



## **Integrating Energy Efficiency into the 10 Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP)**

Workshop report

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# Integrating Energy Efficiency into the 10 Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP)

UN City Copenhagen 8-9 September 2016

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## WORKSHOP REPORT



Technical University of Denmark



## About this report

This report summarises the discussions and conclusions from the workshop 'Integrating Energy Efficiency into the 10 Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP)' jointly organised by the 10YFP Secretariat and the Copenhagen Centre on Energy Efficiency (C2E2) on 8-9 September, 2016 in the UN City, Copenhagen.

For more information about the workshop, including on the various presentations, visit the C2E2 and 10YFP Secretariat websites at:

<http://www.energyefficiencycentre.org/>

<http://www.energyefficiencycentre.org/Workshop-Presentations/Integrating-EE-into-the-10YFP-on-Sustainable-Consumption-and-Production-Patterns>

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## 10YFP Secretariat

The United Nations Environment Programme (UN Environment) Economy Division in Paris, France is hosting the 10YFP Secretariat. The mandate of the Secretariat, established following the adoption of the framework at Rio+20, includes the following key functions:

1. To cooperate closely with and respond to Member States requests for support on policies and other initiatives for shifting to sustainable consumption and production patterns;
2. To collaborate with all relevant United Nations bodies, through an inter-agency coordination group, and with regional entities and commissions;
3. To foster the active participation of key stakeholders in the 10-year framework;
4. To contribute to the fulfilment of the functions of the 10-year framework of programmes including capacity building, technical assistance, provision of finance and knowledge sharing and the promotion of international cooperation generally to help “decouple” economic activity from environmental degradation ;
5. To report biennially to ECOSOC and the HLPF on the activities and financial performance of the Trust Fund for programmes.

## Copenhagen Centre on Energy Efficiency

Jointly established in September 2013 by the Danish Government, the United Nations Environment Programme (UN Environment) and the Technical University of Denmark (DTU), the C2E2 is dedicated to accelerating the uptake of energy efficiency policies and programmes at a global scale. C2E2 is located at the UN City in Copenhagen, Denmark.

C2E2 is institutionally part of the UN Environment-DTU Partnership, a UN Environment Collaborating Centre operating within the Department of Management Engineering at DTU.

In the context of the United Nations Secretary General’s Sustainable Energy for All (SEforALL) initiative, C2E2 is the thematic hub for energy efficiency; with the prime responsibility to support action towards



the SE4ALL energy efficiency target of doubling the global rate of improvement in energy efficiency by 2030.

**Cover photo:** Group photo with participants on the first day of the workshop.

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## Abbreviations

	Ten Year Framework of Programmes on Sustainable Consumption and Production
10 YFP	Patterns
ADB	Asian Development Bank
AgDSM	Agriculture Demand Side Management
BEA	Building Efficiency Accelerator
C2E2	Copenhagen Centre on Energy Efficiency
CDM	Clean Development Mechanism
CER	Certified Emissions Reductions
CFL	Compact Fluorescent Lamp
CI-CSP	Consumer Information Programme
CO <sub>2</sub>	Carbon Di-oxide
COP	Conference of the Parties
CTCN	Climate Technology Centre and Network
DES	District Energy Systems
DTU	Danmarks Tekniske Universitet
ECBC	Energy Conservation Building Codes
ECOSOC	(United Nations) Economic and Social Council
EE	Energy Efficiency
EEPS	Energy Efficient Pump Sets
EESL	Energy Efficiency Services Limited
ESCO	Energy Service Company
EU	European Union
FAO	Food and Agriculture Organisation
FEMP	Federal Energy Management Program
GCF	Green Climate Fund
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GPP	Green Public Procurement
Gt	Gigatonnes
GWH	Giga Watt Hour
HVAC	Heating Ventilation and Air-Conditioning
ICI	International Climate Initiative (Germany)
IDB	Inter-American Development Bank
IEA	International Energy Agency
IL	Incandescent Lamps
INDC	Intended Nationally Determined Contributions
IPCC	Inter-Governmental Panel on Climate Change
IRENA	International Renewable Energy Agency
KfW	Kreditanstalt fuer Wiederaufbau (German government-owned development bank)



kWh	Kilo-watt hour
LCC	Life Cycle Costing
Mtoe	Million Tonnes of Oil Equivalent
NAMA	Nationally Appropriate Mitigation Actions
NGO	Non-governmental organisation
OECD	Organisation for Economic Cooperation and Development
SBC	Sustainable Buildings and Construction
SBCI	Sustainable Buildings and Climate Initiative
SCP	Sustainable Consumption and Production
SDG	Sustainable Development Goal
SEforALL	Sustainable Energy For All
SFS	Sustainable Food Systems
SLE	Sustainable Lifestyles & Education
SPP	Sustainable Public Procurement
STP	Sustainable Tourism Programme
SWH	Solar Water Heater
U4E	United for Efficiency
UK	United Kingdom
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UN Environment	United Nations Environment Programme
USD	United States Dollar
WB	The World Bank
WBCSD	World Business Council for Sustainable Development



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## Executive summary

In September 2016, the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP) jointly with the Copenhagen Centre on Energy Efficiency (C2E2) held a workshop in Copenhagen, Denmark. This workshop had as objective to integrate energy efficiency into the six different 10YFP programmes.

Energy efficiency is one of the most available and cost effective options for climate change mitigation. It contributes up to 50% of greenhouse gas reduction in current scenarios while delivering multiple co-benefits. It is also recognized as a key option for the sectors and themes covered by the 10YFP to contribute to the climate agenda.

### Workshop objectives

1. Supporting the 10YFP programmes to mainstream and make the case for energy efficiency – financially, for consumers, policy makers, for businesses and the environment.
2. Facilitate partnership building between the 10YFP programmes, the Energy Branch at UN Environment, C2E2 and further energy efficiency institutions, experts and initiatives.
3. Support the development of action plans for integration of energy efficiency into the six programme through policies, technologies, investment and innovative strategies and partnerships.

20 experts from the 10YFP programme areas as well as energy efficiency experts from UN Environment, C2E2, the Sustainable Energy for All (SE for All) Accelerator Platform, and Danish academic institutions participated in the workshop.

During this highly interactive event, the six different 10YFP programmes explored entry points for energy efficiency in their respective programmes.

Group sessions and presentations on policies, technology, finance, behaviour, and funding opportunities introduced energy efficiency from different angles. Regarding energy policies, experts emphasized the importance of proper institutional frameworks and links to existing policies. They also highlighted the need for stakeholder inclusion, in particular energy utilities. Concerning finance, speakers highlighted the importance of designing subsidies to make energy efficient technologies cost competitive. Simple payment procedure such as deducting loan repayment from payroll further facilitates uptake of those technologies. The session on behavioural aspects of consumption showed that failure to consider these would mean missed opportunities to decrease energy consumption as well as failure to address the rebound effect. Regarding funding, energy efficiency funding opportunities from NAMAs stood out in particular. Other funding sources discussed included the Green Climate Fund, Green Bonds, and multilateral development banks.

The different programmes sought collaboration opportunities with the six *Energy Efficiency Accelerators* under the *Sustainable Energy for ALL (SE for ALL)* Initiative. Those are *Appliances and Equipment, Building Efficiency, District Energy, Lighting, Transport and Motor Vehicle Fuel Efficiency and Industrial energy efficiency*. They also explored opportunities with the C2E2, which provides the technical underpinning for the accelerators. The different 10YFP programmes also actively sought out collaboration opportunities with one another.





C2E2 and the 10YFP programme leads recognized exciting opportunities for enhancing collective climate change mitigation impact for instance through increased collaboration on energy efficient Sustainable Public Procurement.

### **Collaboration opportunities on energy efficiency among 10YFP programmes**

10YFP programmes explored the following collaboration opportunities on energy efficiency:

- SBC and STP on energy efficiency in hotels;
- STP and SFS on food waste, food sourcing, storing and cooking in tourism;
- CI-SCP and SLE on energy efficient behaviour, for instance through a joint approach which could focus on the impact and effectiveness of consumer information tools linked to a behavioural analysis;
- SPP and CI-SCP on labelling to enhance energy efficiency in public procurement; SPP and SBC on public buildings as driver for energy efficiency;
- CI-CSP, SBC and STP on consumer behaviour and labelling for buildings, for instance regarding purchase and use of appliances, or via labelling for SCP in hotels; and
- CI-SCP and SFS on energy efficiency along the food value chain, and especially during use phase, i.e. cooking and food storage.

### **Energy efficiency entry points and collaboration opportunities**

Both the Consumer Information Programme and the Sustainable Lifestyles and Education Programme expressed great interest in exploring the potential of energy efficiency in consumer behaviour, especially regarding

1. Integration of EE into existing consumer guidelines and case studies.
2. Integration of the consumer 'lens' into existing work on energy efficiency.
3. The rebound effect emerged as an area of particular interest.

C2E2 on the other hand recognized that the role of consumers in the promotion of energy efficient products and services is to date under emphasized. This would hence be an exciting area of collaboration to explore for climate change mitigation, for instance via re-evaluation of labelling practices from a consumer point of view.

Energy efficiency product quality and testing emerged as an important crosscutting theme for several of the 10YFP programmes, especially Consumer Information (for instance in the area of product lifetime extension). Consumer trust is undermined when energy efficient products are of inferior quality, a problem that has arisen for instance in South East Asia. Collaboration especially with the *Lighting Accelerator* and their experience with product standards and testing facilities could address this constraint on the spread of energy efficient technologies.

The SBC programme envisioned for instance

- Collaboration with STP and the *Buildings Accelerator* on energy efficient hotels.
- Collaboration with CI-SCP to better understand consumer and the way they make decisions for instance regarding purchase of energy efficient appliances and products.

The Sustainable Public Procurement programme expressed interest in systematically integrating energy efficiency into Sustainable Public Procurement, in the following ways:



1. Working with energy efficiency experts to systematically develop legislation that supports mandatory procurement of energy efficient products;
2. Systematically encourage life cycle costing focused on energy efficiency of products to ensure accurate pricing over the entire product lifecycle;
3. Establishment of a helpdesk on energy efficiency for governments together with C2E2. Such a helpdesk would focus on a) emphasizing the bottom line of increasing energy efficiency; and b) helping governments identify concrete entry points for energy efficiency.

Sustainable Tourism was particularly interested in working with hotels on energy efficient lighting and appliances. The programme highlighting especially the financial incentive of energy efficiency. Entry points include:

1. Staff training for energy efficient behaviour.
2. Collaboration opportunities with the *Lighting and the Appliances Energy Efficiency Accelerators*, with the CI-SCP, and with hotel booking sites to introduce energy efficiency ratings in hotels and thus improve their energy performance.

### **NAMA opportunities on energy efficiency in the 10YFP programmes**

Nationally Appropriate Mitigation Actions (NAMAs) provide promising opportunities for energy efficiency integration for climate mitigation into the 10YFP programmes. NAMAs are one of several potential funding opportunities for energy efficiency projects in the 10YFP programmes.

Key considerations in accessing climate finance, including finance for NAMAs, concern bankability of the project, feasibility, impact, the degree of transformation or paradigm shift potential, meeting project recipient needs, securing co-benefits and country ownership.

In particular when working with national governments to identify and design interventions on energy efficiency in 10YFP programme areas, such work could be channelled through NAMA project proposals. Experts introduced the NAMA Registry which provides information on NAMAs seeking support as one source for identifying potential energy efficiency projects for the six programme areas of the 10YFP.

### **Next steps**

Potential next steps include:

- development of high impact case studies on energy efficiency in the 10YFP programmes;
- joint project development and potentially fund raising in areas including but not limited to consumer information & behaviour, especially the rebound effect (SLE, CI-SCP, C2E2, lighting and appliances & equipment accelerator, SBC & buildings accelerator);
- a joint project on product testing & consumer trust (CI-SCP, lighting accelerator, STP);
- an energy efficiency helpdesk in sustainable public procurement (SPP, C2E2) and a working group to produce a report on 'mainstreaming energy efficiency in public procurement' (see note in annex); and
- working on energy efficiency in hotels, jointly with booking portals, several of the 10YFP programmes (STP, SBC, and CI-SCP) and the lighting energy efficiency accelerator.



## Workshop proceedings

There are numerous benefits arising from energy efficiency – from climate change mitigation, to cost reduction and enhanced innovation. In addition, energy efficient has close synergies with resource efficiency – an integral part of SCP. In view of such benefits and the generally rising interest in energy efficiency, actors in the 10YFP are keen to integrate and strengthen this aspect in its six programme areas. These are Consumer Information (CI-SCP), Sustainable Lifestyles and Education (SLE), Sustainable Buildings and Construction (SBC), Sustainable Public Procurement (SPP), Sustainable Tourism (STP), and Sustainable Food Systems (SFS). The 10YFP Secretariat and the Copenhagen Centre on Energy Efficiency (C2E2) jointly organized this workshop with the aim of providing a platform for the six programme to explore entry points for energy efficiency into their respective programmes.

A detailed workshop agenda and list of participants can be found in Annex I.

## Opening session

John M. Christensen (Director of the UN Environment DTU Partnership) highlighted the importance of considering energy efficiency integration into the 10YFP programmes and consequently the relevance of this event. Energy efficiency is one of the most prominent options for climate change mitigation, representing 50% of potential greenhouse gas reductions while delivering multiple co-benefits.

Nora Steurer (UN Environment) presented results of a survey on energy efficiency needs and expectations for the workshop sent to participants prior to the event. Results highlighted the need for concrete ideas and entry points for energy efficiency into the 10YFP; key energy efficiency themes mentioned included behavioural insights, appliances & lighting, funding opportunities, buildings, energy finance and transport. Barriers to energy efficiency integration included funding and market/pricing barriers, and identifying ways to engage multiple stakeholders, especially the private sector.

Jyoti P Painuly (C2E2) provided a brief background on C2E2 and its role and activities as Sustainable Energy for All's (SE for ALL) Energy Efficiency Hub. C2E2 has analytical and secretariat functions in SEforALL's Global Energy Efficiency Accelerator Platform. Collaborative activities exist with the International Energy Agency (IEA), the World Bank, and the United Nations Economic Commission for Europe (UNECE), among others.

Vijay M Deshpande (C2E2) presented results of a background paper on opportunities for energy efficiency integration in the six different areas of the 10YFP. Energy efficiency is particularly important in climate change mitigation and delivers multiple benefits including jobs, health, etc. - often at low cost when considering the entire lifecycle of products. Wide-spread uptake of energy efficiency requires a combination of government-led and market-based efforts. They should be simultaneously directed at consumers, financiers and supply chain entities. Several national frameworks provide opportunities for energy efficiency-related projects, in particular NAMAs, and (I)NDCs. 10YFP programmes can engage in developing NAMA project proposals especially when working with national governments at an early stage of their climate mitigation strategies. Particularly promising are bankable NAMA projects and thus can be funded by the Green Climate Fund (GCF) and/or private funding organizations. A starting point for energy efficiency projects in



10YFP programme areas is the NAMA Registry which provides information on NAMAs seeking support for development, finance, or implementation. 10YFP programme entry points for INDC work on energy efficiency include an assessment of how far existing climate-related initiatives take a country in meeting INDC commitments and how an SCP approach could bridge gaps and provide additional implementation actions and partnerships.

The **group discussion on what role energy efficiency should play in the 10YFP programmes**, moderated by Martina Otto, Head of Cities and Lifestyles at UN Environment, focused on:

- How the 10YFP Programmes are connected & how energy efficiency can enhance connections; and
- what angle is most promising in each programme for mainstreaming energy efficiency.

**SPP** highlighted the importance of making a business case for energy efficiency to overcome the tendency to focus on up-front costs in public procurement.

**CI-SCP** stressed energy labelling as information, which needs to reflect true energy performance and link to product quality. The programme stressed challenges concerning the latter in Southeast Asia where the market is flooded with sub-standard lighting products due to lack of regional testing facilities. This undermines consumer trust in energy efficient products and makes consumer information tools less effective. UN Environment's experience through the en.lighten initiative in establishing regional testing facilities would be interesting in this regard.

CI-SCP also emphasized the importance of integrating energy efficiency over the life of the product. This includes providing (behavioural) information not just at purchase levels, but also at use, and end-of-life stages. In addition, consumers need simplified and reliable information which is clear and meaningful to them to help with purchasing, use and end of life decisions. For example, 'Topten' (<http://www.topten.info/>) is a consumer-oriented online search tool, which presents the best appliances in various categories of products.

For **SLE**, CO<sub>2</sub> reduction potential in energy efficiency is key. The programme emphasized the use-phase, and in particular consumer incentives to use energy efficient equipment. SLE also highlighted modifying office lifestyles and the relevance of energy efficiency education programmes.

For **SBC**, ways of including energy efficiency in their programme include certification schemes for buildings as policy instruments; building codes; and prioritizing retrofit measures focused on windows, efficient HVAC, lighting and heat pumping. Challenges include scaling-up successful projects, identifying funding, and measurement of energy efficiency improvement. SBC identified especially close links with CI-SCP as there is a need to better understand consumers and the way they make decisions about their lifestyle, for instance regarding energy efficient appliances and products.

## Energy efficiency policy and technology

### Key findings

**Best practice policies for energy efficiency - Djaheezah Subratty** (UN Environment, Economy Division)

- Proper institutional frameworks are key for energy efficiency. Due to market failures and perceived risk by financiers and consumers, governments need to drive energy efficiency.



Stakeholder involvement and coordination is an important challenge for successful EE projects. New policies should be in synergy with current ones for successful energy efficiency delivery.

- Examples:
  - Brazil achieved 10% electricity consumption reduction by being government-driven, heavily involving energy utilities, and by starting small and learning from mistakes. Energy savings continued even after the programme was formally reduced.
  - The vehicle fuel efficiency in Kenya, part of the Global Fuel Economy Initiative focused on an integrated approach including data collection & analysis; policy making (age limits for cars; phase-out of leaded fuel; implementation of fuel standards; and air pollution regulation); and information campaigns. Government commitment and leadership were crucial ingredients.

#### **Sustainable public procurement & energy efficiency** - Farid Yaker (UN Environment, Economy Division)

- Sustainable public procurement is about better products from better companies. It makes up 15 to 25% of GDP and can harness the purchasing power of states towards sustainability.
- SPP provides many entry points for energy efficiency due to its double bottom line potential.
- Helpful initiatives already in place include the Energy Star or the EU Public procurement directive.

#### **Energy efficiency and buildings** - Guillaume Delabouye (Energies 2050) & Roland Hunziker (WBCSD)

- Buildings and energy efficiency are a transversal topic with many links to other 10YFP programmes, for instance tourism: Energies2050, a partner organization of SBC is involved in the Nearly Zero Energy Hotel Initiative which works with ca. 15,000 hotels on energy efficiency. Challenges for the sector include lack of finance; lack of integration into other sector; and informality of the sector, especially in developing countries.
- SBC has a flagship programme (lead partners are ICLEI, Green Buildings Council, and WBCSD) on energy efficiency and market transformation in place. It proposes engagements in 50 metropolitan markets by 2020 and aims to bring all fragmented value chain partners together. This which would help transform markets towards energy efficiency.

#### **Group Work: Energy efficiency collaboration potential among 10YFP programmes**

**SPP & CI-SCP** explored possibilities of jointly working on energy efficiency labelling and how labels can help public entities to identify leading products. They proposed exploring this within the existing joint working group 'SPP & Eco-labelling'. Further joint collaboration opportunities included:

- Work with public procurers to incentivize them to use energy efficiency labels;
- mutual recognition agreements between countries' labelling schemes;
- life cycle costing initiative to establish an agreed methodology;
- opportunities for government to lease services instead of buying products, thereby circumventing high-upfront costs & work on the sharing economy; and



- collaboration on identifying optimal replacement moments – advice governments when it makes sense to replace products from an energy efficiency point of view.

**STP and SFS** explored the many intersections between tourism and food, among others food as part of the discovery in tourism and as a resource in the tourism service provision. Key players to engage include chefs, food producers, tour operators, and individual tourists. Key areas for intervention include food waste and use thereof for biogas; local versus global sourcing of food; storing, cooling and cooking of food; and promoting of food trends such as slow food and slow tourism.

**SBC and SLE:** SLE has a critical interest in buildings. The building sector in Denmark shows that consumer behavioural change toward more comfort can neutralise technical gains in building energy efficiency (rebound effect). Collaboration opportunities include development of consumer incentives and information concerning building performance; and establishment of an information sharing and educational platform concerning behavioural change for households and businesses.

## Behavioural components of energy efficiency

### Key findings

**Behavioural insights for energy efficiency in buildings.** Kirsten Gram-Hanssen, Aalborg University

- Energy efficiency improvement is the result of interactions between consumer behaviour and technology progress. Technical solutions alone are not enough. Culture, knowledge, infrastructure (e.g. space for drying clothes on a rack), and habits have an impact as well.
- Consumers adjust their energy use based on the energy efficiency level of their housing, indicating the adaptive nature of energy consumption. The rebound effect reflects this: final energy consumption stays the same or increases as a result of increased energy efficiency/energy price decreases per unit of energy.
- For example, energy consumption in households in Denmark since 1990 is almost stable. This can be interpreted as both a success and a failure. Appliances, lighting, and dwelling energy efficiency *per se* has improved a lot. However, households now own more appliances and have space per person. This offsets energy efficiency improvement gains. People adjust their behaviour based on the types of houses they live in. In energy efficient houses, users tend to set the temperature to a higher level compared to users in energy inefficient housing.
- Next to information provision, for instance through labelling, comfort improvement is an important factor to be considered in promoting energy efficiency among consumers. Private homes used 20% of potential savings from heat pumps for improved comfort.
- Many options of energy efficiency improvement exist through providing the right energy efficiency information to consumers at the right time. An example is providing pertinent feedback on energy costs. In Denmark for instance, people never see their energy bills as the amount gets automatically deducted from their bank account. This creates feedback barriers.

**Group Work: energy efficient consumer behaviour in the context of Consumer Information and Sustainable Lifestyles and Education.** Moderator: Martina Otto (UN Environment, Economy Division)

**Promoting behaviour change for energy efficiency in CI-SCP**





- Consumer education and benchmarking can change consumer behaviour. Benchmarking enables people to compare their energy use with that of their neighbours. Further options for behaviour change include incentives such as lower prices and tax breaks for energy efficient products.
- Retailers advising consumers on point of sale and through technicians doing installations in consumers' homes is another way toward behavioural change. This would require training of retailers and technicians.
- Media, education and television campaigns are other sources for effecting behaviour change. Further measures include:
  - Smart applications which help consumers make decisions based on lifecycle costing, instead of up-front costs of a product alone.
  - Product labelling, including both endorsement labels (guaranteeing certain energy efficiency standards, for instance the Energy Star Label) and comparative labelling (comparing the energy performance of one product to other similar products).
  - Providing tips for energy efficiency improvement.
- Successful campaigns need to be coupled with infrastructure change and information provision at the right time and place.

#### **Promoting behaviour change for energy efficiency in SLE**

- Education: There is a need to understand the underlying processes leading to the development of a 'want' and therefore an increase in energy consumption. Where such reasons are well understood, education can redress them. Next to formal education, information approaches can be used. Furthermore, target groups of educational campaigns should be carefully chosen – young people tend to be more open to change.
- Tax incentives: local governments can use tax rates to provide incentives for energy efficiency behaviours among local population.
- Role models: local celebrities can act as role models for energy efficient behaviour.
- Incremental change vs action shock: incremental change can be less painful and hence more effective. Accomplishing small steps can make people feel proud and therefore serve as a basis for further change.

### **Overcoming investment and finance barriers to energy efficiency**

#### **Key findings**

#### **UN Environment's Strategy for increasing investment flows to renewable energy and energy efficiency technologies.** Ghita Hannane, UN Environment, Economy Division

Several successful programmes which focus on financial mechanisms to overcome investment barriers for clean energy were presented.

- **The PROSOL programme** on financing for renewable energy technologies has increased uptake of solar water heaters in households in Tunisia. UN Environment matched fossil fuel subsidies (a key success factor), subsidised interest rates and provided 20% capital cost subsidy. End users could repay loans through their utility bills. The Programme was so successful that the Tunisian government took it on. It was also replicated to the hotel sector: 89 hotels have installed solar



water heaters. The programme is expected to generate more than USD 101 million in savings until 2025.

- **Morocco transition to efficient lighting:** The Moroccan state electricity utility distributed 10 million CFLs to households based on an innovative financial support mechanism via a loan from KfW: the repayment of lamps occurred in instalment of 10 cents per month during 2 years. Two million households switched to CFLs. The programme included a guarantee scheme where lamps breaking within a year could be replaced for free.
- **Mexico – green mortgages:** An additional ‘green’ mortgage (a credit on top of the actual mortgage credit) of up to US\$1,250 was granted to cover the cost of SWHs and energy efficiency appliances, with a repayment of over 20 years. Monthly repayments were US\$6 above a conventional mortgage, yet families were able to save an average of US\$17 per month on energy bills. Repayment of loans was taken directly from payrolls of beneficiaries, thus reducing the non-payment risk. Between 2007 and August 2012, over 900,000 Green Mortgage credits were disbursed, benefitting over three million people.

#### **Energy efficiency in the food sector in India.** Vijay M. Deshpande, C2E2

- With respect to on-farm activities, agriculture/irrigation pumps are large electricity consumers. A central barrier to reducing consumption are energy subsidies.
- India aimed to transform the market for agriculture pump. Audits showed an energy savings potential of 28-49 % compared to existing consumption by adopting modern, efficient pump sets
- The World Bank and ADB provided funding to an India ESCO, Energy Efficiency Services Limited (EESL). The organization carried out on-lending at low interest rates to utilities which changed the pumps. Payback time for loans was 8-10 years. Average savings for the 20 million pumps replaced were anticipated to be 25% of prior energy consumption and generated 4.3 USD billion in savings/year. Payback rate was less than 2 years.

### **10YFP collaboration opportunities**

#### **Key findings**

**Group Work: Explore the links from your programme to one other programme of your choice via energy efficiency, considering each other’s’ work areas.** Moderators: Martina Otto (UN Environment, Economy Division), Cecilia Lopez y Royo (10YFP Secretariat)

There are many collaboration opportunities on energy efficiency between the different 10YFP programmes, including, but not limited to, the below.

**SBC links to several programmes, among others to STP and vice versa via hotel buildings.** Energy efficiency opportunities include:

- Technical collaboration, e.g. consideration of orientation of hotels, e.g. shading;
- taking advantage of changing demands of tourists, e.g. for eco-friendliness by actively helping customers drive down energy consumption;
- tying licensing for hotel buildings to certain energy efficiency standards.

Since tourism is a cross-cutting issue, it is particularly important that different stakeholders and ministries, responsible e.g. for transport, food, and energy work closely together.





**SPP links to SBC and vice versa via public buildings.** Apart from passive architecture, equipment and appliances such as lighting products, pumps, heating ventilation and air-conditioning systems dictate energy consumption in buildings. Having adequate public procurement policies in place helps ensuring that such equipment is energy efficient. Inputs such as building materials should also be considered as they have an impact on energy performance of buildings over their lifecycle. Existing guidelines on energy-relevant building materials could be used as starting point. Generally, measures could include:

- Introducing regulations for the public sector that make it obligatory to procure energy efficiency products.
- Labelling: Operating conditions in buildings (e.g. ambient temperatures, occupancy rates) may not match design conditions. Just having codes (often minimal levels set by government) may not be enough. Labelling can set standards which reach beyond those instruments.

**SPP and CI-SCP developed ideas for collaboration**, including the following:

- Include energy efficiency as a topic in the existing joint working group on eco-labelling and voluntary sustainability standards in SPP;
- establish a working group on energy efficiency across 10YFP programmes; and
- work with public procurers to increase the use energy efficiency labels and analyse optimal replacement moments for goods.

**CI-SCP and SLE share close links regarding the role and empowerment of consumers.** The programmes explored the following options for collaboration in energy efficiency:

- Consideration of concepts such as social pressure and role models,
- Building on best practice lessons for campaigns, for instance targeting the community rather than the individual, and stressing financial gains of efficiency.
- The Stockholm Environment Institute (SEI), part of SLE, has produced case studies on consumer behaviour and choice together with the Alliance for Clean Cookstoves, which could provide insights for CI-SCP's work.
- Targeting installers and retailers of applications with trainings, as they are the ones that have contact with the individual consumers.
- Exploring company CSR programmes that encourage sustainability behaviour at home for their staff.
- Promote changes in infrastructure and design to promote enabling conditions for change.
- Reflect on the question of which products and new designs can serve as game changers.
- CI-SCP tools, such as the guidelines for providing product sustainability information, could be used in the SLE Programme's communication programme.
- SLE could include consumer information and energy efficiency in their 'future lifestyles' project which explores ideal lifestyles of the future.
- An already planned joint work area could focus on the impact and effectiveness of consumer information tools under a behavioural analysis; another idea would be to identify under which conditions rational arguments can have an impact on consumer behaviour and which instruments prove effective despite higher product costs.



**CI-SCP links to SFS** and vice versa. Energy efficiency hotspots for both include cooking (for instances optimal cooking temperatures) & food storage, e.g. refrigeration and ovens. Collaboration opportunities include:

- Consideration of energy efficiency in the aquaculture value chain, starting in China, where an ongoing CI-SCP Trust Fund project could be linked more closely to Sustainable Food Systems through energy efficiency.
- Consumer information supporting energy efficient behaviour beyond purchasing decisions along the food value chain, for instance regarding cooking and refrigerating of food.
- Reduction of food waste and thereby energy waste (e.g. use of bio digesters to transform waste into energy).

**CI-SCP also shares links with SBC.** Energies 2050 (part of SBC) is working on a project called 'Nearly Zero Energy Hotel', which could provide good links to work underway under the 'Advance SCP' (ICI) project on hotels sustainability in Morocco.

## Creating funding and collaboration opportunities in energy efficiency

### Key findings

#### The energy efficiency accelerators

#### **The Global Accelerator Platform** – Mark Lister, C2E2

C2E2 is the thematic hub of SE4ALL's energy efficiency goal. The organization is working to shift from campaigning to implementation by empowering leaders and brokering partnerships with the private sector. They also aim to marshal robust evidence and unlock finance for energy efficiency. SE for All's Global Energy Efficiency Accelerator Platform is a multi-stakeholder, multi-sector global implementation mechanism for energy efficiency. It covers following Accelerators:

- Industrial Energy Efficiency
- Transport and Motor Vehicle Fuel Efficiency
- Building Efficiency
- Lighting Efficiency
- Appliances and Equipment Efficiency
- District Energy Systems Efficiency

There is a natural overlap between implementation of some 10YFP programme areas and the activities of the Accelerator Platform. These include, but are not limited to:

- SBC and the Buildings Accelerator.
- SPP and the Appliance and Equipment- and Lighting Accelerators.
- STP and the Buildings, Appliance and Equipment, Transport and Motor Vehicle Fuel Efficiency and Lighting Accelerators.
- CI-CSP and the Appliance and Equipment, and Lighting Accelerators.

#### **The work of en.lighten** – Harry Verhaar, Philipps

- The Philips Lighting move to efficient lighting was based on a triple win: better quality for customers at lower cost, better for the environment, and good for the economy as innovation is spurred. Lighting products are tested to ensure quality and durability.



- Lighting is evolving beyond a single product and toward energy efficient lighting systems as part of an energy eco-system where lighting is offered as a service. An example providing least cost most efficient lighting service to Schiphol Airport in Amsterdam.

#### Funding opportunities in energy efficiency

##### **Overview of funding sources – Thomas Thorsch Krader, C2E2**

- There is a great deal of funding available to energy efficiency, ~\$13.5 Trillion USD up to 2030. The challenge lies in finding/creating 'bankable' projects;
- To-date there isn't one financing platform for energy efficiency projects. C2E2 is working toward becoming a 'one stop shop' for energy efficiency finance support.
- Main funding sources for energy efficiency projects in 10YFP programme areas include: Green Climate Fund (GCF), NAMAs, CTCN, multilateral development banks, and green bonds.

##### **The Climate Technology Centre and Network (CTCN) - Andreas Karlsen, CTCN**

- CTCN provides financial assistance for mitigation and adaptation initiatives covering three core service areas: technical assistance, knowledge sharing and capacity building, and knowledge management and networking
- About one-third of the technical assistance request are in the energy area. Out of these one-third are in industrial energy efficiency, 19% are related to appliance energy efficiency, and 8% to district energy.

##### **NAMA opportunities on energy efficiency – Milan Rusnak, UN Environment DTU Partnership**

- Overall, private actors remain the largest source of climate finance at USD193 billion invested in 2013. 91 percent were for mitigation initiatives. The funding is split equally between OECD and non-OECD countries.
- For NAMAs, funding comes from banks, donors and investors. There is a funding gap regarding turning INDCs and NAMAs into bankable projects. Finance institutions will only fund bankable projects, which poses difficulties for NAMA's since the templates they use may not be perceived as bankable. The rationale is that money given is an investment, not a grant. Projects hence must be commercially viable and ideally involve the private sector.
- Key considerations in accessing climate finance are: feasibility, impact, amount of transformation (paradigm shift is better), additionality/recipient needs, co-benefits, and country ownership.

#### An example for SCP & energy efficiency collaboration: energy efficiency in the Caribbean Deidre Shurland (UN Environment Economy Division)

- The Caribbean tourism sector with 2300 hotels is a major contributor to greenhouse gas emissions in the region (~3 million tons CO<sub>2</sub> per year).
- Energy efficiency work in the Caribbean region is currently very ad hoc, and could benefit from a more collaborative approach as is promoted by SE for ALL.
- A promising project on energy efficient lighting and appliances in the tourism sector in the Caribbean is under review.



## Workshop outcomes

### Action plan for integrating energy efficiency into the 10YFP

#### Key findings

**The role of consumers, and of behaviour:** Both CI-SCP and the SLE expressed particular interest in exploring the potential of energy efficiency in consumer behaviour. C2E2 also expressed interest in this field, which is to-date under-explored in the energy efficiency initiatives.

The **Consumer Information Programme** plans to foremost focus on activities that can be implemented straight away. The programme aims to:

- Add energy efficiency case studies to existing Guidelines for providing product sustainability information. The case studies could be developed as part of the Guidelines' pilot testing in 2017. They will help to further improve the Guidelines and make sure all issues are considered.
- There is strong interest in establishing a broader collaboration with existing energy efficiency networks to help deliver high impact consumer information activities. It is a two-way relationship, and the CI-SCP hopes to build on existing energy efficiency projects.
- Promote energy efficiency in the CI-SCP network and work by strengthening energy efficiency components in existing labels and standards. The network could be linked with the knowledge management system created by C2E2.
- Include energy efficiency as a rating criterion in future 10YFP Trust Fund calls for proposals in case a joint decision to favour this theme is made.
- Conduct a case study on energy efficiency opportunities of aquaculture in China, e.g. water to plate efficiency, and how to convey to the consumer a much broader range of information (how to prepare healthy, energy efficient meals).
- Engage an expert consultant (pending funding) to help identify consumer information opportunities to change behaviour toward energy efficiency to maximise impact.
- Identify and promote sharing economy opportunities for energy efficiency through existing and new networks, and inform consumers about how to use new approaches.
- Potential collaboration opportunities include working with other 10YFP programmes, especially on data gathering, as consumer information is a crosscutting issue; links to behavioural insights teams within governments, especially concerning behavioural approaches; expanding the work on energy efficiency through dedicated collaboration with C2E2 and the *Energy Efficiency Accelerators* through integrating the consumer angle to a larger degree in ongoing energy efficiency work.

The **Sustainable Lifestyles and Education Programme** aims to integrate energy efficiency into its existing work plan rather than create a new one. The programme is particularly interested in:

- Working with consumers to research how to frame lifestyle choices to avoid the rebound effect.
- Addressing the so-called **behavioural lock-in** caused by infrastructure and technology, which impedes benefits of energy efficiency. Collaboration with SBC and SPP are especially interesting here.



- SLE seeks collaboration opportunities especially with CI-SCP regarding behavioural analysis, and SBC and the *Energy Efficiency Buildings Accelerator*; as well as with the other accelerators to work on the rebound effect as this seems to be an underexplored area for several energy efficiency initiatives and institutions.

C2E2 on the other hand recognized that the **role of consumers in promotion of energy efficient products and services is to-date under emphasized**. It is an exciting area to explore for climate change mitigation for both sides, on the one hand via consumer guidelines and re-evaluation of labelling practices from a consumer point of view. On the other hand through integrating insights on sustainable lifestyles into existing programmatic approaches by energy efficiency institutions and initiatives, for example to address the rebound effect.

**Energy efficiency product quality and testing emerged as an important** crosscutting theme for several of the 10YFP programmes, especially consumer information. Consumer trust is undermined when energy efficient products are of inferior quality. Collaboration especially with the *Lighting Accelerator* and their experience with product standards and testing facilities could address this constraint on the spread of energy efficient technologies.

The **Sustainable Buildings and Construction Programme**: identified many potentially strong links that exist between SBC and the *Buildings Accelerator* of SE4All. SBC has several projects under development, where partners in the *Buildings Accelerator* could engage. SBC is also interested in partnering with STP on energy efficiency in hotels, with SPP on energy efficient public buildings, and with CI-SCP on consumer decisions and their impact on energy efficiency inside buildings.

The **Sustainable Public Procurement Programme** saw the opportunity to take the lead on energy efficiency and to deliver information on this to buyers and others. SPP developed an action plan identifying 4 key areas for energy efficiency integration:

1. Policies: Working with energy efficiency experts to systematically provide technical information, information on energy-related price performance, and best practices; design tools for public procurement offices on systematic life cycle costing of energy efficiency products.
2. Assessing implementation and impacts: adding energy efficiency indicators in the monitoring and evaluation systems under development by the 10YFP.
3. Legal frameworks: develop legislation that supports mandatory procurement of energy efficient products;
4. Collaboration with the private sector: promotion of energy efficient business models, of product-service systems and of the sharing economy; and development of purchase guidance for energy efficient products.

Furthermore, concrete activities aimed for include the establishment of a **helpdesk on energy efficiency for governments** together with C2E2; development of standardizing optimal lifetime & future costs and energy use estimation by establishing distinct committees per product; joint webinars together with the C2E2; and an inclusion of energy efficiency in the Global SPP Review every 3 years. Finally, SPP suggested a Working Group within 10YFP SPP on Energy Efficiency which would focus on energy efficiency procurement in a holistic way and suggest measures for wider adoption of energy efficient procurement across the world (see also the concept note in Annex II).



The **Sustainable Tourism Programme** aims to work on energy efficiency in 4 different areas:

1. Policies, e.g. a guidebook on legislation on hotel energy efficiency, public awareness policies etc.
2. Multi-stakeholder engagement, especially with the private sector including hotels and tour operators.
3. Concrete activities on how to promote sustainability, for instance staff training for energy efficient behaviour.
4. Finance: highlighting financial incentives for energy efficiency, particularly regarding electricity costs.

Areas of collaboration and project ideas include:

- Working with SPP on a guidebook on energy efficiency to incentivize public procurement of energy efficient tourism services.
- Working with CI-SCP on eco-labelling of hotels linked to bookings websites to introduce energy efficiency as part of ratings and reviews in hotels and thus improve their energy performance.
- Working with the SEforALL Accelerator Platform on identifying new funding opportunities.
- Working with en.lighten and the Lighting and the Appliances Energy Efficiency Accelerators as lighting and appliances are an important aspect of energy efficiency in hotels.

## Next steps

**John Christensen, Director of UN Environment DTU Partnership and Jyoti P Painuly (C2E2).**

A considerable understanding about energy efficiency and the links between the different 10YFP programmes became apparent during the workshop.

In addition to collaborating with other 10YFP programmers, there are many opportunities for 10YFP programmes to engage with energy efficiency organizations, especially the SE for All Global Energy Efficiency Accelerator Platform. City organisations such as ICLEI, C40, the Global Covenant of Mayors for Climate & Energy, R20 Regions of Climate Change, C40 Cities, The Climate Group, and 100 Resilient Cities are also potentially important partners. Concrete collaboration opportunities and next steps include (but are not limited to):

- As a first step, a suite of high-impact oriented case studies on energy efficiency in the 10YFP programmes could be developed.
- Energy efficiency organizations such as C2E2 and the energy efficiency accelerators could benefit greatly from collaboration with 10YFP programmes regarding the role of the consumer as this is an underexplored field. The C2E2 online management system could be an entry point. A joint collaboration with the C2E2, CI-SCP, SLE, and behavioural insights teams from governments would be an option. Emphasis could be on the rebound effect and the re-evaluation of energy efficiency labelling practices. Follow-up with the Economy Division on what consumer information can offer energy efficiency is planned for after the workshop.
- Concerning projects such as a joint helpdesk on sustainable public procurement and energy efficiency, or energy efficiency projects by SBC that are already in the pipeline, joint fund raising activities could be envisioned.



- As a crosscutting field, a collaboration on strengthening consumer trust in energy efficient lighting and appliances could serve as an interesting approach, focusing on establishment of testing facilities together with the lighting and appliances accelerators and STP as well as CI-CSP.
- Due to its crosscutting nature, SPP proposed a Working Group within 10YFP SPP on Energy Efficiency, collaborating with C2E2. The Working Group would study energy efficiency procurement in a holistic way and suggest measures for wider adoption of energy efficient procurement across the world (See also the concept note in Annex II).
- Finally, a joint approach on energy efficiency labelling for hotels involving the lighting accelerators, C2E2 and STP, and potentially CI-SCP and SBC as well as hotels and booking portals could be envisioned.





## ANNEX

### Annex I: Agenda

# Integrating Energy Efficiency into the 10 Year Framework of Programmes (10YFP) on Sustainable Consumption and Production Patterns

Workshop

UN City, Copenhagen, Denmark  
8-9 September 2016

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### Workshop objectives

1. Supporting the 10YFP programmes to mainstream and make the case for energy efficiency – financially, for consumers, policy makers, for businesses and the environment.
  2. Facilitate partnership building between the 10YFP programmes, the Energy, Climate and Technology Branch at UN Environment, C2E2 and further energy efficiency institutions, experts and initiatives.
  3. Support the development of action plans for integration of energy efficiency into the 6 programme through policies, technologies, investment and innovative strategies and partnerships.
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## AGENDA

### Thursday 8 September 2016 – Setting the Stage

<b>OPENING SESSION</b>	<b>Introduction and overview</b>
08:15-09:00	Registration of participants
09:00-09:15	Welcome & introduction – <b>John Christensen</b> (UN Environment-DTU Partnership),
09:15-09:30	Survey results & agenda - <b>Cecilia Lopez y Royo</b> (10YFP Secretariat), <b>Nora Steurer</b> (UN Environment, Economy Division)
09:30-10:15	Energy Efficiency and the 10YFP– <b>Jyoti P. Painuly</b> (C2E2) & <b>Vijay M. Deshpande</b> (C2E2), incl. 10 min. Q&A.





10:15-10:30 *Coffee break*

10:30-11:15 **GROUP DISCUSSION:** *What role should energy efficiency play in your programme area (open discussion)?* **Moderator: Martina Otto** (UN Environment, Economy Division)

**SESSION 1 Energy efficiency policy & technology**

11:15-11:45 **Key note address:** Best-practice policies for energy efficiency - **Djaheezah Subratty** (UN Environment, Economy Division), incl. 10 min. Q&A.

11:45-12:00 Energy efficiency incentives in public procurement – **Farid Yaker** (UN Environment, Economy Division/10YFP Sustainable Public Procurement Programme), incl. 5 min. Q&A

12:00-12:20 Energy efficiency in buildings and construction. 2x 10 min presentation. **Guillaume Delabouye** (Energies2050); **Roland Hunziker** (World Business Council for Sustainable Development, via video conferencing). **Moderator: Pekka Huovila** (Green Building Council Finland)

12:20-13:15 *Lunch*

13:15-14:00 **GROUP WORK:** *World Café - brainstorming on energy efficiency topics with other 10YFP programmes & experts – 3 tables: buildings & lifestyles; tourism & food; public procurement & consumer information* (three mixed groups). **Moderator: Cecilia Lopez y Royo** (10YFP Secretariat).

**SESSION 2 Behavioural components of energy efficiency**

14:00-14:30 **Key note address:** Behavioural insights for energy efficiency in buildings. **Kirsten Gram-Hanssen** (Aalborg University) incl. 10 min. Q&A

14:30-15:15 **GROUP WORK:** *Imagine you are responding to a call for proposals to develop activities promoting energy efficient consumer behaviour. Explore ways to promote energy efficient consumer behaviour in the context of Consumer Information and Sustainable Lifestyles and Education* (two mixed groups). **Moderator: Martina Otto** (UN Environment, Economy Division)

15:15-15:30 *Coffee break*

**SESSION 3 Overcoming investment and finance barriers to energy efficiency**

15:30-16:15 Solutions to energy efficiency investment barriers in tourism, households and the food sector. **Ghita Hannane** (UN Environment, Economy Division), **Vijay Deshpande** (C2E2), & **Thomas Thorsch Krader** (C2E2) & incl. 15 min. Q&A.

**SESSION 4 10YFP collaboration opportunities**



16:15-17:00	<b>GROUP WORK:</b> Explore the links from your programme to one other programme of your choice via energy efficiency, considering each other's work areas (programme-specific groups). <b>Moderator: Martina Otto</b> (UN Environment, Economy Division)
17:00-17:30	Summaries of group work results and Q&A session for day 1 – <b>Cecilia Lopez y Royo</b> (10YFP Secretariat)
19:30-open ended	Dinner

## Friday 9 September – The Way Forward

09:00-09:15	Recap of day 1 and outline of day 2 - <b>Cecilia Lopez y Royo</b> (10YFP Secretariat)
<b>SESSION 5</b>	<b>Eliciting funding and collaboration opportunities in energy efficiency</b>
09:15-09:45	The energy efficiency accelerators and the work of en.lighten, 2x 10 min presentations. <b>Mark Lister</b> (C2E2) & <b>Harry Verhaar</b> (Philipps Lighting), incl. 10 min. Q&A.
09:45-10:30	An overview over existing funding opportunities & institutions 3x 10 min presentations: <b>Rajiv Garg</b> (CTCN) - CTCN, <b>Milan Rusnak</b> (UN Environment-DTU Partnership), <b>Thomas Thorsch Krader</b> (C2E2), incl. 10 min Q&A.
10:30-10:45	Energy efficiency collaboration in practice: energy efficient lighting and appliances in the tourism sector in the Caribbean, <b>Deidre Shurland</b> via video conferencing (UN Environment, Economy Division), Martina Otto
10:30-10:45	Coffee break
10:45-11:30	<b>GROUP WORK:</b> A recipe for mainstreaming energy efficiency – How to identify ingredients for your programme (programme-specific groups). <b>Moderator: Djaheezah Subratty</b> (UN Environment, Economy Division)
<b>SESSION 6</b>	<b>Programme-based and transversal energy efficiency activities in the 10YFP</b>
11:30-12:15	<b>GROUP WORK:</b> Integrating energy efficiency in 10YFP programmes: eliciting programme-specific activities for an action plan on integration of energy efficiency in each 10YFP programme (programme-specific groups). Table hosts supported by a rapporteur.
12:15-13:15	Lunch



- 13:15-14:00 **GROUP WORK continued:** *Integrating energy efficiency in 10YFP programmes: eliciting programme-specific activities for an action plan on integration of energy efficiency in each 10YFP programme (programme-specific groups). Table hosts supported by a rapporteur.*
- SESSION 7** **The way forward: developing action plans to strengthen integration of energy efficiency into the 10YFP** *(each of subsequent three sub-sessions to be initiated by rapporteurs from session 6 tables)* **Moderators: John Christensen** (UN Environment-DTU Partnership) & **Cecilia Lopez y Royo** (10YFP Secretariat)
- 14:00-14:30 **GROUP PRESENTATION:** Outlining the action plan - bringing energy efficiency into **Sustainable Public Procurement; Sustainable Buildings & Construction** (presenting outcomes from group discussion, 10 min each plus 10 min Q&A)
- 14:30-15:00 **GROUP PRESENTATION:** Outlining the action plan - bringing energy efficiency into **Sustainable Food Systems; Sustainable Tourism** (presenting outcomes from group discussion, 10 min each plus 10 min Q&A)
- 15:00-15:15 *Coffee break*
- 15:15-15:45 **GROUP PRESENTATION:** Outlining the action plan - bringing energy efficiency into **Sustainable Lifestyles and Education; Consumer Information** (presenting outcomes from group discussion, 10 min each plus 10 min Q&A)
- 15:45-16:00 Feedback survey
- 16:00-16:45 Summary and way ahead for integrating EE into the 10YFP. **Jyoti P. Painuly** (C2E2) & **Cecilia Lopez y Royo** (10YFP Secretariat), incl. 15 min **group discussion**.
- 16:45-17:00 Close. **John Christensen** (UN Environment-DTU Partnership)



## Annex II: Concept note: Mainstreaming energy efficiency into the 10YFP Sustainable Public Procurement Programme

Sanjay Kumar, 5 October 2016

The signing of Paris Agreement during COP21 in Paris has heralded renewed commitment for combating climate change. With energy production and use accounting for about 60 % of the total anthropogenic Green House Gas (GHG) emissions, any meaningful action on honoring the pledge made by nations must focus on deep cuts in these emissions, while simultaneously sustaining the growth of global economy, boosting energy security and energy for all. As per International Energy Agency (IEA) estimates, of the total reduction in GHG required for adhering to the 2°C limit, Energy Efficiency (EE) alone would bring about 49 % reduction<sup>1</sup>. This fact gets reflected in the Intended Nationally Determined Contributions (INDCs) submitted by countries— out of 187 countries, 165 countries have given prominence to EE as an option for meeting their INDCs<sup>2</sup>.

The Sustainable Public Procurement (SPP) programme of the 10 Year Framework of Programmes on Sustainable Consumption and Production (10YFP SCP), can play an important role in helping nations and business to support the Sustainable Development Goals (SDGs) in their strategies and business operations. The primary objectives of 10 YFP SPP is to promote sustainable consumption and production by decoupling resource use and environmental degradation from economic growth. This goal of resource efficiency — doing more with less and creating more value with less impact — is achieved by embedding life cycle notion in procurement decision. As such, Energy (as a resource) Efficiency is very much subsumed as resource efficiency, which 10YFP SPP desires to promote around the globe.

A cursory glance at successful SPP policies and programmes shows that improving Energy Efficiency (EE) has been an essential component of these programmes. In fact, many countries have developed an EE program first and then transition them to broader SPP initiatives. One of the key advantages of starting SPP programme with Energy Efficient products and services is that it not only mitigates climate change impacts by lowering GHG emissions but also provides economic benefits and competitive advantages to organizations. Thus, a government by promoting procurement of energy efficient products and services can help build business case for implementing sustainable procurement policy. Such a policy also raises public awareness about benefits of energy efficiency, strongly influence its citizen's decision in favor of sustainable products and services and plays a catalytic effect on market while offering stable demand for new and emerging green technology.

Despite the proven benefits and the overarching role that energy efficiency could play in mitigating climate impact in different sectors, it is still considered only as one of the many goals (such as promoting water efficiency, resource efficiency, recycle content and minimization of hazardous substance, minimization of waste, among others) that SPP wants to achieve. 10YFP SPP does not give priority to any particular goals. The implementing organization prioritize particular goal(s), depending on the local context, visibility, impacts etc. However, this strategy may need to be re-visited especially when EE has secured pole position in the climate change discourse. Precisely for this reason, 10 YFP

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<sup>1</sup> IEA: Redrawing the energy climate map, IEA, June 2013

<sup>2</sup> Copenhagen Centre on Energy Efficiency, Newsletter 1, February 2016



SPP needs to sufficiently raise the profile of EE within the programme so as to remain relevant as an instrument to mitigate climate change impact and meet Sustainable Development Goals. The fact that 165 countries want to leverage EE to mitigate climate change impact in their INDCs, prioritizing EE within 10YFP SPP programme makes great sense. This situation offers great opportunity for 10YFP SPP to scale up its programme in these nations and helps them realize their goals by supporting the implementation of SPP on the ground.

Enhancing energy efficiency often costs money up-front but in most cases the increased initial cost is paid back in the form of reduced energy need during life cycle of products and services. This makes efficiency improvements an attractive starting point for reducing carbon emissions and other associated benefits to organization. Professional buyers are mostly aware of the benefits of procurement of energy efficient products and services and often consider energy efficiency in procurement process depending on regulatory and institutional frameworks in place. However, they often lack the tools, resources, training and market information that can help them bring more benefits to their organizations. For example, in the context of procurement of EE products, the use of Life Cycle Costing (LCC) is essential to demonstrate that procurement processes and decisions move beyond considering only the purchase price of an item. However, to apply LCC costing in practice, procuring agencies need to know how to make the most of existing legal framework for using LCC and to understand a range of practical issues. These include which procedure to use, how to use the LCC procedure, and what requirements to specify for EE products, what criteria to apply and how to properly evaluate the received offers.

Therefore, to exploit this latent opportunity in buying energy efficient products and services, 10 YFP needs to constitute a separate Working Group within 10YFP SPP on Energy Efficiency. The proposed Working Group would study energy efficiency procurement in a holistic way and suggest measures for wider adoption of energy efficient procurement across the world. The proposed Working Group on Energy Efficiency could be specifically tasked with the following:

- Produce a concise yet comprehensive report on procurement of energy efficient products works and services.
- Identify technical partners, both in public and private arenas, having deep knowledge of energy efficient products and services.
- Explore funding opportunity with Multilateral Development Banks (MDBs) to take up pilot projects in energy efficient procurement.
- Develop Mobile App on EE procurement to assist procurement professionals in identifying energy efficient procurement opportunity, setting up criteria, evaluating bids based on LCC, monitoring warranty obligation etc.
- Create repository of best practices in energy efficient products and services procurement.



### Annex III: Participants' list

Name	Organization & Country	Position	10YFP Programme (if applicable)	Email address
Maria Florencia Walger	Ministry of Industry, Argentina	Coordinator Environment Unit	Sustainable Buildings and Construction (SBC)	<a href="mailto:florwalger@gmail.com">florwalger@gmail.com</a>
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