GSGF
>>NEWLETTER
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GSGF
Global Smart Grid Federation

CHAIRMANS COMMENTS

I am pleased to report that I had the honour to spend most of last week attending the Japan Smart Community Alliance Summit in Tokyo, which is co-hosted with NEDO. I shared a speaking platform with Michele de Nigris, Sec Gen of ISGAN, and we jointly met many Japanese companies and heard at first hand about many exciting projects. I am positive that these will yield scalable learning outcomes in the coming months and years. Well done JSCA!

I am also pleased to report that the Federation keeps on growing both in size and in scope.

Over the last month, Turkey and France have formally joined our federation. Our colleague from Turkey gives an insightful overview of the Turkish market and the issues they face, on page 2 of this newsletter. It is clear that this emerging economy with immense challenges regarding the smartgrid developments will be a major contributor to the scope that GSGF has set for itself. The knowledge available with the well known technology providers and also with the major electricity companies in France are new sources of knowledge for our federation.

As we move forward, The Netherlands are ready to step in, and the odds are good that South-Africa and Brazil will join in the months to come. Then GSGF will really be global.

Giving this growing membership, the input into the working groups has to grow too. As Chairman I would like to stress that further members to contribute to the content of the reports of our three working groups are still very much welcomed and in fact this increased participation is essential if we are to successfully deliver our objective of knowledge sharing. Have a look further in this issue to get in contact with the chairmen of the respective working groups and if possible lets aim for each organisation to have at least one member in each work group .

At the moment, the executive committee is discussing new ways to better serve our members. We will keep you posted in the next issues.

EXECUTIVE DIRECTOR

The definition of Smartgrids is not at all consistent over the world, though many elements are similar. Beyond any doubt the major targets are always the security of electric energy supply and the integration of renewable energy resources. The organisation of a retail market is often included but not everywhere. Thus, working in a global framework is very challenging, but it enriches us with insights that are impossible to obtain when operating locally.

A lot of the discussions take place in the framework of smartgrids gatherings such as the smartgrid week in Paris, Seoul, Sao Paulo and Washington. Therefore, the global smartgrid federation will be present at these events. In the next issues I will report on the key findings.

Exchanging knowledge on standards is very important because it supports the interoperability . Appropriate standards will enable the market place of products and systems. That is why I specifically want to point you to the relevant information on this matter in the April and the present issue of our newsletter.

Dear members, I think that GSGF is growing in size and will prove to become a key player, assisting the industry in deploying novel technological developments that will support the customer in getting access to sustainable and affordable electrical energy.

Turkey: A brighter Future

Turkey is sixth largest economy in Europe with the highest growth rate. Mean annual growth rate between 2002 and 2011 was 6%. Real Gross Domestic Product (GDP) growth for 2012 was 5%. GDP per capita has tripled in the last ten years. According to Purchasing Power Parity (PPP), GDP per capita surpassed 15,000 USD. Central government budget deficit/GDP ratio was 1.3% in Turkey in 2012, thus outperforming 23 EU Countries.

Turkish Electricity Market

Elder

Electricity consumption has doubled (6,5% annual growth rate) in the last ten years. The electricity demand in 2012 equalled 240 TWh, representing an 8 per cent annual growth from 2010. The annual growth is expected to be same by 2023. In order to comply with the growth, around 100 billion USD investment is required in generation, transmission and distribution sectors. At least **25,000MW additional capacity is required in due time to balance the demand and supply**, among which renewable generation this has become the first priority of the government and the investors. The Turkish electricity market is currently going through a **liberalization process and rapid growth**. The market is experiencing a transition into a competitive electricity market in order to attract private sector investments and maximize efficiency.

Turkish Government has set targets for 2023 in the electricity sector:

- **Decrease environmental effects** to the lowest possible
- **Keep prices at a level assuring the sustainable economic growth**
- Ensure **security of supply**:
  - Achieve 30% renewable share in generation
  - Decrease natural gas share in generation
  - Use domestic lignite reserves

Smart Grid in Turkey

Even though there are studies on-going, there is no official smart grid policy for Turkey. ELDER is **supporting studies** such as a strategic plan or roadmap, however these are not its first priority. ELDER is focusing more on projects than scenarios.

Currently distribution companies are **implementing smart meters** with remote reading features. By the end of 2013 over 1,000,000 meters will be installed, with the total number of meters in Turkey being 32 million. At least half of these shall be replaced by smart meters in the coming 5 to 7 years.

All distribution companies have implemented SCADA and DMS systems in the last two years. Over 250 million USD has been invested. In the following 3 years at least 1 billion USD shall be invested as SCADA, DMS and GIS applications.

The technical and non-technical losses are quite high in Turkey compared to EU and OECD statistics. Therefore more investments and better technological solutions are required in these domains.

EMRA, the regulatory agency of Turkey, has allocated **50 million USD R&D funding for smart grid pilot projects**. This money is already given to the distribution companies through the tariff system. **ELDER is establishing consortiums to utilize the R&D funding for the common interest of all distribution companies.**

More information on www.elder.org.tr

SMART GRID INTEROPERABILITY PANEL (USA)

The Smart Grid Interoperability Panel (SGIP) in the USA has the mission to provide a framework for coordinating all smart grid stakeholders in an effort to accelerate standards harmonization and advance the interoperability of smart grid devices and systems.

SGIP fulfills this mission by:

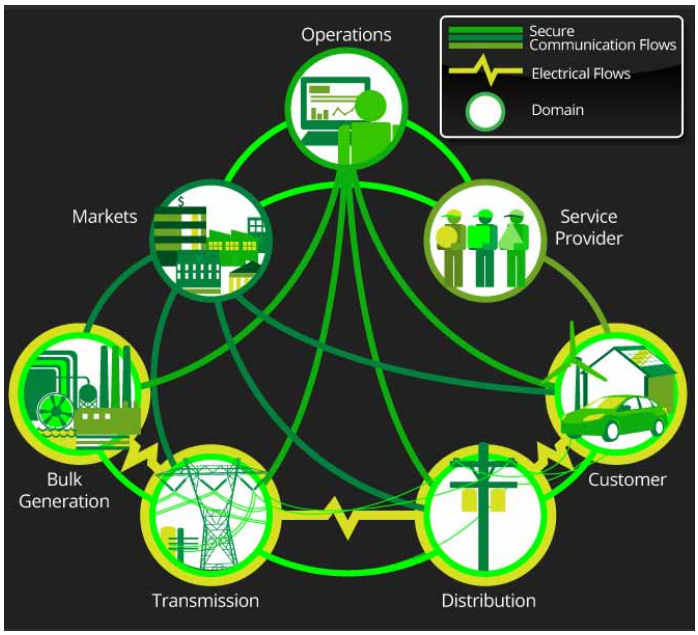
- Facilitating standards development for smart grid interoperability
- Identifying necessary testing and certification requirements
- Overseeing the performance of these activities and continuing momentum
- Informing and educating smart grid industry stakeholders on interoperability
- Conducting outreach to establish global interoperability alignment

SGIP was established in December 2009 by the U.S. National Institute of Standards and Technology (NIST) as a public-private partnership to coordinate smart grid stakeholders to help accelerate standards development and harmonization to advance the interoperability of smart grid devices and systems. SGIP has had a very successful three years as a public-private partnership with over 300 participating stakeholder companies from 22 different industry sectors. The stakeholders created a sustainable process to vet standards from many different standards development organizations which resulted in 56 entries in the SGIP Catalog of Standards. The leading US federal organizations NIST, Department of Energy (DOE), Federal Energy Regulatory Commission (FERC), National Association of Regulatory Utility Commissioners (NARUC) and other regulatory bodies look primarily to SGIP for progress on Smart Grid standards shaping.

SGIP brings together **all the sectors of the energy industry** to focus on a single outcome—the shaping of interoperability standards that **help make products secure and easier to integrate while reducing cost and speeding products to market**.

- SGIP's members helped create the **SGIP Catalog of Standards**, the primary industry reference that utilities and other deploying organizations turn to in determining a product's viability in interoperation and communication in a seamless Smart Grid.
- SGIP has established international liaisons with Smart Grid organizations in Europe, Asia, and the Americas that will **facilitate vendors to introduce innovations into the global marketplace**, and for users to reap the benefits of a broader range of standardized products.
- SGIP's is working with the European Union Smart Grid Coordination Group (SG-CG) on **development of a harmonized conceptual model and sharing of use case documents**. These use cases describe important applications that require interoperability between systems and/or technologies. SGIP and SG-CG also plan to develop Smart Grid security methodologies.
- SGIP participating members not only have a role in deciding the direction of interoperable standards, but are **at the forefront in deciding what the Smart Grid new industry standards are going to be**, which means they can pick the relevant information, bring it back to their organization and incorporate it into their technological development.
- At SGIP, **all participating members have a seat at the table** and their voice is heard, whether they're a large multi-national company or a start-up or a government agency or an academic— they have a stake in **representing the entire industry**. Involved SGIP members are in a proactive stance, as opposed to a reactive stance.

For more details, visit SGIP's website, www.sgip.org



GRID CONNECTIVITY OF DISTRIBUTED GENERATION WORK GROUP

The GCDG work group has made good progress during the past several weeks. We have agreed to an outline of the target white paper, formulated a solid listing of key research and analysis questions, as well as organized subgroups for moving forward on the overall assessment. As shown in the figure, we plan to focus on three core issues associated with grid-connected distributed generation: economic, technology, and regulatory / policy. While each subgroup leader will drive the progress in parallel, it is our intention to closely coordinate our activities at the work group level, in order to provide a balanced and comprehensive perspective across these issues. We also anticipate that this structure will enable us to cover specific world regions and countries, as member volunteers provide their assistance and inputs.

We also have agreed that representation from each of the GSGF member organizations would be helpful, in terms of gathering information from a diverse set of perspectives and geographies. Your contribution is really crucial. We are also currently gathering any relevant reports, studies, and other artifacts that are available in the public domain that can provide background on the topic of grid-connected, distributed generation, particularly along the three core issues we are assessing.

We appreciate the active support of the work group participants and welcome the contributions and suggestions of all of our GSGF members.

IMPLEMENTATION PLAN OF 'INTERFACE OF GRID USERS'

The Grid User Interactions and Interfaces work group (WG) laid down the work group charter last February, and determined to consider the user interface for EV (Electric Vehicle/Plug-in Hybrid Electric Vehicle) as the scope for this year.

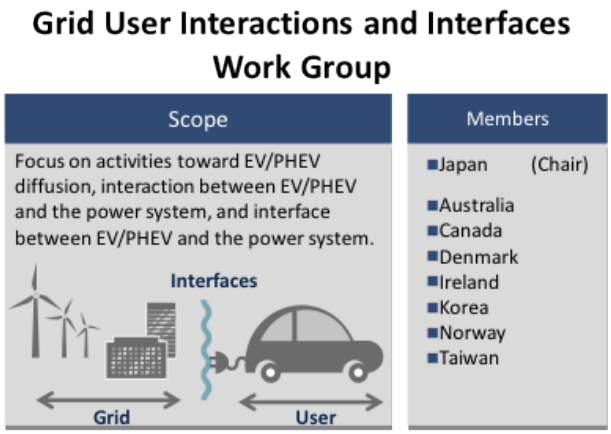
The Secretariat of the WG distributed a template to gather information from each member on whether they could share their knowledge and data related to this scope and what topics they would like to discuss for future activities of this WG.

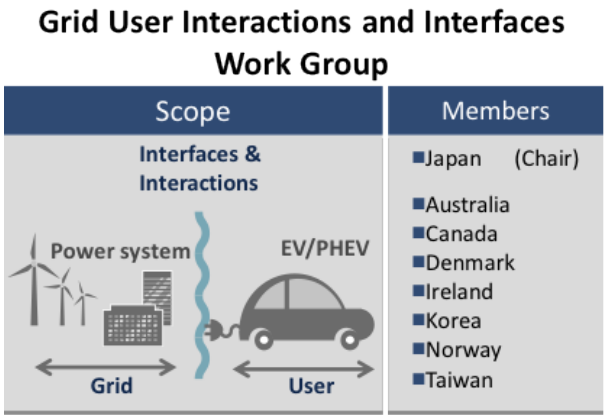
In addition, in the workshop hosted by GSGF-EDSO in Brussels this March, the panel discussion was conducted gathering key persons and experts in this field, and they exchanged views, also with audience.

It was found through the discussion that the expectation for this WG seemed to differ among the participating member countries and regions, each of which has different level of EV dissemination. Therefore, the Secretariat has come to think that we may need a further understanding and discussion among the members.

As our first step for further mutual communication, the secretariat is preparing to hold a teleconference, where the secretariat supposes we will listen to an advanced case presented by a member of the WG. Currently, we plan to hold the first teleconference for knowledge sharing in June.

This work group has received additional membership from Ireland in April and Australia in May, and we aim to enlarge our membership to hold in-depth discussions continuously.





GLOBAL INTEROPERABILITY

An update of the interoperability workgroup

In March, back-to-back with the EDSO-GSGF conference, we had a very good physical meeting, further developing the task: defining interoperability and if possible adding a value description, mapping existing and on-going smart grid standards/interoperability work, describing interesting areas/use cases, identifying where further work on standards and interoperability is needed and highlighting some best practices. The intention is a limited work (10-15 pages), making this important area understandable as a basis for a strategic discussion.

In May we have had a very interesting webinar as a basis for our global standards/interoperability work mapping, going through and working with the GE smart grid standards mapping tool.

Our work is based on existing and on-going standards/interoperability work and we have people on-board linking us to the work of CEN/CENELEC-ETSI (EU) and NIST (US). I am very pleased to inform that we now also have representation from Australia, but in order to become really global we are looking for representation from first of all Asia but also South America.

The work is following the initial plan, a draft this summer and a final paper in November, to be updated in 2014, linked to the results of the on-going CEN/CENELEC/ETSI work on interoperability.