



## Global Alliance for Buildings and Construction Building Action Symposium Katowice

*Greener and Smarter for good: Nationally Determined Contributions to unlock the Potential of Buildings and Construction*

6 December 2018



Supported by:



Bundesministerium  
für Wirtschaft  
und Energie



MINISTÈRE  
DE LA TRANSITION  
ÉCOLOGIQUE  
ET SOLIDAIRE

MINISTÈRE  
DE LA COHÉSION  
DES TERRITOIRES



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Federal Department of Foreign Affairs FDFA  
**Swiss Agency for Development and Cooperation SDC**

## *Summary*

### **The Global Alliance for Buildings and Construction (GlobalABC)**

The Global Alliance for Buildings and Construction (GlobalABC) is an alliance of 110 members representing 26 countries, 4 public agencies, 21 private corporations, 11 intergovernmental organizations, 38 non-governmental organizations and research institutions, and 10 civil society organizations. Founded at COP21, the member organizations of the GABC work toward a zero-emission, efficient, and resilient buildings and construction sector. Specifically, the GlobalABC has the following goals:

1. Put buildings and construction sector on a **well-below 2- degrees path**.
2. Align **existing initiatives**, commitments and programmes to achieve greater scale and increase the pace of climate change mitigation and adaptation.
3. **Catalyse stronger collaboration** and target sectoral **climate action and solutions** for everyone.

Members self-select into 5 working groups – Awareness and Education, Public Policy, Market Transformation, Finance, and Building Measurement, Data, and Information and work toward these goals through four key activities:

- Tracking progress through the annual Global Status Report.
- Developing a joint framework through Global and Regional Roadmaps.
- Facilitating solutions and collaboration through Regional Roundtables.
- Advocacy and awareness-raising through high-level events and dialogues including through COP and G20 side events.

The purpose of this Building Action Symposium was to bring together country representatives and members of the private and civil society sector to explore how to improve countries' Nationally Determined Contributions (NDCs) regarding building and construction actions to set the sector on a zero-emission, efficiency, and resilient pathway aligned with the Paris Agreement goals.

## In short: main findings from Buildings Day

### Guidance tool on incorporating buildings sector climate actions in Nationally Determined Contributions

- NDC's are not ambitious or concrete enough
- They most often cover policy, but miss important aspects, for instance the design of a building
- When asked how they would improve their NDC regarding buildings, countries most often responded with
  - Widening scope – covering a greater share/variety of buildings
  - Improving performance of buildings
  - Vertical integration

### Sustainable materials and the embodied carbon in the building sector

- Embodied carbon is responsible for a greater share in emissions compared to operational emissions. From a lifecycle perspective, operational emissions form a small part only.
- A powerful NDC would need to include a lifecycle perspective to account for embodied carbon – especially regarding new buildings.
- China is planning for 30 of its cities to have a share of 50% new buildings as green buildings (which include standards in materials) and this could be increased to 100% over the next years.

### Building resilience beyond standard conditions, successful cases and stories

- Few countries have included buildings in their national adaptation plans (NAPs); overall, the adaptation side looks at buildings in a more holistic way compared to mitigation.
- Motivations for including buildings in NAPs are mostly flooding and natural disasters.
- Some countries approach resilience and buildings from a risk perspective (Mexico), or subsume buildings under energy (Indonesia).
- One recommendation would be for GlobalABC to have a focus group on resilience/adaptation.

### High-efficiency and low carbon in buildings: measure and financing options

- Argentina and Mongolia have both updated their NDCs to make them more ambitious. Mongolia is facing air pollution issues – the health perspective and buildings may be important. A challenge is also the transition from traditional to modern city living.
- 75 percent of Tunisia's NDC concerns energy and 56 percent of energy consumption is from buildings making buildings a particularly important NDC component.
- 12 percent of Canada's GHG emissions come from buildings, not considering embodied carbon. Canada is decentralized hence developing a meaningful NDC takes a huge coordination effort. As part of its pan Canadian framework on clean growth and climate change, Canada included carbon pricing and an infrastructure bank to fund low-carbon projects.
- Green buildings are becoming mandatory in Indonesia and green building regulation is related to building permits.
- There is urgent need to activate money of the building stock - 25 percent of people's income is used for their home. Buildings should be viewed as a health-care issue – could health care funds be moved to housing funds, e.g. for social housing?
- IFC is trying to determine how to get developers and finance institution to go down a green path. Buildings are a huge investment opportunity with 24.7 trillion out of 30 trillion needed for climate transition needing to go towards buildings.
- The Programme for Energy Efficiency in Buildings (PEEB) aims to improve environmental performance of buildings, both when they are built as well as when they are renovated. PEEB offers loans and grants as financial instruments.

## Introduction and welcome

- Opening by **Mark Radka**, Chief, Energy, Climate and Technology Branch, UN Environment.
- Welcome remarks, **Leszek Drogosz** Director of Infrastructure Department of Warsaw City Hall.
- Keynote by **Alicja Kuczera** CEO, Polish Green Building Council

The importance and urgency of actions needed in the buildings and construction sector to address climate change is at the core of this event. Joint action is required with a strong partnership between different stakeholders such as states, developers and finance actors.

The City of Warsaw gave examples of its 2020 development strategy, which includes lowering Green House Gas emissions in the building sector. A plan for housing in 2030 has been presented to meet new standards which would need to include a mix of ecology, economy and sustainability to establish guidelines and adapt public and private buildings.

The CEO of Polish Green Building council reminded the audience of the need for countries to renew NDCs every five years, of the importance of mitigation to limit global heating and of the potential of the building sector, including decarbonizing in building codes. New tools are needed to show what needs to be done, in which way and with which actors.

## Panel on GlobalABC Guidance tools on incorporating buildings sector climate actions in NDCs

*Moderated by Christine Lemaitre, CEO of German Sustainable Building Council*

- **Brian Dean**, Energy Efficiency, International Energy Agency (IEA)
- **Peter Graham**, Executive Director, Global Buildings Performance Institute (GBPN)
- **Yves-Laurent Sapoval**, Senior Advisor for the Directorate for Housing, Urban Development and Landscapes, Ministry for Ecological and Inclusive Transition (METS), French Republic



**Brian Dean** presented the findings on NDCs from the forthcoming Global Status Report 2018, also including how the NDCs could be improved before 2020 to better integrate buildings along with the need for mandatory building codes and certification codes in developing countries. The buildings and construction sector represent about one third of final energy demand. We would still need to reduce the energy use per square meter by 30% by 2030 to be in line with the Paris Agreement. The growth of floor area and population is currently outpacing the impact of energy efficiency improvements. In warm climates, some of the warmest countries also have the lowest energy efficiency performance level for cooling equipment. Energy

efficiency represents only a small part of the overall spending on buildings. Nevertheless, investments are increasing, and Green bonds have tripled since 2014 and property assessed clean energy financing – PACE - funding investment increased 75% in 2017.

**Peter Graham** outlined the NDC guide including existing best practices and steps to take towards a meaningful Nationally Determined Contributions – NDC - regarding buildings and construction. The NDCs cover policies but miss other aspects such as the design of buildings. The current building sector commitments are insufficient to meet the Paris Agreement goals and there is room to improve the detail of Building Sector Actions. The scope of action needed to achieve adaptation and mitigation would require establishing mitigation baselines, mapping existing policies and developing local market actions. Implementing actions on finances, capacity building and technical assistance would need a key strategy for good governance and for financing. Prioritising guiding actions based on general funding would require transformative and scalable actions, a higher level of stakeholder engagement and measurable outcomes. Collecting countries' profiles to understand the challenges can help make propositions on structuring good practices from NDCs around the world. Countries would consider widening the scope to integrate more of the building sector, improve buildings performances and have better vertical integration. The guide on NDCs is expected to be released before the end of the year 2018.

**Yves-Laurent Sapoal** reminded the audience of the objectives of the GlobalABC and explained France's situation regarding urban planning and energy. He mentioned the existing regulations towards achieving more densely built cities and the importance of engaging with stakeholders. The GlobalABC plays a role in emphasizing the relationship between Climate and Buildings which needs to be recognized.

The questions from the audience touched upon the visibility of the sector of buildings and construction. There is an obvious, close interest that links citizens to their homes, which raises questions on terminology including on whether to focus more on quality of life/health rather than on energy efficiency. Other questions were raised on embodied carbon and cement, the mortgage and finance sector, of return on investment and how to overcome the balkanization of the value chain. The deputy mayor of la Reunion raised the question of sustainability and of building requirements in hot climates, the link between sustainability and affordable housing, the need to integrate sustainability in mandatory planning codes and the importance for city councils to invest and amortize the costs instead of letting residents bear the costs.

### **Panel 1: Sustainable materials and the “embodied carbon” in the building sector, best practices from around the world,**

*Moderated by Victoria Burrows Head of Advancing Net Zero, World Green Building Council (WorldGBC)*

- **Christian Brodhag**, President, Construction21 France
- **Josefina Lindblom**, Policy Officer, DG Environment, European Commission
- **Simon Sturgis**, Managing Partner, Targeting Zero LLP
- **Jean-Christophe Visier**, Director of Energy and Environment, Scientific and Technical Centre for Building (CSTB)
- **Qingqin Wang**, Vice President, China Academy of Building Research (CABR), People's Republic of China





**Christian Brodhag** explained that the objective of Construction21 was to bring construction on the international agenda and to allow stakeholders to exchange information and work together. The approach of embedded carbon and life cycle of materials is becoming central. There are new ways to enhance low carbon in buildings which include recycling and natural materials.

**Josephina Lindblom** reminded the audience that despite half of our energy being invested in buildings and one third of generated waste coming from the construction sector, only 1% of buildings are being assessed for their

performances. She introduced the new 'Levels' approach which is a framework with indicators for the mainstream market developed by the European Union that would cover the full life cycle intended. Three areas are targeted: quality and value, health and comfort and resilience to climate change. The benefits include creating a common language, raising awareness and procurement support. Levels is being tested with a good geographical repartition on both new and renovated buildings.

**Simon Sturgis** presented the whole life Carbon assessment of the built environment, "targeting zero" which focuses on operational emissions (30%) and embodied carbon (70%) comparing the residential, warehouse and offices sector carbon emissions. The operational emissions represent a much smaller part compared to embodied carbon of the overall emissions in buildings. The Royal Institution of Chartered Surveyors (RICS) has published a guide on whole life carbon assessment for the built environment.

**Jean- Christophe Visier** spoke about the future French regulation for 2020 based on energy and CO2 and about the need to invite manufacturers to provide better data, and to implicate architects and engineers.

**Qinggin Wang** spoke of the Green Building development in China target by 2020 to have:

- green buildings in cities accounting for 50% or more
- green buildings accounting for 30% or more of new buildings
- to build 30 pilot cities in which green buildings account for 50% or more,
- to reduce the use of fuel coal by the end of 2020

This can be achieved through setting new national standards for green buildings, both new and existing ones.

## **Panel 2: Building resilience beyond standard conditions – successful cases and stories**

*Moderated by Oriane Cebile – Project Coordinator, Observatoire de l'Immobilier Durable*

- **Peter Boswell**, Special Advisor, International Federation of Consulting Engineers (FIDIC)
- **Arturo Cervera Mondragón**, Program Coordinator of the General Directorate, National Commission of Housing (CONAVI), United Mexican States
- **Peter Graham**, Executive Director, Global Buildings Performance Institute (GBPN)
- **Dr Luong Quang Huy**, Head of Division of GHG emission reduction and ozone layer protection, Ministry of Natural Resources and Environment, Socialist Republic of Vietnam
- **Emma Rachmawaty**, Director for Mitigation of Climate Change Ministry of Environment and Forestry, Republic of Indonesia, Republic of Indonesia



**Peter Boswell** presented a case study from the Nairobi Resilience Study which aims to bring greater resilience to the slum residents which represent 60% of the city. The approach also aims to bring access to water and better transportation, by breaking the enclaves and heading towards integrated urban management. The housing crisis in Kenya is linked to the fact that two third of Kenya's total investment is needed to eliminate the slums. World bank ISO 37101 integrated purpose - action area framework provided a certified management system, for all scopes of activities, and plans for performance evaluation, and continual improvement for all 12 areas of action. Resilience should also be included in an integrated purpose action framework.

A key step was also when the national environmental management authority first refused and then approved a mandatory strategic environmental Impact assessment report, but with limited power to adjust the plans. Integrated urban management could be the answer.

**Arturo Cervera** took an example from Mexico, the city of Acapulco, which doubled its population and extended nine times its surface in the last 30 years. The city was affected by hurricanes, which touched 40 000 tourists and 2 000 M\$ were allocated to the reconstruction of damages. The masterplans are not regularly updated in Mexico, but restrained perimeters for construction have been created to contain urban sprawl. Risk prevention programs, public guides for resilience and risk prevention and a vulnerability atlas are now in place in a country which is severely exposed to hazards.

**Peter Graham** spoke of the concern countries face regarding poor building performance, flooding, extreme weather conditions and growing vulnerability of people as buildings are not designed for future climates. Most countries do not have explicit mention of building sector actions in their NDCs. The actions would need to encompass integrated planning, regulations and standards, thermal comfort, R&D, awareness raising, energy efficiency, capacity building, retrofitting and insurance risk. High impact Adaptation and mitigation actions need to work together in synergy, both in design and in policies, and take into account building information modeling, prefabrication, renewables, data and network security, water storage, increase of tree canopy, bio climatic designs, updated fire, water efficiency and structural codes, adaptable design and integration of risk assessment.

**Dr Luang Quang Hu** presented Vietnam, explained that the issues to address are both visible and urgent such as perception, policy, finance, stakeholder participation, social and livelihood resilience and ecosystems. The potential solution goes through setting a green urban developing plan to 2030 with green urban development criteria, implemented at the level of municipal and local governments.

**Emma Rachmawaty** presented Indonesia and its NDC which include vulnerability in the country with the second longest coastal line in the world, transparency framework, adaptation target of economic resilience. Challenges are legal and institutional, financial, technical, about the scale of action, buildings, and national product system.

Questions raised by the audience related to the importance of resilience beside mitigation, real estate representing half of the global wealth and being exposed to major risks, and the need to set new habits for the residents such as switching off lights.

### **PANEL 3: HIGH-EFFICIENCY AND LOW-CARBON BUILDINGS – MEASURES AND FINANCING OPTIONS,**

*Moderator: Luca de Giovanetti, Manager, Science-based Targets, World Business Council on Sustainable Development*

#### Group I: Energy efficiency and decarbonization

- **Lucas di Pietro**, Coordinator of Adaptation to Climate Change at the National Direction on Climate Change, Argentine Republic
- **Zamba Batjargal**, National focal point for UNFCCC, IPCC, GCF in Mongolia
- **Ibtissem Bouattay**, Project Manager, Ministry of Housing and Land Use Planning, Republic of Tunisia
- **Ibtissem Bouattay**, Project Manager, Ministry of Housing and Land Use Planning, Republic of Tunisia
- **Jerome Bilodeau**, Chief of Policy at Canada's Office of Energy Efficiency, Canada

#### Group II: Financial incentives and role of the private sector

- **Kurt Emil Eriksen**, Senior Policy Advisor, Velux
- **Marcene Mitchell**, Senior Manager Strategy and Business Development, IFC Climate Business Department, World Bank Group
- **Mitchell Schouchana**, Project and Programme Coordinator, Agence Française de Développement
- **Totok Sulistiyanto**, CEO, Green Building Council Indonesia

The first group shared their countries' situation with regards to energy efficiency and decarbonization of the building sector.



**Lucas di Pietro** explained that in Argentina, a national cabinet was created to work on the NDCs and sectoral plans from 2016 to 2019, with the objective to release a National Mitigation plan and a National Adaptation plan followed by the National Climate Change response plan. Argentina hosted a Regional Roundtable for the GlobalABC last October which had as one outcome a first approach to a regional strategy of buildings and construction. Argentina is working on thermal insulation on housing, making buildings more sustainable, on governmental financing of better energy efficiency houses standards, and on how bio projects, contribute to NDCs.

**Zamba Batjargal** explained that GHG emissions have increased by 57% between 1990 and 2014 as Mongolia has 8 months of winter with temperatures falling to -45°C. Coal remains the major fuel to heat buildings in the winter which is an issue. The traditional Ger design proves to be energy efficient, but it is challenging to translate this into modern living in cities. A policy of improvement of existing buildings and of reducing GHG in the building sector has been implemented by the Ministry through the Building Energy Efficiency Project.

**Ibtissem Bouattay** presented Tunisia's engagement to reduce carbon intensity by 40% by 2030, through passive measures on the building envelope, promotion of natural air conditioning, certification of house appliances, promotion of solar water heaters, education to ecological behavior and financial incentives. Energy certifications are being launched. In Tunisia, 75% of the objectives in the NDCs are energy related. There is an increased in the use of renewable energies and they should reach 30% of the energy use in 2030. Mitigation actions include energy efficiency, with 56% related to the building sector and renewable energies with 30% linked to the building sector. This sector will represent 49% of the potential of GHG



mitigation. The policies include efficiency audits, regulations, labels, financing measures, cogeneration, storage of the cold, natural gas air- conditioning, etc.

**Jerôme Bilodeau** explained the pan Canadian framework with 14 governments agreeing to change, the setting of a low carbon economy fund and mandatory labelling.

The second group focused on finances.

**Kurt Emil Eriksen** explained that there is a great need for activating finances in the building sector as 25% of people's income is invested in their homes and stressed the role of the private sector in doing so. There is a strong link between healthy environments and CO2 release from buildings. When residents invest in renovation, it is often to modernize the furniture but seldom to make the construction more energy efficient. The detached and semi-detached houses in Europe offer a massive potential of improvement, despite the financial burden of housing being on the rise, it represents on average 22% of European's monthly budget. Two thirds of the building stock was built before 1979 but the renovation rate is low, representing only 1-2% of the building stock each year. Improved wellbeing remains a driver for renovation and social housing should set the example. The invested costs are directly related to savings in the medical and social sectors.

**Marcene Mitchell** stressed the need to focus on the private sector in emerging markets, with a focus on real estate development to get developers to act differently. Potential investments in buildings in emerging markets are estimated to amount to \$ 30 trillion, the challenge being to make developers invest in green buildings, convince the bankers who tend to fear risk, and address the concerns which makes them reluctant. Governments need to focus on incentives, not only financial ones but also by other means such as by allowing more density for sustainable projects. It is also important to show that measures taken are linked to energy savings, embedded energy, GHG reductions, saving of water, and to have explicit numbers about financial savings.

**Mitchell Schouchana** explained how the Program for Energy Efficiency and Buildings – PEEB – financed by France and Germany and implemented by AFD, GIZ and the Environment and Energy Management Agency- Ademe - and the German Society for International Cooperation GmbH - GIZ – works to respond to the challenges of Energy Efficiency in buildings which are not always seen as priority. PEEB works on technical and financial facilities providing technical assistance on the country level. PEEB is implemented in Tunisia, Mexico, Morocco, Vietnam and Senegal and offers technical assistance at government level and financial assistance, such as the renovation of hospitals in Tunisia. PEEB offers a comprehensive approach to transform the sector and is ready to work with more participants.

**Totok Sulistiyanto** reminded the audience of Indonesia being the 30 000 islands country, with a need to respond to risks and increase resilience regarding buildings and construction. Green buildings are becoming mandatory for local governments and about 2000 new professionals are being trained along with 122 corporate members, industries, consultants and associations to help tackle this issue. Indonesia targets a reduction up to 398M Tons of CO2 by 2030. The Government of Indonesia 's agency the Financial Services Authority released the sustainable Green Financing Map.

Some of the questions the audience raised included performance being counted per square meter rather than per capita, and the difficulty to assess the number of people living per square meter. Other questions were about the role of buildings in contributing to the COP24 and providing an answer to the IPCC report, how cooling should be reflected upon or how can residents find value in energy renovation works of their homes.

## CLOSING REMARKS



**Tomasz Chruszczow** the Climate Champion, closed the event by drawing attention to the fact that the topic of buildings and construction is a particularly important topic for planning future developments and setting a new paradigm.

Buildings have an impact on how people in the world live, 37 to 45 % of Green House Gas GHG emissions come from the cities and population is expanding. The amount of emissions depend on the technologies used, e.g. glazing deployed. Buildings of the future improve air quality. Buildings also carry the heritage of the cities.

Adaptation is important and can be a way to maximize the benefits from the natural environment. Latin America may reach more than 80% of urbanization by end of the century. Buildings are not properly reflected in the NDCs, it is important to hear the voice of the sector and give good examples to illustrate it. It is important to must loudly convey

the message of the role of buildings. In the coming year within the Marrakech Partnership Global Climate Action, the priority will be on Human Settlements, which offers an important role as well as visibility to buildings and construction.

## LIST OF PARTICIPANTS

Nora Steurer	Associate Expert	UN Environment
Natasha Nass	GlobalABC coordinator	UN Environment
Barbara Mgutshini	acting Deputy Director General : Dev and Planning	Kwazulu-Natal Govt
Siphumelele Nowele	Director Landuse	Kwazulu-Natal Govt
Nomusa Dube Ncube	Minister	Kwazulu-Natal Govt
Akm Foiz Billah CHOWDHURY	Executive Director/Consultant	Public Resources and Services Foundation
Mohammad Zashim Uddin	Director	Public Resources and Services Foundation
Gabriel Pierre Ndiaye	Programme officer on climate change	Ministry of Environment and Sustainable Development
Silke Krawietz	CEO & Founder	SETA Network
Jorge Wolpert	General Director	National Housing Commission - Mexico
Rocío Del Peral	Coordinator	National Housing Commission - Mexico
S Vikash Ranjan	Programme Manager	GIZ
kazuhiro teranishi	Assistant manager	Sekisui House
Ken-ichi Ishida	Managing director	Sekisui House
Mark Graham	Manager	Sekisui House
Hemanta Dutta	Head-Product Development	BitChem Asphalt Technologies Ltd
Oliver Rapf	Executive Director	BPIE
Kurt Emil Eriksen	Senior Policy Advisor	VELUX A/S
Dilara Goker	International Sales and Partner Channel Manager	Reengen
Silas Markert	Project Manager	Ecole Polytechnique Federale de Lausanne
Soumen Maity	Team Leader-Technology	Development Alternatives Group
Cécile Gracy	Project Officer	ADEME
Giorgia Tzar	International Commuications Specialist	International Passive House Association
Camille Sifferlen	Project Manager	Passive House Institute
Juan Jose Lafuente	Researcher	CRREM
Peter Graham	Executive Director	GBPN
Matthias Gelber	CEO	NaturaCem
Georgina Eldridge	Marketing & Communications Officer	World Green Building Council
Harikrishnan KU	Principal Consultant	Neway Polska Services
Silke Krawietz	CEO & Founder	SETA Network

Helen Newman	Technical Partner	TFT LLP
Uli F Wischnath	Managing Director	BAUWENDE
Adrian Alberto Blanco	Director	La Ruta del Clima
Mauricio Luna	Governance Officer	La Ruta del Clima
Idriss KATHRADA	SDC delegate / Manager	FIDIC / Novasirhe
manuela Ojan	sustainability manager	heidelbergcement
oriane cebile	Project manager	OID
Malgosia Rybak	Public Affairs and Media Manager	CEMBUREAU
Ursula Hartenberger	Global Head of Sustainability	RICS
Ibtissem BOUATTAY	Conseillère ministre	Ministère de Equipement et de l'habitat Tunisie
Silas Markert	Project Manager	École polytechnique fédérale de Lausanne
Danny Koh	S	J
Emmanuel Kubasu	Student	Istanbul Commerce University
Satish Kumar	Sustainability Manager	Al Jaber Engineering
Idriss KATHRADA	SDC delegate / Manager	FIDIC / Novasirhe
Jurei Yada	Deputy Head of Secretariat	International Partnership for Energy Efficiency Cooperation (IPEEC)
Benoit Lebot	Executive Director	International Partnership for Energy Efficiency Cooperation (IPEEC)
Cécile Gracy	Project Officer	ADEME
Cedric DE MEEUS	Vice-President, Government Relations	1972
Vitalii Dovhalets	Fundraiser	STR Advertasing
Antoine Horellou	Director	Cool Roof
Matthew Nunn	CEO	Citelum Denmark A/S
Michel Heukmes	Project Manager	CAP Construction
Vagner Maringolo	Sustainable Construction Manager	CEMBUREAU
Jill Hopke	Assistant Professor	DePaul University
Jan Hopke-Almer	Educator	Retired
Unurtsetseg Ulaankhuu	Officer	Gggi
Raphael Hennart	Ir Architecte	Archi 2000
Christophe Snoeck	Architecte	Archi 2000
Cédric Anbergen	Développement Durable	BSolutions
Steven Beckers	Administrateur	BIGH Management

Alexander Alfred Storch	Senior Expert for Buildings and urban Development	Environment Agency Austria
Mark Radka	Chief, Energy and Climate Branch	UN Environment
Maolin Liu	Engineer	China Academy of Building Research
Qingqin Wang	Vice-president	China Academy of Building Research
Chong Meng	Director	China Academy of Building Research
Dongqing Kong	Director	China Academy of Building Research
Chunlei Zhang	Director	Construction Administration Center of Sino-Singapore Tianjin Eco-city
Erfu Guo	Dean	Tianjin eco-city Green Building Research Institute
Fangrui Zou	Assistant Dean	Tianjin eco-city Green Building Research Institute
Natalia Kostus	Executive Vice President	IAW
YUKO NISHIDA-SUGIURA	Manager	Renewable Energy Institute
Pekka Huovila	One Planet SBC Coordinator	GBC Finland
Rachid NAANANI	CHAIRMAN	CLUSTER EMC
NADIA DADA	GENERAL DIRECTOR	CLUSTER EMC
ASSIA GOUDA	PROJECT MANAGER	CLUSTER EMC
Reginald-Michel Koizumi	Research manager	PPF
Martin Earl	Regional Director	International Business Contracts
Jacek Bubala	Prezes Zarządu	Fortress Invest
Dr. Christine Lemaitre	Chief Executive Officer	DGNB German Sustainable Building Council
JONATHAN DERAÏN	External Relations Manager	SOLAR IMPULSE FOUNDATION
Soraya Khalil	Director	Ministry of National Territory Planning, Urban Planning, Housing and City Policy
Jamila El Harizi	Head of service	Ministry of National Territory Planning, Urban Planning, Housing and City Policy
Majida El Ouardirhi	Secretary General	Ministry of National Territory Planning, Urban Planning, Housing and City Policy
Fatna El-K'hiel	State Secretary in charge of Habitat	Ministry of National Territory Planning, Urban Planning, Habitat and City Policy
ABDELMJID EL HAMDAOUI	Chargé d'études	Ministry of National Territory Planning, Urban Planning, Habitat and City Policy
Karolina Barcewicz	Communication & Public Affairs Director	Danfoss
Oliver Rapf	Executive Director	BPIE
Benoit Lebot	Executive Director	IPEEC



Williams J. Gadimoh	PhD Researcher (Sustainable Construction)	DIT
Don Langlois	European Business Development Manager	Just Biofiber Structural Solutions Corp.
FODE DIOP	PRESIDENT	ORDRE DES ARCHITECTES DU SENEGAL
YO Abdoul Aziz	General coordinator	Ong La vie en vert
Soumahoro mamadi	Général accounting	Ong la vie en vert
Emmanuel Normant	VP sustainable development	Saint-Gobain
Brian Dean	Energy Efficiency	International Energy Agency
Giorgia Tzar	International Communications Specialist	International Passive House Association
Giorgia Tzar	International Communications Specialist	International Passive House Association
Mitchell Schouchana	Project coordinator	Agence française de développement
Helen Naser	Advisor	GIZ
laurence martaux	Economic and trade counsellor	Wallonia Export-Investment Agency
Roger Eriksson	Desk Officer	Swedish Ministry of Enterprise and Innovation
Jérôme Bilodeau	Chief of Policy	Canada's Office of Energy Efficiency
Simon Sturgis	CEO	Targeting Zero
Lucas Di Pietro Paolo	Adaptation Coordinator	Ministry of Environment and Sustainable Development - Argentina
Luca De Giovanetti	Manager, Science-based Targets	WBCSD
Emma Rachmawaty	Director of Mitigation for Climate Change	Ministry of Environment and Forestry Republic of Indonesia
Leszek Drogosz	Director of Infrastructure Department	City of Warsaw
ibtissem BOUATTAY	Conseillère Ministre	Ministère de l'équipement de l'habitat et de l'aménagement du Territoire
Alicja Kuczera	CEO	Polish Green Building Council
Hiroshi Takahashi	Senior Planning Officer for Environment and Energy	MLIT, Japan
Silke Krawietz	CEO & Founder	SETA Network
Romano Di Bari	Strategy consultant	SETA Network
Guillaume Lefebvre de Laboulaye	Programme Manager	ENERGIES 2050
Stéphane Pouffary	Executive Director	ENERGIES 2050

Sebastien DUMESGNIL D ENGENTE	President	Groupe Opale Alsei
Jacques TANGUY	Associate	Groupe Opale Alsei
Estelle TECHER	Project Manager	SEMADER
Francoise LAMBERT	Vice Mayor	La Possession City
Andrzej Romanowski	Owner	Building Energy Consulting
Andrzej Romanowski	Owner	Building Energy Consulting
Nora Steurer	Associate Expert	United Nations Environment Programme
Marcene Mitchell	Climate Business	IFC
Alexia Robin	Marketing & Communication Manager	Construction21 France
Nadège Rigaudeau	Partnership Development Manager	Construction21 France
Véronique Pappe	Director	Construction21 France
Christian Brodhag	President	Construction21
Elizabeth Beardsley	Senior Policy Counsel	U.S. Green Building Council
Campesi Marc	Head manager	Diagonale Concept
Martin Pierre	top manager	Ktr
Laura Tierney	Director, International Programs	Business Council for Sustainable Energy
Claude LAMBERT	Citizen	La Possession City
nathalie weinstein	townplanner	Region Ile de France
Brigitte BROUWERS- KARTHEUSER	Gérant administrative	Sàrl CLK Constructions
Rosa Vásquez Rodríguez	Project coordinator	La Ruta del Clima
James Drinkwater	Director, Europe	World Green Building Council
Arturo Cervera	Programs Coordinator	Conavi / Mexican Alliance for Buldings & Contruction GABC Mexico
Anna Żerdzińska	student	student UŚ
Aleksander Granowski	Consultant	FIDIC/EFCA/SIDiR
Karim Elgendy	Sustainability Consultant	Carboun
Sandra Tacke	Policy officer	BMW i
Cecilia Rinaudo	Deputy Director	Nubian Vault Association
Sebastien Chailleux	Development Officer	Nubian Vault Association
Sophie Brouwers	Technical Manager	CLK Construction
Boris Solecki	Innovation Project Manager	NEOBUILD

Veronika Neumeier	Associate Climate Policy	WBCSD World Business Council for Sustainable Development
FABIOLA LESSA VIANNA	Project Manager	IFPEB
Mikołaj Machulik	architect	Izba Architektow RP
Louis ENGEL	Safety and Sustainable Development Director	PAREXGROUP
Silke Krawietz	CEO & Founder	SETA Network
Yvette Roper	Media Relations Manager	VELUX A/S
Adam Ambrozik	Public Affairs manager	VELUX Poland
Nathalie ABRASSART	Co-director	St.Ar.Tech Management Group
Marcel BARATTUCCI	Co-director	St.Ar.Tech Management Group
Koumoumba AYEOTE	PRÉSIDENT FONDATEUR	ONG INTERNATIONALE MISERE OPTION ZERO
Piotr Olkiewicz	CEO	SENI Sustainability Consultants
hugues joinau	architect	dauphins architecture
Cédric BOREL	Director	IFPEB
LEGER MERLIN FIGAMA	Customer Assistant	Px ciano international Mall
Adam Król	Program Dev.Mng.	HABITAT FOR HUMANITY POLAND
Mateusz Stachewicz	-	Polski Związek Firm Deweloperskich
Peter Graham	Director	GBPN
Teresa Weise	Student	University of Heidelberg
Mirosław Motyka	President of Council	Polish Steel Association
Rafał Schurma	owner	visio architects and consultants/ plgbc
Sylvia Slomiak	Advisor to the Board	Association of Wisloka River Basin Communes
Andrzej Czernecki	President	Association of Wisloka River Basin Communes
Maria Lignar	Head of office	Association of Wisloka River Basin Communes
Marcel Maksara	Sustainability Consultant	visio architects and consultants
Conor Shaw	Construction Engineer	Shaw Architectural Solution
Pekka Huovila	One Planet SBC Coordinator	GBC Finland
Nikki Pirtel	Student	University of Connecticut
Felix Girault	Student	Heidelberg University
Maria Ximena Michemberg Conti	Environmental Engineer	Youth Climae Leaders
Anders Vestergaard Jensen	Project manager	EIT Climate-KIC
