 billion of quick start funding and the ambition to mobilize \$100 billion per year by 2020. However, as evidenced by the AGF recommendations, three areas of differences remain, namely whether the reference is net grants from the public sector or to gross financial flows, whether they will be channeled through institutions controlled by developed countries (especially multilateral development banks) or by more democratic and transparent institutions under the UN, and whether the funds would be mobilized from new and experimental sources.

This was supplemented by a presentation via video link by Mr. **Mark Fulton**, Managing Director and Global Head of Climate Change Investment Research and Strategy, Deutsche Bank, on **The GETFIT Approach** espoused by Deutsche Bank. Fulton's argument was that the key challenge of climate change is to engender a shift away from fossil fuels and towards renewable energy (RE). Currently, it was difficult because of the high cost of the latter. A major reason for the high costs was the unpredictability of the market and the high cost of capital. A clear statement of political commitment was needed to stabilize the market and lower capital costs. Deutsche Bank research had shown that an enhanced global feed in tariff programme would succeed in this effort and mobilized the required resources.

The two presentations led to a spirited discussion in which the following points were made. Some delegations felt that there should be financial issues should be in a parallel track of negotiations to the political one, and the neither should detract from the other.

Many delegations were of the view that AGF recommendations were not adequate and that they implied a huge set of obligations that will not be agreed. There is also slow progress on financial

mechanisms related to the convention and there is a need to mobilize support for GCF, focusing on the specific criteria of LDCs

Delegations also identified a number of needs, including capacity building, awareness creation in the business sector, and enhancement of public-private partnerships. There was a need to advocate investments and return instead of aid and financing. There was a need to consider both market-led financing and state-led development strategies, and consider an approach to financing which combines both when appropriate

There was a good discussion of feed in tariffs, and it was suggested that support be provided for piloting of such programmes as well as other useful financial mechanisms.

### **13 October 2011, 0900-1030: TECHNOLOGY**

The goal of this session was to look at the third pillar of the climate challenge, namely technology development and transfer, and especially to provide information on the state of negotiations on the technology mechanism.

**Mr. Mongi Hamdi**, Head of the Science, Technology and ICT, UNCTAD, and head of the secretariat for the Commission on Science and Technology for Development (CSTD), provided an overview of **Technology Transfer options** and their relevance to climate change. His presentation focused on national policy and institutional options for technology development and adaptation, and the need for synergy between national processes, international support, and South-South cooperation.

**Mr. Ahmed Abdel Latif**, Senior Programme Manager, Intellectual Property and Technology, International Centre for Trade and Sustainable Development (ICTSD), provided an overview of **The Technology Mechanism**, including the overall concept, the two main components (TEC and CTCN) and their relationship, innovative features, outstanding issues, and key controversies. He emphasized that the Cancun decisions reflected a new and dynamic approach to the long-standing issue of technology transfer, insofar as it relied centrally on national mechanisms (CTCN) to drive the process. Most of the outstanding issues pertained to governance arrangements including the precise relationships between the TEC and CTCN. In his view, the main sticking point in the negotiations continued to be that of intellectual property rights (IPRs). He provided a compact overview of the history, institutional structures, controversies, and currently debated options on this issue.

The discussion brought up several issues of consensus. There was a shared confidence in the prospects of South-south and intra-regional cooperation. Indeed, the region did not have to wait for developed countries and the Technology Mechanism to move forward before building its own technology transfer processes. The Arab region has a significant technology base (examples from Egypt and the Gulf), and what is needed is to develop the centers of excellence and collaborative knowledge sharing. Specific actions as a region must be developed, through political to mobilize the right skills and research to the issue to take advantage of its great natural and human assets, and ensure that there is real ownership and absorption of knowledge around technology use.

The view on intellectual property rights was consistent with the long standing position of developing countries. There is no reason why knowledge for survival and rights to life should not be regulated. Why should research and development, which is very costly in social terms, be concentrated in so few hands? One view is that wealthier nations should support and subsidize the companies implementing research and development in key technologies, so that developing countries do not bear the burden of accessing them. Another view is that instead of funding technology and everyone buying the technology as they need, we should buy up the patents first in order to free up the technology for countries that need it and this will encourage internal knowledge development in the long run.

There was a significant interest in and support for capacity building. Countries do not have the capacity to identify the correct technologies and adapt them to their local needs (even though 90% of the technology is in the public domain). What is needed is capacity building around technical knowledge in order for countries to find the most appropriate options. Science technology and innovation reviews are available through UNCTAD upon request from governments. There is a need to be very specific on the needs of firms, institutions, and governing bodies. UNDP can facilitate the development of a regional network on existing capacities and centers of excellence in the region and connect them to the UNFCCC technology mechanism.

Other capacity building needs that were identified include training in the areas of negotiating and concluding technology licensing agreements in clean energy and renewables; developing indigenous and scalable projects and engage in south-south cooperation (no need to wait for the North on technology); and building of technology information platforms that provide accurate information about technologies protected by intellectual property rights, as well as technologies in the public domain.

A third area that attracted substantive discussion is that of renewable energy. In the African and Arab cases, access to electricity and energy is at the crux of the technology discussion. The region has considerable technological and knowledge assets that must be harnessed and scaled up with potential for export. It was emphasized that most of the money from the GCF should be directed towards applied and affordable energy technologies. (i.e. licensing fees, patent funds, etc should be inserted into the discussion). Similarly, it was proposed that an intellectual property rights mechanism should be introduced to CDM discussions at the negotiations in order to hold developed countries to their financial commitments.

Similarly, there was a proposal to examine how Arab countries could contribute to the current efforts and discussions aimed at the operationalization of the Technology Mechanism, in particularly by deploying existing centers and networks in the area of renewable energies and climate change technologies to contribute to and benefit from the Climate Technology Centre and Network (CTCN) to be established under the Technology Mechanism.

Finally, there was a discussion of the political climate. Given the failure of the sustainable development discussions at the GA in New York, and developing countries must reiterate at all future meetings their commitments under Agenda 21, and to remind Parties of the technology clauses under the Bali Action Plan. The Arab region should seriously consider the Indian submission on tech transfer at Durban and support it as a group submission.

### **13 October 2011, 1100-1230: GREEN ECONOMY**

As in the case of the first two pillars, the purpose of this session is both to deepen the discussion on the relevant climate pillar (tech transfer) and try to identify the linkages between the climate and Rio+20 processes. The session heard presentations from **Mr. Mootaz Khalil**, Deputy Assistant Minister of Foreign Affairs for Minister's Office, Egypt, on the **Challenges, Risks, and Opportunities** related to the green economy, and **Mr. Michael Clark**, Senior Interregional Adviser, UNCTAD, on the strategic relation between the green economy, financing, and technology transfer.

The term "green economy" is at least two decades old,<sup>27</sup> but has come into prominence since 2009 to a large extent because it offered an alternative response to the multiple crises of 2008. There is no unique definition of the green economy, although it is understood as emphasizing the importance of

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<sup>27</sup> See David Pearce, Anil Markandya, and Ed Barbier, *Blueprint for a Green Economy*, London: Earthscan 1989. Also see, Tariq Banuri, ed. *Green Economics*, Islamabad: SDPI and HBF, 1995.

the *economic* dimensions of sustainability.<sup>28</sup> UNEP, which is the foremost champion of this concept, claims that it represents a new economic growth paradigm, friendly to ecosystems as well as other sustainable development goals, especially poverty alleviation. In some renderings, it refers to an economic system, which instead of inevitably generating climate change and other crises will proactively address and prevent them.

As an overall vision it is quite attractive, but, like sustainable development, it has been difficult to put into practice. When it comes to concrete ideas, the main solutions are a combination of microeconomic or sectoral approaches. In the discussions, several points of convergence emerged.

The general view, expressed by many delegates that the green economy was not a goal, but an approach to generate wealth, job creation, preserving natural resources, involving and addressing economic, social and environmental criteria, and whether it will promote growth or competitiveness.

Some participants expressed the fear that the green economy could be a Trojan horse to smuggle in new restrictions on the development process. Green Economy focuses heavily on the growth of markets and should not replace 'sustainable development', in so far as we must not forget the social and human aspect of development. A distinction should be made between 2 tendencies: green economy as a commercial option or green economy as an environmental option. We should not resort to importing green technologies that just encourage investment and commercial interests of multi-nationals, but ones that actually prioritize the specificity of needs of the populations of different countries.

However, it can also be an opportunity to advance the issues of equity and development. At the heart of this development trajectory are clean energy and rapid economic industrialization. The new markets of industrialization are in the South, so the fear of protectionism is also a south-south dynamic, not just a north-south dynamic.

The Arab region has a number of areas of strengths as well as vulnerabilities in relation to the green economy. These include energy (carbon capture sequestration, renewable energy, and energy efficiency); managing costs of technology; ensuring equitable valuation of labor, location and raw material. Appropriate cost weighing analyses (considering the labor and natural assets availability in our region) will be needed. More broadly, the regional focus on the 'green economy' should address the water and food crises, renewable energy, green building standards, costing of alternatives, traditional vs. modern building networks, and uneven distribution of wealth.

The green economy is very closely related to the knowledge economy. We cannot have a Green Economy without the development of knowledge and technical skills with which to harness the technological products themselves. There was a need for the protection of the intellectual property base in the South through the regulation of IP regime. There should be an effort to undo the adverse effects of monopolies in the new knowledge economy. High costs due monopolization of property rights is currently restricting developing countries from market entry. There was a proposal for a Convention to establish a single global body for individuals, firms and nations to acquire IP rights and disseminate technological knowledge, supported by a private fund and governed by the same legal structure being developed under the GCF.

There were questions about what was needed to be known and what ought to be proposed at Rio+20 regarding the Green Economy. Suggestions to make proposals in the transport sector involving an institutional structure within the Adaptation framework. A better system of tech transfer should be pushed. Reinforce financial architectures through GCF. Support international bodies such as

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<sup>28</sup>To cite the UNEP report on the Green Economy, the "growing recognition that achieving sustainability rests almost entirely on getting the economy right".

civilaviation Org and Civil Maritime Organization and World Meteorological Organizations should be the forums through which proposals should be discussed.

There was a proposal for a Green Economy global stimulus – using the SDRs to create a public arena of goods (i.e. intellectual property and renewable energy) in order create a new ‘Marshall Plan’. Related to this issue was a comment on the Equator Initiative including the compensatory measures for the decline in oil extraction, in relation to the exacerbation of desertification and poverty eradication. The proposal was to set up a time frame to monitor the operationalization of funds for this issue.

The bottom line, expressed by a number of delegates was that the Region should not wait to develop national plans and strategies around Green Economy approaches and sustainable development until all matters of funding and finance have been settled.

### **13 October 2011, 1400-1500: CLOSING SESSION**

**Adel Abdellatif:** Connect Arab countries to financial mechanisms, technology acquisition and transfer, and also know-how. The concept of Green Economy requires deeper consideration and must emphasize a social perspective and not just an economic perspective (does the Arab world have studies and research on the concept?). Support is needed to identify specific characteristics and opportunities for the region. Lastly, a request for feedback, comments and suggestion on the workshop was made.



**CLIMATE CHANGE AND THE ROAD TO RIO**  
 11-13 October, 2011 ♦ Algiers, Algeria



<b>TUESDAY, 11 OCTOBER</b>	
<b>9.30-10.00</b>	<b>REGISTRATION</b>
<b>10.00-11.00</b>	<p><b>OPENING and WELCOME</b>            This session will introduce the participants, and set out the objectives of the meeting, as well as the underlying challenges and concerns. In particular, it will place the climate process, as well as the Rio+20 process, in the context of emerging challenges.</p> <p><b>10:00-11:00 Welcome Remarks and Introduction to the Meeting</b></p> <p style="padding-left: 40px;"><b>H.E. Mr.MouradMedelci</b>, Minister of Foreign Affairs, Algeria</p> <p style="padding-left: 40px;"><b>H.E. Mr.CherifRahmani</b>, Minister of Spatial Planning and Environment, Algeria</p> <p style="padding-left: 40px;"><b>Mr. Mamadou Mbaye</b>, UN Resident Coordinator and UNDP Resident Representative of Algeria</p> <p style="padding-left: 40px;"><b>Mr. Adel Abdellatif</b>, Chief, Regional Programme Division, UNDP RBAS</p>
<b>11.00-11.30</b>	<b>BREAK</b>
<b>11.30-13.00</b>	<p><b>THE POLITICAL PROCESS: Bali, Copenhagen, Cancun, Durban, Rio+20, and beyond</b>            This session will set out the main set up of international negotiations, including critical questions, milestones, players, negotiating blocs, and future prospects.</p> <p><b>11:30-11:40 Introductory Remarks by Chairs</b></p> <p style="padding-left: 40px;"><b>H.E. Ms. LatifaBenazza</b>, Ambassador, Director of Environment and Sustainable Development, Ministry of Foreign Affairs, Algeria</p> <p style="padding-left: 40px;"><b>Mr.Mootaz Khalil</b>, Deputy Assistant Minister of Foreign Affairs for Minister’s Office, Egypt</p> <p><b>11:40-11:55 Ms. Fatma El-Mallah</b>, Advisor to the Secretary-General on Climate Change, League of Arab States (LAS)</p> <p><b>11:55-12:25 Mr. Lumumba Di-Aping</b>, Ministry of Foreign Affairs, Republic of South Sudan</p> <p><b>12:25-12:55 Discussion</b></p> <p><b>12:55-13:00 Chairs’ Concluding Remarks</b></p>
<b>13.00-14.30</b>	<b>LUNCH</b>

<p><b>14.30-16.00</b></p>	<p><b>MITIGATION:</b> This session will focus on the first major pillar of the climate challenge, its key features and challenges, recent history, science-policy debates and trends in emissions scenarios, and future prospects.</p> <p><b>14:30-14:40 Introductory Remarks by Chairs</b></p> <p><b>Mr. Abdelkader Benhadjoudja</b>, Cabinet Chief to the Minister, Ministry of Spatial Planning and Environment, Algeria</p> <p><b>Mr. Mohamed El Mourid</b>, Regional Coordinator for North Africa Program, ICARDA</p> <p><b>14:40-14:55 From Cancun to Durban</b></p> <p><b>Mr. Fernando Castellanos Silveira</b>, Programme Officer, Executive Direction and Management Programme, UNFCCC Secretariat</p> <p><b>14:55-15:10 The Greenhouse Development Rights Framework</b></p> <p><b>Mr. Thomas Athanasiou</b>, Executive Director, Ecoequity</p> <p><b>15:10-15:55 Discussion</b></p> <p><b>15:55-16:00 Chairs' Concluding Remarks</b></p>
<p><b>16.00-16.15</b></p>	<p><b>BREAK</b></p>
<p><b>16.15-17.45</b></p>	<p><b>SUSTAINABLE ENERGY:</b> This session will look at one of the key drivers of climate change (from mitigation and adaptation perspectives), and its solution. Topics covered will include: reviews of the most recent energy data, energy policies that further sustainable development; and trends in energy access, energy efficiency and renewable energy.</p> <p><b>16:15-16:25 Introductory Remarks by Chairs</b></p> <p><b>Mr. Badis Derradji</b>, CEO of New Energy Algeria (NEAL), Ministry of Energy and Mines, Algeria</p> <p><b>Mr. Adel Abdellatif</b>, Chief, Regional Programme Division, UNDP RBAS</p> <p><b>16:25-16:40 The AGECC Report and Recommendations on Sustainable Energy for All</b></p> <p><b>Mr. Guillermo Jiménez-Blasco</b>, UNIDO Representative in Algeria</p> <p><b>16:40-16:55 Renewable Energy Options</b></p> <p><b>Ms. Rabia Ferroukhi</b>, Senior Policy Officer, IRENA</p> <p><b>16:55-17:40 Discussion</b></p> <p><b>17:40-17:45 Chairs Concluding Remarks and Overview of Next Day</b></p>
<p><b>WEDNESDAY, 12 OCTOBER</b></p>	

<p><b>9.00-10.30</b></p>	<p><b>ADAPTATION</b>  This session will take up the second pillar of the climate agenda, setting out its key challenges and features, approaches, and initiatives.</p> <p><b>9:00-9:25 Introductory Remarks by Chairs</b></p> <p><b>Mr. Smati Abdelouahab</b>, Director of Water Resources Mobilization, Ministry of Water Resources, Algeria</p> <p><b>Mr. Fernando Castellanos Silveira</b>, Programme Officer, Executive Direction and Management Programme, UNFCCC Secretariat</p> <p><b>9:25-9:40 Climate Change, Security Implications, and Disaster Preparedness</b></p> <p><b>Mr. Martin Frick</b>, Programme Leader, Third Generation Environmentalism (E3G)</p> <p><b>9:40-9:55 Bringing Science to the Field: Capacity Building for Adaptation</b></p> <p><b>Mr. Shivsharan Someshwar</b>, Director, Asia Pacific Regional Program, International Research Institute for Climate and Society, Columbia University</p> <p><b>9:55-10:25 Discussion</b></p> <p><b>10:25-10:30 Chairs' Concluding Remarks</b></p>
<p><b>10.30-10.45</b></p>	<p><b>BREAK</b></p>
<p><b>10.45-12.15</b></p>	<p><b>FOOD SECURITY</b>  As in the case of mitigation and energy, this session will go deeper into adaptation by looking at one of the key dimensions of climate change impacts and adaptation to them.</p> <p><b>10:45-10:55 Introductory Remarks by Chairs</b></p> <p><b>Mr. Sid Ahmed Ferroukhi</b>, Secretary General, Ministry of Agriculture and Rural Development, Algeria</p> <p><b>H.E Eng. Maysoon Al-Zu'bi</b>, Secretary General, Ministry of Water and Irrigation, Jordan</p> <p><b>10:55-11:25 Climate Change and Food Security</b></p> <p><b>Mr. Mohamed El Mourid</b>, Regional Coordinator for North Africa Program, ICARDA</p> <p><b>Mr. Rachid Serraj</b>, Director of Diversification and Sustainable Intensification of Production Systems Program, ICARDA</p> <p><b>Mr. Hassan Haji Ibrahim</b>, Advisor to the Minister, Ministry of Fisheries and Marine Resources, Somalia</p> <p><b>11:25-12:10 Discussion</b></p> <p><b>12:10-12:15 Chairs' Concluding Remarks</b></p>
<p><b>12.15-13.30</b></p>	<p><b>LUNCH</b></p>

<p><b>13.30-14.45</b></p>	<p><b>FINANCING</b>  This session will take up the fourth pillar of climate negotiations, providing information on the Copenhagen Accord, the recommendations of the SG's Advisory Group on Finance, and the deliberations in the Transition Committee on Climate Financing.</p> <p><b>13:30-13:40 Introductory Remarks by Chairs</b></p> <p><b>Mr. Hichem Kimouche</b>, Deputy Director in charge of Sustainable Development, Ministry of Foreign Affairs, Algeria</p> <p><b>Mr. Waddah Ghanem</b>, Vice Chairman, Dubai Carbon Centre of Excellence</p> <p><b>13:40-13:45 Prospects for Climate Financing</b></p> <p><b>Mr. Michael Clark</b>, Senior Interregional Adviser, UNCTAD</p> <p><b>13:45-14:00 The GET FiT Approach</b></p> <p><b>Mr. Mark Fulton</b>, Managing Director and Global Head of Climate Change Investment Research and Strategy, Deutsche Bank <b>(by video link)</b></p> <p><b>14:00-14:40 Discussion</b></p> <p><b>14:40-14:45 Chairs' Concluding Remarks</b></p>
<p><b>14:45-15:00</b></p>	<p><b>Visit to Ministry of Energy and Mines</b></p>
<p><b>15.00-18.00</b></p>	<p><b>The Directorate General of SONATRACH and the Ministry of Energy and Mines</b></p> <p><b>The new town of HassiMessaoud: A green city in the desert</b></p> <p><b>Mr. Mourad Zerati</b>, General Director of the Public Institution of the new town of HassiMessaoud</p> <p><b>CO2 injection and geological storage - the In Salah Gas example</b></p> <p><b>Mr. Mohamed Keddam</b>, President of In Salah Gas (ISG), SONATRACH</p>

## THURSDAY, 13 OCTOBER

<p><b>09.00-10.30</b></p>	<p><b>TECHNOLOGY TRANSFER</b>  This session will look at the third pillar of the climate challenge, namely technology development and transfer. It will provide information on the latest developments on the technology instrument.</p> <p><b>09:00-09:10 Introductory Remarks by Chair</b></p> <p><b>Mr. Rafik Hiahemzizou</b>, National Focal Point on Climate Change, Ministry of Foreign Affairs, Algeria</p>
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	<p><b>09:10-09:25 Technology Transfer options</b>  <b>Mr. Mongi Hamdi</b>, Head of the Science, Technology and ICT, UNCTAD</p> <p><b>09:25-09:40 The Technology Mechanism</b>  <b>Mr. Ahmed Abdel Latif</b>, Senior Programme Manager, Intellectual Property and Technology, International Centre for Trade and Sustainable Development</p> <p><b>09:40-10:25 Discussion</b></p> <p><b>10:25-10:30 Chair's Concluding Remarks</b></p>
<b>10:30-10:45</b>	<b>BREAK</b>
<b>10.45-12.30</b>	<p><b>GREEN ECONOMY</b>  As in the case of the first two pillars, the purpose of this session is both to deepen the discussion on the relevant climate pillar (tech transfer) and try to identify the linkages between the climate and Rio+20 processes.</p> <p><b>10:45-10:55 Introductory Remarks by Chairs</b></p> <p><b>Mr. Tahar Chérif Zerarka</b>, President of the Hydrocarbons Regulatory Authority, Ministry of Energy and Mines</p> <p><b>Mr. Martin Frick</b>, Programme Leader, Third Generation Environmentalism (E3G)</p> <p><b>10:55-11:10 Challenges, Risks, and Opportunities</b>  <b>Mr. Mootaz Khalil</b>, Deputy Assistant Minister of Foreign Affairs for Minister's Office, Egypt</p> <p><b>11:10-11:25 A Green Economy Strategy for Development</b>  <b>Mr. Michael Clark</b>, Senior Interregional Adviser, UNCTAD</p> <p><b>11:25-12:10 Discussion</b></p> <p><b>12:10-12:30 Chairs' Concluding Remarks</b></p>
<b>12:30-13:30</b>	<p><b>CONCLUSIONS</b></p> <p><b>Opening Remarks</b></p> <p><b>H.E. Mr. Merzak Belhimeur</b>, Director General of Economic Relations and International Cooperation, Ministry of Foreign Affairs, Algeria</p> <p><b>Synthesis of Meeting and Closing Remarks</b>  <b>Mr. Adel Abdellatif</b>, Chief, Regional Programme Division, UNDP RBAS</p>

	<b>Close of Meeting</b>
<b>13:30</b>	<b>LUNCH</b>