

GREEN GRID INITIATIVE PLANNING MEETING

Mexico City, May 8-9, 2018



The first Planning Meeting for the Green Grid Initiative was held in the historic former Senate building in Mexico City, known as La Casona de Xicoténcatl. It was convened by Mexico's Energy Minister Pedro Joaquín Coldwell and the Chair of the Senate Energy Committee, Senator Salvador Vega Casillas.

PURPOSE. The aim of the Green Grid Initiative is to bring together three key groups – governments, parliaments and companies – in an informal, flexible collaboration to increase the speed and scale of the global transition to clean energy. It is designed to bring together into a global leadership group ministers, officials and legislators from up to 30 governments which are already leading the way on renewable energy, and to enable them to work with innovative companies on developing new projects which can help to accelerate the transition. This will include companies working on renewable energy, smart grids, grid construction, electric vehicles and battery storage.

PARTICIPANTS. The Green Grid Initiative began in discussions between the **Climate Parliament**, a global

network of legislators, and a number of energy ministers around the world. The governments represented at the meeting were: **Argentina, Bangladesh, Costa Rica, Finland, France, Germany, Indonesia, Jordan, Mexico, Mongolia, Morocco, New Zealand, Norway, Peru, Portugal, South Korea, Sweden and the United Kingdom.** California was represented by the Director of Security and Architecture of California ISO, the state grid operator. Other countries which were unable to attend but whose ministers have confirmed their interest in participating are: **Brazil, Chile, Dominican Republic, Ethiopia, India, Tanzania, Tunisia and Uganda**, as have senior officials from **Samoa and Senegal**. As they had not been previously involved in the initiative, South Korea and Sweden noted that they were there as

informal observers, subject to a later decision about ongoing participation.

A group of legislators, including the **President of the Mexican Senate, Senator Ernesto Cordero**, took part in the meeting. In addition to **California ISO (CAISO)**, a small group of companies and organisations were invited. Those participating included: **BMW; Mahindra and Mahindra**, a major Indian company involved in electric vehicles, solar power and IT; and the **Global Energy Interconnection Development and Cooperation Organization (GEIDCO)**, which has been established by the **State Grid Corporation of China**. The innovative Indian grid company **Sterlite Power** and the major renewable energy developer **ACWA Power**, which is building some of the world's largest solar power stations, were



not present but are actively involved in the Initiative. Nissan has also expressed keen interest.

The group benefited from technical advice from several experts from the Mexican energy ministry, who were able to share their experience from Mexico's very successful energy reforms, and from Prof. Spyros Chatzivasileiadis, an expert on long-distance transmission at the Danish Technical University. Special thanks go to Silvia Hernández, former Mexican Senator and Minister, who with the help of her excellent staff played a key role in organising the meeting and who chaired several of the sessions.

DISCUSSION OF OVERALL OBJECTIVES.

After opening speeches by Minister Joaquín, President Cordero, Senator Vega, and Nicholas Dunlop, Secretary-General of the Climate Parliament, an initial discussion of the objectives of the Green Grid Initiative was chaired by Alejandro Amerena Carswell, Director-General for International Affairs of the Mexican energy ministry. Every country and company spoke in this session. While the importance of the

Paris climate agreement was underlined, it was stressed by many participants – including by France herself – that we need to move faster, and that the Green Grid Initiative can contribute to this. One delegate observed that the pace of policy and institutional change needs to increase to match the speed of technological change. Another government representative remarked that we urgently need new paradigms for public-private partnerships, and the Green Grid Initiative represents an example of a new way of working together. Several representatives stressed the value of sharing success stories from each country so as to learn from each other's experience on renewable energy and green grids. Brazil, China, India, Mexico, Morocco, the UK, Central America and the EU were all mentioned as countries and regions with advanced plans and programmes for long-distance and cross-border transmission for renewable energy, who have valuable experience to share. It was recognised that every country in the room has world-leading programmes on different aspects of renewable energy, from millions of solar home systems in Bangladesh

to Norwegian floating wind turbines.

JOINT STATEMENT. A joint statement was agreed outlining the broad objectives of the Initiative. It will have three categories of signatories: ministers, company CEOs, and legislators. The Joint Statement will be released by all signatories simultaneously on an agreed date, still to be determined.

WORKING GROUPS.

There was a series of sessions covering the main points in the Joint Statement, with a view to establishing informal working groups of governments, companies and legislators. These points can be grouped under three headings.

LONG-DISTANCE TRANSMISSION FOR LARGE-SCALE RENEWABLE ENERGY.

There was discussion of current efforts and future potential for regional transmission lines linking the best locations for solar, wind, hydro and other clean energy sources to create a reliable, unlimited supply of affordable electricity for all. In particular, there was discussion of the immense energy potential which could be unleashed by long-distance electricity highways linking:

- California, Mexico, Central America and the Caribbean.
- Peru, Chile, Argentina and Brazil.
- Morocco, Europe, the MENA region and West Africa.
- Mongolia, China, South Korea and Japan.
- South and Southeast Asia.
- East and Southern Africa.



Mexican Energy Secretary, Pedro Joaquín Coldwell, delivering keynote address

The group agreed that there are no major technical obstacles to such interconnections. The key requirement is political will, which means support from governments and parliaments.

Working groups could be held on three or four of these interconnections at the same time and place, to enable sharing of ideas between regions. It was noted that working groups need to focus not only on recommended routes and technologies to present to ministers, but also on regulatory changes to ensure frictionless trade in clean electricity.

ELECTRIC VEHICLES, SMART GRIDS AND BATTERY STORAGE.

Studies suggest that, in future grids powered largely by renewable energy, as much as 50% of the energy storage required could be provided by electric vehicles (EVs) when they are plugged in. Furthermore, if vehicle owners can benefit by selling or providing stored energy to the grid, it will encourage people to buy EVs. It was agreed that it would be of great value to have a standard vehicle-to-grid protocol so

that EVs can provide this service in different countries without requiring modification. Exactly the same battery-to-grid interface could apply to stationary batteries, which a growing number of homes and businesses are installing, often combined with solar panels. It was agreed that a working group on this could make an important contribution. Participants noted that it will be particularly valuable for grid operators if power or car companies can aggregate many cars or batteries into larger blocks of stored energy, and that the working group should include a focus on “disruptive” approaches to transport such as sharing of EVs and electrified public transport. The importance of

cybersecurity for smart grids was also highlighted as a key issue for collaboration.

ATTRACTING CAPITAL INTO GREEN GRID INVESTMENTS.

It was agreed that some or all of the governments in the group could usefully engage with international financial institutions to explore the possibilities for Green Grid Bonds with partial guarantees, or other instruments to attract low-cost capital. A standard contract for minigrids harnessing local renewable resources could facilitate the bundling of many village or community minigrids into larger financial instruments to attract investment. There was discussion of offering investors a “project bank” of green grid projects. Some participants in the group may feed into a process currently underway in the Climate Bonds Initiative to define which grid investments qualify as “green.”

NEXT STEPS. The Green Grid Initiative will involve working groups developing recommendations for governments, which will then be revised after discussions with individual ministers and senior officials. The working groups will involve government experts, companies and legislators.



Left to right: Sanae Boujrada, Head of Transmission and Interconnections Service, Moroccan Ministry of Energy; Silvia Hernández, former Mexican Senator and Minister; Nicholas Dunlop, Secretary-General, Climate Parliament; Yeren-Ulzii Batmunkh, Head of Investment and Production Division, Mongolian Ministry of Energy; Dr. Feng Li Min, Director, Science and Technology Division, Global Energy Interconnection Development and Cooperation Organisation, China; Richa Tewari, Asia Coordinator, Climate Parliament, India; Pablo Gallegos, Country Head, TechMahindra.

They will lead to international ministerial meetings between governments interested in taking recommendations forward to action. Some initiatives emerging from working groups may be government-led, while in others companies may take the lead, simply requiring regulatory approval from governments. Further planning meetings from time to time will review progress and discuss priorities. No government or company needs to support or get involved in any working group or project in which it isn't interested. The Initiative will thus consist of ad hoc "coalitions of the willing."

The next steps are therefore to:

1. Gather signatures on the Joint Statement and arrange a date for its simultaneous release in each country.

2. Invite companies to join the business group within the Initiative, called the Green Grid Leadership Forum. It is hoped that company membership fees will pay for the process

of organising working groups and other Green Grid Initiative meetings. Up to 20 Founding Members will act as a core group within the Green Grid Leadership Forum. Foundations will also be invited to support working group meetings.

3. Organise the first working groups on some or all of the issues outlined above, to develop recommendations for initial discussion with ministers and senior officials. The Climate Parliament has undertaken to organise the meetings, but any government is of course free to do so as well. Wilton Park, an executive agency of the British Foreign Office which specialises in organising high-level meetings in a beautiful rural setting near London, has kindly offered to host some or all of the working group sessions.

4. Convene meetings of interested ministers to review and advance action recommendations. Some of these meetings might have a sectoral focus – for example, a meeting of ministers from different parts of the world who share a strong interest in electric vehicles and smart grids.

Some might have a regional focus, particularly those focusing on interconnections in particular parts of the world. Some might bring together all countries participating in the Green Grid Initiative. The meetings will include opportunities for dialogue between ministers, CEOs and legislators. The Moroccan Energy Minister has kindly offered to host a ministerial meeting, and this was reiterated in the meeting by the Moroccan Ambassador. Energy Ministers of Argentina and India have also at different times kindly indicated their readiness to host meetings.

Overall, there was broad agreement within the group that the Green Grid Initiative can serve as a valuable complement to the formal intergovernmental processes that already exist on climate and energy. By engaging governments, companies and parliaments in informal collaboration, it could play a crucial role in helping to launch concrete projects which will help to accelerate the expansion of clean energy and clean transport around the world.



Left to right from Mexico: Silvia Hernández, former Minister; Senator Salvador Vega Casillas, Chair, Senate Energy Committee; Energy Secretary Pedro Joaquín Coldwell; Deputy Sharon Cuenca, Chamber of Deputies; and Senator Jorge Luis Lavalle Maruy.