

International Parliamentary Forum

# Global Cooperation on Renewable Energy



*How can legislators and governments  
act together to accelerate renewable  
energy worldwide?*





# Climate Parliament

Legislators working worldwide to combat climate change

## Contents

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<b>Introduction</b>	3
List of Participants	4
Agenda Overview	6
Programme	7
<b>Proceedings of the Hearing</b>	9

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**Swiss Agency for Development  
and Cooperation SDC**



# Introduction

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Dear Colleagues,

Scientists warn that a rapid transition from fossil fuels to renewable energy is required if we are to tackle climate change while keeping the lights on and giving everyone access to energy. The renewables revolution is gathering pace, driven by lower prices for solar and wind power, but it still isn't happening nearly fast enough to prevent dangerous climate change.

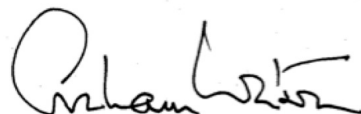
Our Climate Parliament Forum, held in Lucerne Switzerland in June 2015, brought together some 50 experts and legislators from around the world for an urgent two-day discussion of two innovative approaches to renewable energy which could play a key role in our efforts to control climate change.

Some thirty legislators from across Africa, Asia, the Americas and Europe were joined by experts and analysts from the worlds of academia, finance, and engineering, who contributed their invaluable expertise and experience to the discussions. The meeting in Lucerne saw presentations from the State Grid Corporation of China, Bloomberg New Energy Finance, and academics from the University of Liege and Imperial College, London.

A key presentation was given by the Secretary of India's Ministry of New and Renewable Energy, on the recent proposals from the Prime Minister of India, who has called for nations rich in solar energy, and major solar technology manufacturers, to form a Solar Federation. Such a group could help to accelerate the expansion of solar power, for example through cooperation on research and development.

It now seems clearer than ever that bold action of this type is needed in order to prevent irreversible changes in the Earth's climate and biosphere which will profoundly threaten the global food supply, our coastal cities, and potentially lead to the loss of millions of lives. Let us work together to ensure that 2015 will be remembered as the year that the world finally got serious on climate change. It may well be our last chance to do so. Thus, the work of the Climate Parliament continues.

If you would like any more information on our work, or are interested in attending any of our future events, please do consult our website – <http://www.climateparl.net> - or contact [info@climateparl.net](mailto:info@climateparl.net).



**Sir Graham Watson**

Honorary President  
The Climate Parliament

# List of participants

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## Members of Parliament

Mr. Nahim Razaq (Bangladesh)	Mr Abdallah Khawaldeh (Jordan)
Mr. Razee Fakhrul (Bangladesh)	Ms Wafa Bani Mustafa (Jordan)
Ms. Waseqa Ayesha Khan (Bangladesh)	Ms Tamam Al Riyati (Jordan)
Mr. Pedro Montes (Bolivia)	Mr Adnan Sawairi (Jordan)
Senator Erwin Rivero Ziegler (Bolivia)	Mr Jamal Hiba (Jordan)
Senator Plácida Espinoza Mamani (Bolivia)	Ms Salima Faraji (Morocco)
Senator Carola Arraya (Bolivia)	Mr.Syed Aiaz Ali Shah Shirazi (Pakistan)
Senator Noemí Natividad Días Taborga (Bolivia)	Ms. Shagufta Jumani (Pakistan)
Senator César Peñaloza (Bolivia)	Mr. Mesias Guevara (Peru)
Senator Ciro Zabala (Bolivia)	Mr. Papa Biram Toure (Senegal)
Congressman Walter Roque Gómez (Bolivia)	Mr. Jitu Soni (Tanzania)
Mr. Patricio Vallespin (Chile)	Ms Leila Ouled Ali (Tunisia)
Mr. Alfonso De Urresti (Chile)	Mr Ameer Larayedh (Tunisia)
Mdm. Choy So Yuk (China)	Ms. Dorra Yaakoubi (Tunisia)
Mr Keith Taylor (European Parliament)	Lord George Foulkes (United Kingdom)
Dr. Sanjay Jaiswal (India)	
Mr Anang Uday Singh Deo (India)	
Ms Vandana Chavan (India)	
Mr Anand Bhaskar (India)	
Mr Enrico Borgi (Italy)	

## Experts & Analysts

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Mr. G. Cassaigneau	Diplomatic Advisor at Swiss Federal Office of Energy
Ms. Jenny Chase	Manager, Solar Insight at Bloomberg New Energy Finance
Mr Nicholas Dunlop	Secretary-General, Climate Parliament
Dr Tareq Emtairah	Executive Director of the Regional Center for Renewable Energy & Energy Efficiency (RCREEE)
Prof Damien Ernst	Professor at the University of Liège, Power Systems, Smart Grids, Energy
Mr. Jean C. Fueg	Head of International Affairs at Swiss Federal Office of Energy
Prof. Jo Haigh	Co-Director, Grantham Institute for Climate Change and Environment
Dr. Veena Jha	University of Warwick, International Centre for Trade and Sustainable Development (ICTSD)
Dr. Sanjay Kumar	Executive Director, Climate Parliament
Mr Li Junfeng	Director-General of the National Centre for Climate Change Strategy and International Cooperation, Government of China
Dr. D.K. Khare	Director, Ministry of New and Renewable Energy, Government of India
Mr Said Mouline	Agence Nationale pour le Développement des Énergies Renouvelables et l'Efficacité Énergétique (ADEREE), Morocco
Ms. Karine Siegwart	Vice Director of the Swiss Federal Office for the Environment
Mr. Upendra Tripathy	Secretary, Ministry of New and Renewable Energy, Government of India
Dr. Rudy Rechsteiner	Former MP, Swiss Agency for Development and Cooperation
Sir Graham Watson	Hon. President, Climate Parliament
Mr Habib Zgolli	Ministry of Industry, Energy and Mines, Tunisia

# Programme

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## Friday 12th June

### Opening Session

- 09:00      **Welcome and opening remarks**  
Sir Graham Watson, Honorary President, Climate Parliament  
Ms. Karine Siegwart, Vice Director, Hydrology Division and Climate Division, Swiss Federal Office of the Environment

### Session 1: Climate change: the speed and scale of action needed now

Climate scientists say we are currently on track to see rises of 2°C and then 4°C in the course of this century - and perhaps even 6°C by the end of the century. How is the climate already changing worldwide - and what are the likely future impacts of global inaction?

- 10:00      **Current and future climate impacts:** the urgency of an energy transition  
Presentation: Prof. Joanna Haigh, Co-Chair, Grantham Institute of Climate Change, Imperial College, London
- 10:35      **Time for action: How the Energy Internet and Solar Federation initiatives could improve our prospects for preventing a climate catastrophe**  
Mr. Nicholas Dunlop, Secretary-General, Climate Parliament
- 11:00      **Discussion** among participants, with additional brief progress reports from MPs on relevant parliamentary projects

### Session 2: Regional smart grids: a key step towards an Energy Internet

Many regional organisations have already agreed to create regional power grids. This session looks at the progress that has been made, how it could be accelerated if there were greater political will, and the vision of regional grids themselves becoming interconnected by 2050.

- 12:15      **Presentation on the Global Energy Internet:** Mr Li Junfeng, Director-General, National Centre for Climate Change Strategy and International Cooperation, Government of China, and Dr Lei Xianzhang, Director, State Grid Corporation of China European Representative Office.
- Presentation on regional grid integration:** Dr. Tareq Emtairah, Executive Director, Regional Centre for Renewable Energy and Energy Efficiency, Cairo
- 14:00      Discussion and Lunch



### **Session 3: The economics and financing of renewable energy grid integration at regional and global levels**

Rooftop solar is increasingly competitive on price, and doesn't compete with food production. Likewise, large-scale solar and wind power in deserts or offshore doesn't displace agriculture, and may be equally cheap as a way to supplement local renewable energy supplies. In this session we look at the potential economic benefits of integration of renewable energy at the regional and global levels, and how large-scale renewable energy generation and cross-border grid connections could be financed.

- 16:00      **Presentation on economics of international electricity grids:**  
Prof. Damien Ernst, University of Liège, Belgium.
- 16:20      **Presentation on financing large-scale renewable power generation, grid integration, and cross-border trading of renewable energy.**  
Dr. Veena Jha, Director, Maguru Consultants, UK and Consultant, International Centre for Trade and Sustainable Development, Geneva.
- 17:00      Discussion in plenary



## Saturday 13th June

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09:00      **Opening remarks: summing up Day 1 and programme for Day 2**  
Keith Taylor MEP, Chairman, Climate Parliament European Parliament

### Session 4: Design a market structure to attract investors

Countries rich in solar resources, and others with well developed solar manufacturing and installation industries, have many common interests in accelerating the solar revolution. How could they work together to advance research and development on ever cheaper technologies, create common standards and infrastructure, share costs, and share resources to make solar power available over as much of the 24 hour cycle as possible? How could such a group contribute to the design of the Energy Internet?

09:30      **Presentation on the Solar Federation proposal:**  
Mr. Upendra Tripathy, Secretary to Government of India,  
Ministry of New and Renewable Energy

09:50      **Presentation on ideas for Solar Federation activities:**  
Ms. Jenny Chase, Head of Solar Insight, Bloomberg New Energy  
Finance, Zurich

#### **Discussion**

13:00      Lunch

### Session 5: An International working group

Many successful international initiatives have been advanced and facilitated by small groups of influential people working together across borders. How could a group of legislators, officials, and experts from business, academia and civil society help to implement the Energy Internet and Solar Federation initiatives much more quickly than would normally be possible with a “business as usual” approach?

14:30      **Possible elements for an action plan**  
Dr. Sanjay Kumar, Executive Director, Climate Parliament

Discussion

15:30      Tea & Coffee

16:00      **Final plenary session: future action & next steps**

17:00      Close of play



## Proceedings of the Hearing

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Keynote addresses were delivered by Sir Graham Watson, the honorary president of the Climate Parliament, and **Mr Upendra Tripathy**, Secretary to Government of India at the Ministry of New and Renewable Energy.

In his opening address, Mr Tripathy held up India as an example of surpassing ambition on renewables, not only thanks to Prime Minister Modi's planned Consortium of Solar Nations but also the raising of the renewable energy target from 20GW to 175GW, and the considerable new investments being made in R&D and training schemes for young people on sustainable energy. He emphasized "Speed, Scale and Skill" and R&D cooperation amongst nations could usher a renewable energy revolution to bring energy access within the reach of a common man much sooner and



Secretary Upendra Tripathy



Sir Graham Watson

ensure development with a human face.

To begin the sessions proper, the delegates were treated to a sobering presentation on the current state of climate science from Prof. Joanna Haigh, Co-Chair of the Grantham Institute of Climate Change at Imperial College London. Professor Haigh laid out the latest findings of climate scientists and researchers around the world, touching on rising global temperatures, feedback loops, and the possible impacts of climate change.

The Secretary General of Climate Parliament, Mr Nicholas Dunlop, was next to present. Mr Dunlop called delegates' attention to the fact that amidst protracted global negotiations on mitigating climate change, China and India have sent out some positive messages about clean energy through the above two proposals in an unprecedented leadership position, and the world leaders must now take note of these proposals. Recalling his work on the successful

Six Nations Peace Initiative, when prime ministers of India, Mexico, Sweden, Argentina, Tanzania and Greece got together to end the Cold War, Mr. Dunlop hoped that the Climate Parliament could similarly work with key legislators and leaders from around the world to turn the forthcoming UNFCCC COP at Paris into a defining moment in our fight against poverty and climate change.

The joint presentation by Mr Li Junfeng, Director-General of China's National Centre for Climate Change Strategy and International Cooperation, and Dr Lei Xianzhang, Director of the State Grid Corporation of China's European Representative Office elucidated the potential of the Global Energy Internet concept in great detail.

Emphasising that decarbonisation was a key priority for the Chinese government, Mr Li Junfeng praised the recent commitment of G7 leaders to 100% renewable energy share by 2100, but argued that urgent investment in two key technologies is required to allow sustainable power become the dominant player in the global energy mix. These technologies are energy storage, and energy interconnections. Areas rich in renewable resources tend to be located far away from centres of demand for energy, so high-voltage



Mr Li Junfeng



Professor Jo Haigh

direct current lines can be used to transport power where it is most needed, and this principle applies equally well across national boundaries.

Dr Lei then explained how, with China's ambitious renewables targets meaning the country is on track to double the installed capacity of Germany within the next five years, regional interconnections are the cornerstone of the country's energy policy. The key problem of renewable energy, he argued, is not one of supply – after all, the total installed capacity of renewables worldwide is just 0.05% of the total potential. It is a problem of transmission infrastructure, and getting the power to where it is most needed.

The presentation of Prof. Damien Ernst, University of Liège, Belgium made out a highly convincing financial and economic case for global interconnections for renewable energy based on three main factors: availability of rich renewable sources in certain areas, intermittency of renewable resources, and price fluctuation/ difference in different energy markets.

Dr. Tareq Emtairah, Executive Director, Regional Centre for Renewable Energy and Energy Efficiency (RECREE) in Cairo and Dr. Veena Jha, Consultant, International Centre for Trade and Sustainable Development (ICTSD) in Geneva further elaborated the regional perspectives of the interconnections in the MENA and the European regions respectively. Dr. Jha highlighted how the experience of recent rapid progress in European interconnections which is transforming the regional energy trade to benefit all participating countries, is highly instructive.

During the regional group discussions, a clear understanding emerged that already countries within different regions across the world are joining hands to improve the security of their energy supplies, and to this end cross-border interconnections and regional grids are being rapidly constructed/ planned.

Now, it was just the matter of joint political will at a larger geographical scale to establish inter-regional connections and capitalize upon the best available renewable resources and economies of scale. In the process both clean energy access to those poor people and communities who have so far been deprived and efficient climate change mitigation could be ensured.



Dr Tareq Emtairah

A key presentation was given by Mr Upendra Tripathy on the Alliance of Solar Nations, which was the theme of Day-2. Pointing out that India is one of the few countries to have a separate Ministry for Renewable Energy, Mr Tripathy detailed India's plans for renewable growth and improvements to grid infrastructure over the coming decade. He also detailed Prime Minister Modi's call for a Global Solar Alliance – a platform for research and development by several countries in the solar-rich belt between the Tropics of Cancer and Capricorn. The new International Centre for Solar Policy & Applications in India, is in fact the first step in this direction to offer assistance to all concerned.

Mr Tripathy also praised the parliamentary initiatives undertaken in the field of renewables by the Climate Parliament group of MPs in the Indian Parliament, and expressed his hope that the productive relationship between the MNRE and Climate Parliament could be continued.

Two of the key areas could be: first, legislators from solar rich countries calling upon their governments to join hands, and second to contribute to the agenda of the Solar Alliance organization. Mr. Tripathy underlined, however, that we must make this progress only with a human face and not solely for financial gains.



Secretary Upendra Tripathy



The last presentation of the Forum was made by Ms. Jenny Chase, Head of Solar Insight at Bloomberg New Energy Finance (BNEF) who presented the global data to conclude that the prices of even grid scale solar projects has fallen to sufficiently low level to compete with other sources of energy, but the question now is about the costs of back-up and grid upgrade for large scale integration of renewables and which business models are the most suitable.

In the regional group discussions that followed, it was felt that the idea of Solar Alliance has immense value, and this could be, in fact, a building block of energy cooperation and smart energy interconnections that encompass local to global..

The two proposals from two developing countries belonging to the top five energy consuming countries in the world are worth attention of the world leaders in view of their

potential to solve both energy and climate issues in hand. Building political will emerged as the issue of highest priority so as to realise those proposals.

MPs clearly felt, however, that with the elucidation of long term economical and national importance of these proposals, political consensus may not be difficult. They also felt that a global consensus on both these two issues can positively impact the climate agreement expected to be finalised in Paris 2015.



# About the PARE project

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Chronic power shortage is a major problem in the South. At the same time, countries in Africa and Asia have rich potential in renewable energies like solar, wind, hydroelectric or biomass energy. If harnessed, these resources could provide the unlimited energy that is needed to lift the poor out of poverty and help reduce gender inequalities, without accelerating climate change.

The lack of national legal frameworks and policies as well as a lack of financial resources are major obstacles that have to be overcome if we want to promote and enable renewable energy for a significant portion of the world's population. Parliaments are key national institutions for the development, promotion and funding of renewable energy projects.

Members of Parliament must have the right tools to ensure access to clean energy for all the world's citizens. UNDP and the Climate Parliament propose to work together to build the capacity of parliamentarians to strengthen their advocacy and monitoring of the development of renewable energy sources, and to promote policy and regulatory reform to encourage investment in renewables.

UNDP is uniquely placed to build the capacity of developing country parliaments on energy issues, and to strengthen links between MPs and the UN system. UNDP

currently supports one in three parliaments around the world. As the principal UN agency dealing with renewable energy issues (with clean energy as one of its main focus areas), UNDP is a key entry point to funding renewable energy and climate change projects through mechanisms such as the Global Environment Facility.

The Climate Parliament is the only global parliamentary network which has renewable energy as its primary focus, and it has already achieved impressive results in stimulating legislative and policy initiatives in Africa, India and the small island states.

In this collaboration, entitled Parliamentary Action on Renewable Energy, UNDP and the Climate Parliament are building regional networks of MPs and national cross-party parliamentary groups to promote renewable energy, new grids and other steps to ensure access to sustainable energy. At the same time, we will facilitate technical advice to the parliamentarians from across the UN system and from other organisations.

To learn more, visit the Climate Parliament website, at:

[www.climateparl.net](http://www.climateparl.net),

or the AGORA parliamentary portal, at:

[agora-parl.org](http://agora-parl.org)



**Climate Parliament**  
Legislators working worldwide to combat climate change



*Empowered lives.  
Resilient nations.*