



Collaborations and synergies for sustaining the implementation of SWITCH-Asia Programme for a more impactful #WeSwitch focused on:

SUSTAINABLE HOUSING AND BUILDINGS



10 March 2021 • 1500-1700 (CET+6) • WEBEX

WELCOME REMARKS

Mr. Arab Hoballah, Team leader of SWITCH-Asia SCP Facility acknowledged the distinguished contributors and welcomed all participants. The objective of the meeting is to exchange experiences and learn from each other – how housing and buildings can and must play a key role in transitioning to circularity and Sustainable Consumption Production. The meeting seeks contributions that can be mainstreamed to achieve impactful sustainable housing and building solutions in Asia.

He referred that already the fourth International Panel on Climate Change (IPCC) report of 2007 highlighted the importance of the building sector as a “low-hanging fruit”, a sector that can be fundamentally optimised with available technology – at the same time, there may not be a solution for climate change

INTRODUCTORY REMARKS

Ms. Alessandra Lepore from European Commission Directorate for International Partnership welcomed the participants to the second cluster meeting, recalling that this meeting is part of a series that seeks to tackle key areas of SCP in Asia. A previous workshop was held on the textiles sector, where in May to June, there will be online events covering the topics of agri-food, plastic, waste, public procurement.

if fossil-fuel intensity of the housing and building sector is not improved. For this meeting, he proposed to look into all aspects of the challenge where government, private sector, market dynamics, banking, and financial innovation all need to be considered. In Asia, urbanization is rapidly growing and it is a determining factor of the global future because decisions today will affect decision-making for the next generations. Contributors and participants are invited to share stories and highlight solutions for scale-up Mr. Hoballah emphasised that there are good solutions around, within the context of SWITCH-Asia, UN agencies, and many other important organisations and initiatives, like ICLEI, the Global Alliance for Buildings and Construction, Habitat for Humanity, and many other others.

She stated that the EU is committed to building greener and more sustainable societies and economies that are socially just and that this requires a great transition in how we live and work, consume and produce. The building and construction sector is one of its key priorities. As part of the Green Deal, the EU adopted a Circular Economy Action plan in March 2020. In October, the EU also adopted its new “Renovation Wave” strategy intending to accelerate the energy renovation rate in the

next 10 years, thereby considerably reducing greenhouse gas (GHG) emissions. Through the SWITCH-Asia Programme, the EU is committed to working closely with our partners in Asia to strengthen sustainable consumption and production (or “SCP”) policies and practices in the building sector. On the basis also of EU priorities and experiences, SWITCH-Asia provides support

SETTING THE SCENE

Ms. Nora Steurer, (UNEP), Global Alliance for Buildings and Construction, shared insights from the GlobalABC Asia Roadmap / 2020 Global Status Report. To introduce to the scale of the challenge, Ms. Steurer stated that the equivalent of Paris’ surface area is added in floor space every 5 days, and half of the building stock of 2060 has not yet been built. This shows the window of opportunity in shaping decision-making today and in the next decade. GlobalABC is a global platform to advocate for this change. It seeks to connect governments, the private sector, civil society, research, and intergovernmental organizations to adopt a shared vision: a zero-emission, efficient and resilient building and construction sector. To support this, GlobalABC sets targets and tracks progress, while supporting countries in setting priorities & measures based on their situation. In 2020, CO₂ emissions from the operation of buildings have increased to their highest level yet at around 10 GtCO₂, or 28% of total global energy-related CO₂ emissions. Buildings construction adds a further 3.5 CtCO₂. Combined, the sector is responsible for 38% of global energy-related CO₂ emissions. But there is a significant opportunity for countries to integrate buildings mitigation in their second Nationally Determined Contributions (NDCs) which are due in 2021. Currently, 136 countries mention buildings, 53 countries mention building energy efficiency, and 38 building energy codes, indicating the importance of building energy efficiency. Therefore, national governments can and must step up commitments in NDCs, longer-term climate strategies and support for regulation to spur uptake of net-zero emissions buildings.

Ms. Steurer emphasised that the time for action to decarbonise the existing and future global building stock is now, and that particularly COVID 19 recovery packages and the resubmission of NDCs provide unique opportunities. But national governments must also step up longer term climate strategies and support for regulation to spur uptake of net zero emissions buildings.

INSIGHTS FROM THE SWITCH-ASIA SUSTAINABLE HOUSING SCOPING STUDY



Ms. Madeline Schneider, SWITCH-Asia Expert, adelphi, introduced the multiple facets of housing and buildings as a “keystone” topic of sustainability, including social, environmental, economic and cultural issues. Based on the Sustainable Housing Scoping Study she presented that considerable efforts in the field of SCP in sustainable housing are already being made in Asian countries, ranging from affordable housing programmes, government level approaches to eco-city development and incentives for urban building energy efficiency. Efforts also include the promotion of energy-efficient appliances and awareness-raising campaigns for energy and water conservation. But the study also found that challenges remain, especially in the areas of making adequate housing options available to all, energy use, material production, building

in the Asian region through ongoing or recently concluded grant projects in Mongolia, Afghanistan, and Bangladesh and works with governments on achieving sustainability of the housing and building sector.

design, and recycling. As for recommendations of the study, she highlighted that joint efforts are needed to collectively discuss and promote (holistic) approaches and strategies that respond to the critical issues identified. This is needed to trigger the scale-up of SCP in sustainable housing across Asia.

For this to happen, government priorities need to focus on curbing energy-intensive industries (e.g. cement) and introduce new instruments including carbon pricing. At the same time, policies need to more decidedly strengthen sustainable practices in design and construction (e.g. application of building information modelling (BIM), mandatory requirements for building components), and the integration of all material inputs, including water efficiency and conservation and waste generation. Also, standards, guidelines and rating systems need to be strengthened to support sustainability. Regulatory and fiscal incentives, e.g. subsidies for green construction and retrofits, upgrading to EE appliances, RE off-grid applications need to be aligned with environmental and social priorities. In addition to policy and standards, other realms of change are technology and architecture where public research and development investments can be made to foster innovation. Also, access to finance for sustainable housing and buildings is an issue that warrants greater attention, including innovative mechanisms like community-based savings and loan schemes.



On the topic of improving quality of life and lowering energy consumption and climate impacts in the low-income housing and building sector, **Ms. Beatriz Maroto Izquierdo**, Country Director Mongolia, GERES presented the grant project [**SWITCH OFF Air Pollution**](#) from Mongolia.

The project seeks to contribute to improved energy efficiency through insulating houses and thereby improving air quality. The project empowers local communities on energy use and energy efficiency by providing capacity building and awareness-raising. The project is creating a new insulation offer for the low-income Ger area, where many houses are heated by stoves, leading to low air quality. It has developed affordable insulation products of varying cost and efficiency – from simple solutions to roof insulation – and a delivery model connecting households with craftsmen, suppliers and financial institutions. The project also works with a local bank for financing insulation, to increase the demand of households. The project thereby has not only isolated homes, but also develops highly valuable knowledge outputs (e.g., baselines, standardization of procedures). These are also to be used by other donors and public authorities, including for a new regulation regarding building insulation. Ms. Maroto Izquierdo also related to the strong network that the organization and the project have built in Mongolia.

A similar approach was presented by **Mr. Mohammad Riaz Ramin**, Deputy Country Director Afghanistan, GERES, on the



project [Kabul Green Homes](#). This project targeted low-income households needs in Kabul. Together with local stakeholders, including municipality and community representatives and local authorities, the project established a shared goal: finding energy and cost-efficient, healthy,

ecological approaches to housing challenges that take local context into consideration. Craftsmen were enabled to develop and learn a large range of locally adapted technical or “low-tech” solutions. These locally made and affordable solutions, like solar verandas and thermal insulation for windows, were adapted to the needs of Kabul’s households. Lessons learned were that awareness-raising of local communities on challenges and opportunities is a key activity to strengthen understanding and demand for this insulation and other energy efficiency solutions. For scale-up, Mr. Ramin shared the following insights: the collaboration with relevant state authorities on norms, standards, and policies is a key issue, as is to gain the support of local authorities. Finally, considering, involving, and supporting local craftsmen and MSMEs was of great importance. The project ended recently, but Mr Ramin estimated that more than 300,000 houses of Kabul city would generally profit from these energy-saving solutions.



In the next workshop session, the contributors focused on material innovation for minimizing the environmental footprint of the housing / building sector: SCP in construction and demolition and waste. **Dr. Malini Balakrishnan**, Senior Fellow, Environment & Waste Management, TERI, presented the project [METABUILD](#)

which was active in Bangladesh, Nepal, Sri Lanka. Working with more than 400 SMEs, the project focused on improving the carbon footprint and environmental impact of metal products used in construction. There is a significant scope for savings in resources (energy, materials, water) reducing GHG emissions and waste. This is particularly important for the three countries, as their construction sector is growing, and iron and steel products are major export goods of Nepal. As insights, Dr Balakrishnan presented that in the experience of the project, customers support resource efficiency enhancement in their supply chain. It is of great importance to have benchmarks for resource use. When encouraging circular economy actions, waste-based products (e.g. use of metal off-cuts for smaller parts, foundry slag for making paver blocks) need to be developed and the end of life needs to be considered from the beginning. For example, modular building construction would improve the ease of dismantling and reuse. In working with SMEs on these topics, Dr Balakrishnan related to the two pillars of motivation and trust that need to be established by such a project. By identifying the right pain points and developing technical solutions with experienced consultants, and making technology available, SMEs can be motivated to take up new processes. Case studies and resource efficiency and cleaner production measure demonstration can build trust and generate momentum with SME leaders.

The second contribution in this session was done by **Ms. Jana Zilkova**, Head of Mission, Caritas Czech Republic in Mongolia, who presented the project [Recycling Building Materials](#) from Mongolia. Ms. Zilkova spoke about the importance of making recycled building material available by supporting locally adapted product development by craftsmen and SMEs.



In Mongolia, there are no legal regulations for illegal dumping of Construction and Demolition Waste (CDW) or sustainable CDW management. Due to recent rapid growth in construction, this waste stream has grown considerably, now making up 20-25% of all overall solid waste – one of

the largest waste streams in Mongolia. Average production cost could be reduced by 20% by switching to recycled concrete aggregate and environmental impact reduced by 30-50% in terms of resources use, waste generation, soil, water, and air pollution through resource efficiency and responsible waste management. This was done with new procedures on cleaning, collection, segregation, transportation, recycling, reuse, disposal and burial of construction waste. The new processes also generated climate benefits, and the CDW-based product and its approved production technology incorporate this. The project improves technical skills as well as an understanding for the importance of DFW among the public about the need for and quality of reused and recycled materials. The project also contributes to policy development where four new policies, regulations, or standards are based on recommendations from the project. Important success factors of the project were to engage professional associations and civil sector organisations and creating awareness among them, as well as involving authorities with diverse backgrounds.

In the next session, the contributors focussed on the policy level, presenting the cases of Pakistan and Kyrgyzstan, and how decision-making of the sector can be shaped by policy frameworks.

Mr. Irfan Tariq, Director General, Government of Pakistan, Ministry of Climate Change, stated that the Ministry of climate change has the mandate of addressing climate change and urban issues and the Government of Pakistan is implementing of international commitments in this regard. At the policy level, the Government of Pakistan is trying to integrate these into national priorities. These include the Paris Agreement for GHG emission reduction, UN Habitat Agenda, and SDG 12, which specifically relates to Sustainable Consumption and Production. He also mentioned that the primary objective of the Pakistani Government is to devise plans and programs that are compatible with both climate and urbanisation.

Regarding the issue in the housing sector in Pakistan, he highlighted that there are two main things that need to be considered. Firstly, Pakistan is a huge and geographically diverse country with a large population. Each of Pakistan’s 10 ecological systems is distinct and therefore requires specific considerations.

Mr. Jawed Khan, SWITCH-Asia expert, stated that the Government of Pakistan is committed to addressing the national challenges with a road map for the development of a green building code. There will also be a consultative workshop on the implementation, opportunities and challenges of the policy guideline specifically for the development of the green building code in Pakistan. The focus of the workshop is to attend to the diversity of Pakistan in developing the roadmap and framework for the green building code.

Also, the government has launched a 5 million housing program and the Ministry of Climate Change has asked UN Habitat to work on the development of green building practices and guidelines.

He highlighted that experience has shown that if a pilot can be successfully implemented, this provides important support for the development of green building strategies and legislation.

As a second contribution, **Ms. Nurzat Abdyrasulova**, SWITCH-Asia Expert, presented her work for the SWITCH-Asia SCP Facility in Kyrgyzstan.

Ms. Abdyrasulova first presented the relevance of this fast-growing sector, both for Kyrgyzstan's decarbonization pathway as well as with regard environmental impact, especially waste generation, and health. She also presented the current national policy and regulatory framework for energy efficiency and SCP. While there are several important legislative initiatives implemented and being developed, there are still limited capacities of designated state authorities to ensure implementation and full enforcement of existing legislation. There is also the need to better coordinate among ministries and state agencies, so that high-level policies are interpreted equally. In addition to capacity constraints there are also information asymmetries, especially with regard to information available for market stakeholders. Market-specific barriers also relate to limited access to SCP technology solutions, due to higher prices of these due to import duties, and limited competition on the market of SCP solutions.

Finally, Ms. Abdyrasulova presented the recommendations suggested by the SWITCH-Asia SCP Facility study "*Sustainable Consumption and Production Tools and Circular Economy approach in Buildings with a Focus on Energy Efficiency*". This relates to updating legislation on energy performance of buildings reflecting lessons-learned on implementation and enforcement of international policies, like the EU Energy Performance of Building Directive (EPBD). The recommendations also foresee a policy dialogue and follow-on of new EU Initiatives targeting implementation of SCP and circular economy considerations as well as consideration of other sustainable methodologies (i.e. the EU Taxonomy, ESG disclosure, TCFD, etc) and consider their introduction in market practice of Kyrgyz businesses and of financial institutions. These can also be piloted by demonstration projects, in combination with capacity building and awareness raising activities. Finally, Ms. Abdyrasulova emphasized that further support is needed for analytical work on how SCP and Circular Economy concepts can benefit Kyrgyzstan.



To provide a positive outlook, **Ying-Cih Deng**, of ICLEI's Circular Development team contributed from the work of ICLEI. He reported about their current work with local government and member cities and sketched how, despite the scale of the challenge, there is an opportunity for a systematic approach combining sustainable urban planning and SCP in the building and construction sector.

ICLEI uses the "5R" framework, relating to the activities of Recovering, Reducing, Reusing, Rethinking and Regenerating. In terms of "Recover", it seeks to integrate building demolition in the life cycle process. Under "Reduce", ICLEI encourages the design of an efficient building production process and logistics, where "recycling" targets building materials and "reusing" relates to vacant spaces and space sharing to increase occupancy rate. For example, the city of Prato set up an Urban Agency for reuse and temporary activities thereby increasing the usage of idle buildings. Rethinking targets an urban design that encourages dense and human-centred cities, that are accessible, walkable allow for multimodal mobility, like modelled by Singapore and Barcelona. Regenerate seeks to synergize cities and buildings and infrastructure with nature, for example by shifting to 100% renewable energy, and enriching biodiversity.

Mr. Deng related to awareness raising on circular economy in cities, which is also done by capacity building webinars. ICLEI is also linking circular economy practices to local climate plans and biodiversity strategies, as well as provides material flow data collection and assessment. It further uses its platform for advocacy in UN processes.

ICLEI also plans to take further actions, including on material flow and resource management plans in urban systems. This would include the topics and sectors of food, plastics, housing & construction, water, energy, as well as consumer goods such as electronics, textiles. It also seeks to develop capacity of administrators to select the right mix of policy instruments, also including peer-to-peer exchange. ICLEI also provides implementation support, like technical assistance on policy instruments, including on public procurement and access to Finance. Events and competitions like the Circular Cities Connect Event and the #DaringCircularCities Award will bring visibility to the topic.

KEY ISSUES AND RECOMMENDATIONS DISCUSSED BASED ON THE PRESENTATIONS AND THE ROUNDTABLE DISCUSSION

- Currently, housing and building policies and therefore construction and buildings are not in line with policy commitments resulting from the Paris Agreement and Sustainable Development Goals and are not acknowledging the climate emergency and other planetary boundaries; pressure points are the growing middle class in Asia, and also globally, the growing floor space per household member.
- For policymakers to set the right frameworks, it is important is to fully understand the lifecycle of buildings, and to recognise housing needs. Policy can come in many forms, for example as building codes, but also by incentive-setting as part of long-term climate strategies.
- For a transformative shift to take place, more systemic interventions are needed to reorient decision-making. For example, a visible carbon tax would change the key variables for developers, builders, and dwellers. This would allow to reach all actors and stakeholders and shape their choices.
- Metrics and accounting methodology to track building impacts, in particular with regard to GHG accounting and material use, are of high relevance; there needs to be a differentiation between use phase and construction. The methodologies chosen for this is of high relevance also for policy-making and it is important that they are based on scientific insights.

- Despite the high importance of climate change and reducing emissions, other issues also urgently need to be tackled. For example, high water usage during construction is a huge problem where water is scarce, and the material footprint of construction needs to be considered.
- Scale-up of existing solutions is urgently needed. Financing for SMEs as service providers for greening buildings and as manufacturers of materials is decisive; it is also highly important to support households in the refurbishment of buildings for energy efficiency. For households, not only loans are an option but also the provision of subsidies and innovative financing mechanisms.
- Cost-effectiveness of projects needs to be evaluated – given the effective reduction of GHG emissions by insulation, it needs to be discussed if mainstreaming other prototype projects, like reducing GHG emissions of construction materials, is worthwhile. Yet at the same time, all activities contribute to achieving sustainable housing and buildings. When financing is limited, prioritisation regarding scale-up is important.
- It is of great importance to consider historical and traditional solutions, as demonstrated by the insulation project in Mongolia. It is important to remember that the Reduce-Reuse-Recycle approach has been practiced for hundreds of years, and was abandoned relatively recently.

CLOSING REMARKS

Mr. Arab Hoballah concluded by stating that while a lot has been done in the housing and building sector so far, it is not enough - and government, business, and citizens need to step up. Adequate housing options are still not universally available and there are still many issues related to building materials, production processes, design, recycling, and access to finance that need to be solved. SWITCH-Asia can provide pilot projects for scale-up in the future. The approaches presented show that affordable solutions are possible and how important it is to work on locally specific solutions.

He mentioned that the urgency of change is often not realised by sector stakeholders, due to lack of knowledge, lack of information, and current market limitations. These issues need to be addressed in parallel - policies need to be flanked by awareness-raising and understanding of all stakeholders. Higher demand for sustainable housing and building solutions can then shape the market, creating eco-innovations and new approaches, but this dynamic necessarily relies on public sector frameworks, incentives, and financing.

Engaging with all concerned professionals, professional associations, small and medium enterprises, national and local authorities and other stakeholders is a key prerequisite for shifting the sector towards sustainability. The comprehensive EU policies and policy-making can serve as an example here, but of course, need to be adapted for the Asian and national contexts.

Mr. Hoballah also mentioned that the housing and building sector is a highly political one, and that prioritising sustainable consumption and production and the circular economy of the sector on the international agenda, including the COP, is a prerequisite to deliver the needed solutions.

He closed the meeting by thanking all contributors and discussants. The meeting will serve as an input for a larger conference planned at the end of 2021 as a hybrid event in Bangkok.