The Renewables-Grid-Initiative

The Renewables-Grid-Initiative (RGI) promotes the expansion of distributed and bulk renewable energy generation and transmission capacity in Europe. To reach this target, the initiative brings together non-governmental organizations (NGOs) and transmission system operators (TSOs). For the first time, 50Hertz, Elia, Germanwatch, National Grid, RTE, Swissgrid, TenneT and WWF International join for a common cause. The grid infrastructure of the participating TSOs in the RGI provides the backbone of the existing power supply to some 240 million people in Europe, about half its population.

Antonella Battaglini – Renewables-Grid-Initiative:

"New thinking and new alliances are required to meet the challenges posed by increasing energy needs and climate change. Thanks to science and technology we have seen years of extraordinary development, but we have also created problems which we urgently need to solve. Our energy system needs to be transformed and become largely based on renewable energy sources. A large consensus across society is necessary for this transformation to take place. NGOs have a key role in representing general public long-term interests, in supporting necessary infrastructure expansions and in contributing to the political process to develop clear, long-term mechanisms and regulations. The transmission operators have a central role in planning and implementing the future grid architecture in full consideration of the decarbonisation requirements set by the 2050 targets. The Renewables-Grid-Initiative sets the ground for speeding up investments in grid infrastructure, to fully integrate renewable energy sources wherever they are produced and whenever they become available, in full recognition of environmental concerns. A clear framework for tailored investments in grid expansion will enable simultaneously large renewable expansion projects, which substantially contribute to the 2020 and 2050 targets, while stimulating the economy."

The Partners

50Hertz (Germany)

50Hertz is responsible for the operation, maintenance, planning, and expansion of the 380/220 kilovolt transmission grid throughout the German Federal States of Thuringia, Saxony, Saxony-Anhalt, Brandenburg, Berlin, Mecklenburg-Western Pomerania, and Hamburg. The transmission system operated by 50Hertz covers 109 000 square kilometres and has a length of around 9 700 kilometres. It ensures the net integration of around 41 percent of all installed wind energy plants in Germany and provides the backbone for the safe and secure power supply to some 19 million people.

Hans-Jörg Dorny – Managing Director, 50Hertz:

"Despite the fact that we TSOs are responsible for the electricity system, the massive integration of electricity from renewable sources is a challenge we can not successfully master on our own. We need the support and the cooperation with politicians, authorities, market players and civil society. Europe has chosen to go renewable; our role is to set the proper ground to make it possible. 50Hertz has a massive investment programme to develop urgently the grid according to the needs of the next decades. The cooperation with NGOs in RGI helps us ensuring that we keep the right track and that we meet society's expectations."

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Elia (Belgium)

Elia is the Belgian transmission system operator, transmitting electricity efficiently, reliably and safely from producers to distribution system operators and major industrial users. Elia is also responsible for importing and exporting electricity from and to neighbouring countries. Elia owns the entire Belgian very-high-voltage grid (150 to 380 kV) and around 94% (ownership and user rights) of the Belgian high-voltage grid (30 to 70 kV). Elia's grid comprises 5,614 kilometres of overhead lines and 2,765 kilometres of underground cables, and is a key link between electricity markets in northern and southern Europe, as well as between Belgian producers and consumers. As a result of recent investment in interconnection capacity with neighbouring countries, Belgium has become one of the most open and interconnected countries in Europe.

Jacques Vandermeiren – CCO, Elia:

"Elia's joining RGI is further evidence of our commitment to the reliable, sustainable and efficient development of the European electricity market. We want to be able to integrate a constantly growing proportion of electricity generated from renewable energy sources. Therefore, we need to work hand in hand with all stakeholders in order to gain the necessary public acceptance."

Germanwatch (Germany)

Following the motto "Observing, Analysing, Acting", Germanwatch has been actively promoting North-South equity and the preservation of livelihoods since 1991. In doing so, Germanwatch focuses on the politics and economics of the North with their worldwide consequences. Germanwatch intends to represent a strong lobby for sustainable development. The NGO endeavours to approach its aims by advocating fair trade relations, responsible financial markets, compliance with human rights, and the prevention of dangerous climate change.

Christoph Bals – Political Director, Germanwatch:

„We will only reach the necessary reduction of CO2 emissions by a massive extension of local renewable energies on the one hand and cross-regional renewable energy resources on the other hand. The expansion of the grid is therefore essential. By following such a strategy – combined with remarkable progress in energy efficiency – we can avoid dangerous climate change and keep global average temperature rise below the science-based danger threshold of 2°C above pre-industrial times. The fast expansion of grid structure and renewable energies allows us to fight jointly against the climate crisis, the economic crisis and the imminent energy crisis."

National Grid (UK)

National Grid is an international electricity and gas company and one of the largest investor-owned energy companies in the world. It plays a vital role in delivering gas and electricity to many millions of people across Great Britain and northeastern US in an efficient, reliable and safe manner. National Grid is committed to safeguarding the global environment for future generations and providing all customers with the highest standards of service through investment in its networks and through its talented, diverse workforce.

Alison Kay - Commercial Director, Transmission, National Grid:

"We are delighted to be joining forces with fellow transmission operators and NGOs. Renewing and extending grid infrastructure is critical to meeting both UK and EU renewables targets. Working together on the best way to achieve this will allow us to engage more effectively with all our stakeholders. Public acceptance of additional grid infrastructure is essential to the success of all projects and we welcome the RGI aim of creating a blue print."

RTE (France)

RTE is the French electricity transmission system operator. It is a public service company responsible for operating, maintaining and developing the high and extra high voltage network which represents 100,000 km of lines.

Jean Verseille – Director System Development, RTE:

"At the crossroads between northern and southern Europe, the French power system will need to make significantly evolve its role in order to enable Europe to achieve the ambitious targets set for the share of renewable energy sources in the continent's energy mix. The decision to sign up to the RGI reflects RTE's commitment to greater dialogue with all stakeholders, and a sustainable development policy that reconciles grid development with respect for the environment and economic performance."

Jean Verseille – Directeur Développement du Réseau, RTE:

"Au carrefour du Nord et du Sud de l'Europe, le réseau français devra voir son rôle profondément évoluer pour permettre d'atteindre des objectifs ambitieux de contribution des énergies renouvelables au mix énergétique européen. La participation à la RGI marque la volonté de RTE de développer le dialogue avec toutes les parties prenantes et de mettre en oeuvre une politique de développement durable conciliant développement du réseau, respect de l'environnement et performance économique."

Swissgrid (Switzerland)

Swissgrid is Switzerland's national grid company. The Electricity Supply Act (StromVG) of 2007 reorganised the Swiss electricity market: electricity production, trading and sales as well as the transmission of electricity were separated, and Swissgrid was entrusted with the operation of the Swiss high-voltage grid. They employ 250 people from twelve countries in Frick and in Laufenburg. The Swiss electricity grid is extremely important for international electricity trading. For decades it has been a hub for balancing peaks in demand and production. Switzerland is a founding member of the ENTSO-E (European Network of Transmission System Operators for Electricity). Swissgrid is a recognised centre of competence in the ENTSO-E. Switzerland's importance is also apparent from the figures: more than 30 lines connect the Swiss transmission system with other countries. These lines carry 11% of all the electricity that is exchanged between the ENTSO-E countries.

Pierre-Alain Graf – CEO, Swissgrid:

"Because of its geographical location, Switzerland is an important hub for the international trading of electricity. Hydropower and sustainable grid assets have enabled renewable energies to enjoy a long history in Switzerland. The large number of storage power plants and the huge available cross-border transport capacity of the Swiss transmission grid make an important contribution to reliable and sustainable energy supplies in Europe. Swissgrid, an important player in Switzerland's security of supply, will be investing 5-7 billions of Swiss francs in replacing and upgrading the transmission system over the next few years. Supplies from wind and solar energy are a huge challenge for Transmission System Operators, requiring an efficient grid system. Through the Renewables-Grid-Initiative we are going to pave the way for delivering increasing levels of energy from renewable sources to consumers."

TenneT (The Netherlands)

TenneT / transpower is Europe's first cross-border Transmission System Operator. Integration of the two transmission grids of the German transpower and TenneT from the Netherlands will allow us to take a leading role in Europe. We will continue developing an effectively functioning EU electricity market, to assure the security of supply and support the integration of renewable. The new company has 1700 employees, nine branches and approx. 20,000 kilometres of high-voltage connections, making it one of the top 5 electricity providers among transmission system operators in Europe. The coming period we will focus on further integration of the two TSOs to one company.

Ben Voorhorst – COO, TenneT / transpower:

"Grid extension is an essential precondition for substantive renewable energy integration from both decentralised and utility scale installations. We as TSO's want to invest in the grids the society asks for, therefore we need public acceptance and a supporting investment model for this. Bringing the necessary transformation to the power sector will require strong coalitions across different sectors in society. That's why TenneT is one of de founding fathers of the Renewables-Grid-Initiative (RGI) which provides the necessary platform for relevant stakeholders to foster the necessary developments to enable 100% grid integration of renewables."

WWF International

WWF is one of the world's largest and most experienced independent conservation organizations, with almost 5 million supporters and a global network active in more than 100 countries. WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by conserving the world's biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption.

Dr. Stephan Singer – Director of Global Energy Policy, WWF:

"Renewable energy electricity mainly from wind, biomass and solar power is abundantly available all over Europe and neighboring regions including North Africa. To make those technologies work efficiently, spread them substantively, allow decentralised and large-scale renewables such as off-shore wind work together smoothly and phase out fossil fuels and nuclear by mid-century require a much more coordinated cross-border management and sophisticated upgrading of the existing old-fashioned grid infrastructure. If we don't get the grids 'right', we won't be able to meet ambitious climate targets such as staying below 2 degree requiring a zero-emitting Europe by mid-century."

Statements by Funding and Supporting Members

Michael Hogan – Director, European Climate Foundation:

"The European Climate Foundation is excited to be associated with this important initiative. The realization of the full potential of renewable electricity, both large and small scale, will be contingent on massive investments in grid infrastructure. Such projects always raise important questions about environmental and social impacts, and they raise important financial challenges to utility shareholders and ratepayers. As such, it is tremendously encouraging to have leading transmission utilities and leading NGOs for the first time cooperating so closely to bring forward needed investment as quickly and as prudently possible while ensuring that all stakeholders' interests are adequately addressed."

Prof. Dr. K. E. Pollmann – Dean, Otto-von-Guericke- University of Magdeburg:

„Renewable energies are undoubtedly a major issue, in research as well as in education programmes. The Otto-von-Guericke- University is engaged in this field since more than 10 years. Education in the scope of energy and especially renewable energy however is still in the beginning of its development. The knowledge about the future power systems and especially the role of renewable energies is not implemented intensively in the study programs. The Otto-von-Guericke-University is going to introduce a new master program in renewable energies. In this context we will cooperate with international partners such as RGI or the European Wind Energy Academy and are starting national or international projects e.g. W2E or EE-Harz.Mobility."

Prof. Dr. Hans Joachim Schellnhuber CBE – Director, Potsdam Institute for Climate Impact Research:

"If we are to avert at least the most dangerous impacts of climate change, then emissions of greenhouse gases in Europe will have to be decreased by 80% by the year 2050. This can only be achieved if we manage to extensively transform our present energy infrastructures. This is why I welcome the Renewables-Grid-Initiative."

Prof. Dr.-Ing. Harald Schwarz - Managing Director CEBra, Programme Director MSc Power Engineering and Director of Institute for Energy Distribution and High Voltage Engineering, Brandenburg University of Technology Cottbus:

"The North East of Germany is a region with one of the highest densities of renewable energies in the world, connected to a grid designed for a much lower consumer load. It will be very challenging to integrate another 10-15 GW of renewable to the 10 GW actually connected to a grid with a consumer demand between 4-11 GW and keep in mind that the conventional generation (large units and urban combined cycles) will also increase from 25 GW actually to 35 GW within 10-15 years. Beside a tremendous extension of the grid transport capacity, the training of the control centre staff will be one of the most important factors for a safe grid operation in the near future. 50 Hertz-Transmission Ltd. and BTU Cottbus developed one of the most powerful grid training centres in Central Europe at BTU in Cottbus. The centre capability will allow a simultaneous training of up to 10 interconnected transmission and distribution grids with a simulation speed, which will create "real stress situations" to the trainees."