

Durban Platform: Expert meeting discusses energy efficiency experiences and challenges

Bonn, April 7 (Dale Wen) - At the technical expert meeting (TEM) to unlock mitigation opportunities in energy efficiency (EE) in pre-2020 period, held in Bonn, Germany, on 12–13 March 2014, under the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP), Parties, observers and leading international organizations and partnerships shared experiences on EE, lessons learned, challenges and plans for further scaling up improvements and on opportunities for mobilizing finance, technology and capacity-building to implement energy efficiency actions by developing countries.

The presentations and statements were made by representatives of national governments, international specialized organizations and cooperative partnerships, international financial organisations and UNFCCC support institutions. The TEM was facilitated by Jun Arima from Japan.

Arima, provided a summary of the discussions at the closing session of the TEM on 14 March, which included the following highlights: “Many Parties spoke about the need to have a strong political will and raise a profile of EE among national policy priorities in order to fully utilize its potential... It was stressed that the governments should take a leading role in promoting EE at all levels. Parties spoke about the importance of a comprehensive national energy efficiency strategy or action plan backed by legislation and being supported by sector-specific strategies. Parties identified many feasible policies and technologies, as well as challenges and barriers to implementation of EE improvements. While many of these challenges need to be addressed ultimately by domestic actions, international collaboration will also play an important role with regards to financial, technological and capacity building support.”

“Among the key policy options, practices and technologies, Parties mentioned that energy pricing is one of the key drivers encouraging EE measures by end users; effective regulations, such as mandatory efficiency standards for buildings, appliances and vehicles, and their robust implementation can ensure success in promoting EE; while energy efficiency investments are usually economically feasible by nature, fiscal and financial incentives would be necessary for broader uptake and up-scaling of EE measures; information and awareness raising policies such as EE labelling are effective tools for incentivizing end users to buy energy efficient appliances and houses; technology development and innovative R&D is crucial for further exploitation and enhancing of EE potential.”

On the “diverse range of challenges and barriers”, Arima said that Parties had identified the following: “Insufficient profile of EE in national policy priorities and complicated and ill-coordinated governance structure; lack of capacity in designing and implementing effective policies and lack of technical knowledge, laboratories and expertise; lack of cost-reflective energy pricing, short-sighted purchasing and investment patterns and insufficient financial incentives to stimulate EE; difficulties in accessing large-scale financing that make it difficult to replicate success in cases of highly expensive technologies.”

On the way forward, Arima said that some delegates pointed out the need to continue the dialogue after the March ADP session and raised several points with regard to possible action that could be taken by Parties, the UNFCCC and its institutions, other intergovernmental organisations, partnerships and initiatives, and the secretariat. “Delegates expressed expectations that as a result of engagement in the TEM process, Parties and relevant initiatives and

partnerships might be in a position to launch new and ambitious policies and actions around the options identified above with potential to contribute toward pre-2020 ambition and also towards preparing for post-2020 policy frameworks.”

He added that several Parties noted that the discussion in the TEM under the ADP should maintain its focus on workstream 2 by covering in a comprehensive way all elements of paragraphs 7 and 8 of decision 1/CP.17.

South Africa presented on the governance structure for EE in the country. Access to modern energy services grew from around 30% in 1990 to about 80% now, and 93% of its electricity is generated from coal-fired power stations. Its Energy Policy White Paper (1998) recognizes that energy should be sustainable and should be done with maximum efficiency at all times. Its National Energy Efficiency Strategy (2005, revised 2008 & 2013) provides sectoral aspirational targets and a broad overview of the initiatives planned to achieve them. Its Industrial Action Policy Plan (2012) identifies significant opportunities to develop new green & EE industries and related services in South Africa, and highlights the need for improved EE in the manufacturing sector. Its New Growth Path Framework (2011) calls for ‘comprehensive’ support for EE. Climate Change Response Policy White Paper (2011) recognizes EE as a primary short-term mitigation option available to the country and recommends up scaling of EE as a primary medium-term mitigation option. SA's experience exemplifies the importance of a strong policy framework, stakeholder participation, vertical alignment with actors at all levels, and institutional capacity building.

Japan outlined efforts by industry in the country to reduce energy consumption. Japan has improved EE by approximately 40% after the oil crises since 1970s as a result of positive actions by both public and private industrial sectors. In terms of energy required to produce 1 kWh of electricity, 1 ton of iron, or 1 ton of cement, it has been leading over all major economies including the US, China and EU countries. Its policies on EE are designed to facilitate evolving efforts by private sector through peer pressure, robust internal governance and technological innovation. The government implemented a large scale 15-year investment plan in 1970's (130 billion yen) . In 2013, the Government budget of 53 billion yen was allocated to support, among others, facility purchasing at factories, building renovation, energy auditing and R&D. Private sector has also voluntarily invested in efforts

to improve EE. Japan will continue to develop advanced environmental and energy technologies in the short/medium-term to medium/long-term, and will contribute to halving global greenhouse gas (GHG) emissions by 2050 through global diffusion of such technologies. The memory of oil crisis in the 1970s and Great East Japan Earthquake in 2011 has sensitized the public to energy security and energy conservation issues. It will steadily implement the revised Low Carbon Technology Plan as well as globally cooperate to develop and diffuse the technologies to cover approximately 80% of the reduction needed to halve global GHG emissions by 2050. It aims to invest USD110 billion of both public and private finance over five years on the premise of achieving national and regional primary balance surplus by Fiscal Year 2020.

Colombia outlined its ambitions as well as challenges for its low-carbon strategy. The Colombian Low Carbon Development Strategy (CLCDS) is a medium and long term led development program by the Ministry of Environment and Sustainable Development (MADS), the Department of National Planning (DNP), and sectoral ministries that aims to promote national economic growth with low greenhouse gas (GHG) emissions. The main barriers are: high up-front costs; lack of innovative financial tools; lack of knowledge and expertise; scarce market opportunities; many technologies are still in an experimental stage. It underscored the need to: reinforce the win-win approach of EE measures; create innovative financial tools; and strengthen capacity and enhance R&D oriented towards national circumstances.

Singapore described its target to green 80% of buildings by 2030 and the establishment of the Green Mark scheme, a green building rating system to evaluate a building for its environmental impact and performance. The certification scheme emphasizes EE tailored to the tropical climate. The public sector is taking the lead with new public sector buildings to attain Green Mark Platinum rating and all large existing public sector buildings to attain Gold plus rating by 2020. Incentives are given for private sector action as well, with \$20 million incentive schemes for new buildings and \$100 million for existing buildings. The key lessons learned include: long-term planning for environmental sustainability; tailored certification scheme to assess performance; mandating minimum standards; public sector taking the lead; and incentives to spur private sector.

Denmark highlighted strong EE improvements, which have successfully decoupled energy use from

economic growth. Its voluntary EE agreements with industry have proven to be a strong cost-effective measure. It is financed by the tariffs (thus not from the state budget) and industries get a CO₂ tax rebate if the agreed EE targets are realized. The building sector has seen great EE improvement as well: the building codes are regularly updated with early announcement of next steps, which gives the industry time to adapt and brings cost down. Similar practice and proper enforcement can bring big effects for developing countries as well. It emphasized that there is no single silver bullet and the market will not deliver enough. Combination of measures are needed, which include economic incentives (i.e. energy prices); regulation – standard, norms, etc.; information and change of behavior.

India emphasized that its energy demand will increase by a factor of 1.5 to 2.5 by 2030. Based on historical data across countries, a minimum energy consumption of 2.3 toe (tonnes of oil equivalent) per capita per year is needed today to achieve the HDI (human development index) of 0.9. Even if India could manage to achieve it with 1.5 toe/year/capita, it is still a huge increase of its current supply of 0.6 toe/year/capita. The government has invested in EE, partly due to the high price of energy. Energy intensity of the economy has declined by 30% between 2000 and 2011; about half due to EE improvements. The challenges include: difficulty in predicting outcomes; benchmarking; human and institutional capacity; enforcement and monitoring; and high upfront costs of many EE technologies.

During discussions on country experiences, participants addressed: consumer incentives to encourage EE; the use of carbon intensity versus energy intensity indicators; barriers to EE, such as market failure; and the creation of an EE registry under the UNFCCC to capture options.

The expert meeting continued on March 13 to discuss implementing actions: finance, technology and capacity building. Experts from governments and international organizations share opportunities for mobilizing finance, technology and capacity-building to implement action on renewable energy, with a focus on success stories and their replication potential; opportunities; barriers and how they are being overcome.

According to the **International Energy Agency (IEA)** portfolio of decarbonizing measures, end-user fuel and electricity efficiency can provide 42% of emission reduction potential. Yet various market failures impede EE investment, which include principal-agent problems, split incentives, energy

market failures (externalities), asymmetric information, imperfect information, and behavioral failures. The IEA outlined a range of EE policy recommendations covering buildings, appliances and equipment, light, transport, industry, utility and end-users, and cross-sectoral approaches. It emphasized that finance and especially domestic finance is key to reallocate resources to promote EE gains. It added that EE investments are often “no-regrets” investment and called for the need to change the mind-set and view EE as energy and money making option. IEA identified six key poles for action, including: minimum energy performance standards; information and awareness; designation of EE responsibility and capacity building; finance; better data; and technology development.

The **International Partnership for EE Cooperation (IPEEC)** said that it is an autonomous entity established in 2009 at the G8 summit. Its members account for over 75% of world GDP and energy use. It reports to the G20 summit, Clean Energy Ministerial and other fora. After giving concrete examples of EE policies from India, China and Mexico, it highlighted that it provides a forum for discussing EE policies, practices and technologies. IPEEC can support the UNFCCC by creating linkages between nationally appropriate mitigation actions (NAMAs) and EE, and IPEEC member countries can benefit from IPEEC activities in their climate change mitigation actions.

United Nations Environment Programme (UNEP) gave an overview of its EE Initiatives. Its “en.lighten initiative” is a public-private partnership to accelerate efficient lighting in developing and emerging countries by phasing out incandescent lamps and phasing in compact fluorescent light bulbs. It is estimated that with the potential energy saving, 490 Mt CO₂ emissions would be reduced annually. Its efficient appliances and equipment Global Partnership Programme is estimated to reduce total CO₂ emissions by 1.25 billion tons per year. Its “NAMA Development for the Building Sector in Asia” programme is a five year project to facilitate building sector mitigation actions in Asia. The building sector is the single largest contributor of emissions, accounting for 40% of global energy use and 1/3 of global GHG emissions, it said. It added that Southeast Asia is a significant growth region, with its energy sector emissions increased 83% during 1990-2000. There is enormous potential for low-cost GHG emission reduction in the building sector. Building on and align with en.lighten model and platform, “NAMA Development for the Building Sector in Asia” will offer significant

opportunities for public and private sector engagement with sector-specific measuring, reporting and verification (MRV) methodology development and sub-sector opportunities (for example, inverter air-conditioner, solar water, fridge, cool roof, etc.).

The **European Bank for Reconstruction and Development (EBRD)** noted the Bank's Sustainable Energy Initiative, which financed amounts to €13.4 billion from 2006 and 2013. Its business volume has shown an increasing trend since 2006. Its ingredients to success consist of mainstreaming EE, enabling regulations and providing technical assistance. One success example is its Finance and Technology Transfer Centre for Climate Change (FINTECC), which aims at promoting best available climate technologies with low market penetration in ETC (Early Transition countries) and SEMED (Southern and Eastern Mediterranean) countries through a combination of technical assistance, policy dialogue, and incentive grant programme. Its funding will be leveraged at 1:10 with Sustainable Energy Investments (including water efficiency), and it is expected to support up to 25 projects in ETC and up to 15 projects in SEMED.

The **World Bank** outlined the Bank's EE portfolio for the period 2004-2013: 67 countries received funding of US\$ 6.4 billion. The Bank investments have helped to set EE standards, codes and practices; reduce energy losses; enable more efficient energy consumption; partner with private sector; and produce energy more efficiently. It has facilitated transfer of technology and experience (both North-South and South-South). It identified lessons learned, including the importance of: getting the price right; good governance; sustained commitment, monitoring and evaluation; and joint public-private action.

Sustainable Low Carbon Transport (SLoCaT) noted that transport is responsible for 25% of GHG emissions; and transport and economic growth can, and must be decoupled. Technology and system-wide improvements (e.g. fuel economy) needs to be combined with modal shift and behavioral change. This is an opportunity not a constraint –it saves money; builds resilience and delivers more than climate benefits but needs to start now. NAMAs can help kick-start change needed. SLoCaT's current work includes: modeling; supporting NAMA development; developing MRV procedures for the transport sector; and examining climate finance.

C40 Cities – Climate Leadership Group said the initiative consists of 66 of the world's mega cities. 98% of cities face climate risks now and cities have the power to take action. C40 enables the sharing of

success stories among cities and that solutions are identified according to local circumstances. Examples from London, Berlin, New York City, Tokyo, Melbourne, Jaipur, San Paulo and Beijing were given. It emphasized that mega cities can help bridge the gap, but finance is still a hurdle. One crucial question to ask is whether the city has established a fund to invest in energy efficiency, renewable energy or carbon reduction projects.

SE4All (Sustainable Energy for All) highlighted the organization as a global platform for EE. It has three inter-related target by 2030: ensuring universal access to modern energy services, doubling the use of RE in the global energy mix, and doubling the rate of improvement in EE. It emphasized the importance of country-driven integrated approaches and partnerships for EE. All Parties must act together: public sector provides enabling environment; businesses provide finance and know-how; civil society becomes involved by training people and offering technical expertise. There have been steady but decelerating gains in energy intensity globally: global energy intensity decreased by 1.6% annually between 1990-2000, but by only 1.0% annually between 2000-2010. SE4All has the ambition to double the rate of improvement in energy intensity by 2.6%.

During the discussion, participants also addressed the importance of: standardization for EE, including the work of the International Organization for Standardization; finance to retrofit private sector buildings; North-South and South-South cooperation; and partner matching, and the possible facilitative role of the UNFCCC process. Participants also discussed awareness of partnerships and initiatives engaged in EE; and benefits, shortcomings, and areas for improvement in the uptake of EE measures.

Session three continued in the afternoon of March 13 to discuss on the way forward. Participants focused on the role of international cooperation and how to enhance EE potential so that it can be translated into mitigation. Suggestions included: providing signals and guidance to investors by disseminating the outcomes of the meeting; designing projects that are eligible for support; feeding the outputs of the meeting into the ADP ministerial session in June; using the Technology Mechanism (TM) to move the agenda forward; requesting the Technology Executive Committee (TEC) and Climate Technology Centre and Network (CTCN) to work with various international organizations to articulate major themes that could be taken up by the TEM in June; strengthening institutions within the UNFCCC

designed to address technology; recognizing the passive nature of the NAMA registry and technology transfer; adopting a more proactive approach to EE; and mobilizing champions to drive EE programmes. Many Parties pointed out the need to continue the dialogue after the March ADP session and raised several points with regard to possible action that could be taken by Parties, the UNFCCC and its

institutions, other intergovernmental organizations, partnerships and initiatives, and the secretariat.

Several Parties such as **China** noted that the discussion in the TEMs under the ADP should maintain its focus on workstream 2 by covering in a comprehensive way all elements of paragraphs 7 and 8 of decision 1/CP17.