Closing the gap in understanding between stakeholders and electrical energy specialists



Konstantin Staschus, SC C1 Chair
konstantin.staschus@entsoe.eu

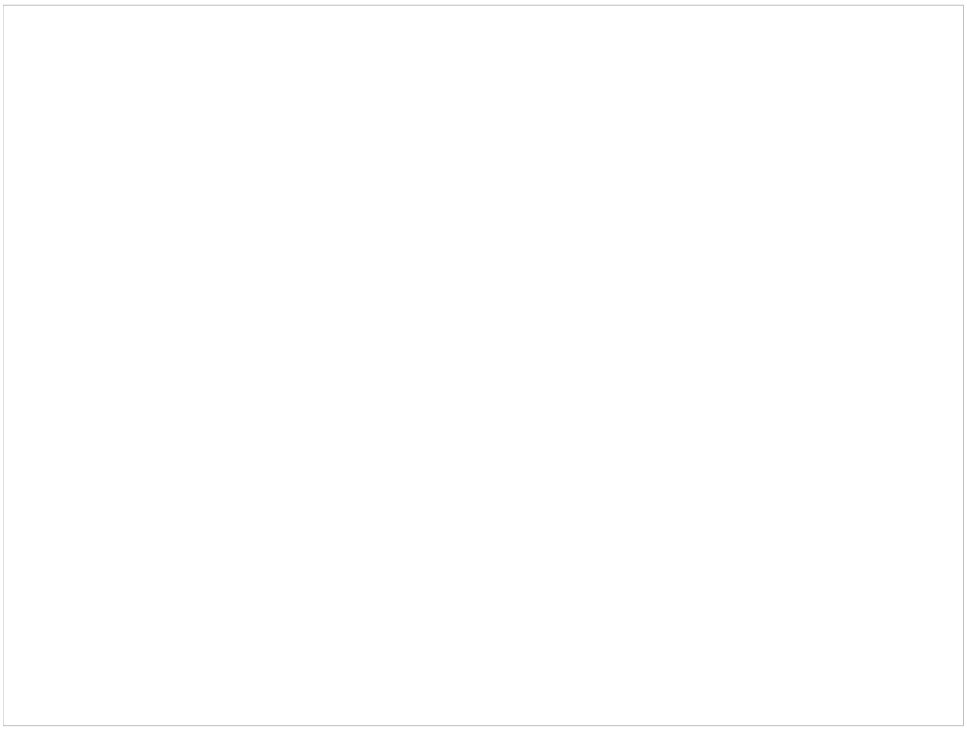
Phil Southwell, WG C1.41 Convenor
phil.southwell.cigre.c1@gmail.com

Global climate change initiatives have driven a massive increase in intermittent generation, often in a distributed form, together with a range of new technologies. There are now significant numbers of customers who own generation in the form of roof top solar panels, wind turbines, and more recently battery storage. At the other end of the spectrum, when large-scale commercial entities like wind farm proponents develop projects, they bring with them a complex nest of technical players: consultants, TSOs, commercial developers from various sides, regulators and others that confuse the non-technical stakeholders.

Customer requirements for electricity supply are therefore changing and yet the stakeholders' level of understanding of the technical challenges facing the power system is often limited. Further, the fundamental issues are often clouded by competing ideologies or political drivers, which may make it more difficult for the 'layperson' or non-technical person (both at the consumer and business level) to fully understand the true implications.

In this context there is a need to bridge the gap in understanding between the technical specialists and the various stakeholders that have a vested interest in the electricity product or how it is produced and/or delivered. This is particularly important where the changes are leading to rising costs and potentially significant changes in jurisdictional policy and energy strategy which impact not only the consumer but also the broader industry environment and economy.

As a consequence of the above changes, WG C1.41 has been established with 25 members from 16 countries to examine the gap in understanding amongst the various stakeholders of the range of technical issues related to the changing nature of the power system and how this has developed. It is reviewing how stakeholders perceive this gap and what is being done across the world to improve the level of understanding, particularly of the non-technical stakeholders. The working group members are technical and non-technical personnel, with the latter having a speciality in communication and/or stakeholder engagement.



It is important to note that this working group is not trying to define a "good stakeholder engagement process". Instead, it is aiming to make concrete steps towards a methodology for improving understanding, both in sector specialists' understanding of what stakeholders want from them and stakeholder understanding of some key issues.

Progress to date

The Stakeholders

Work is progressing well and the following range of stakeholders have been identified:

- Energy policy decision makers (including politicians)
- Regulators
- Business leaders
- Financiers
- Environmental leaders
- Customers
- Landowners
- Farmers
- Electrical energy specialists including the following:
  - Engineers
  - Economists
  - Scientists
  - Media
  - Lobby Groups (tend to be professional)
  - Local Action Groups (tend to be voluntary and community based-not necessarily landowners)
  - Academics
  - Shareholders & investors
  - Industry partners, including Associations (business partners, suppliers, contractors, professional associations & industry organisations, industry media)
  - Government at all levels (Local, State, Federal)
  - Internal stakeholders (subsidiaries, senior managers, employees)

Case Studies

To date, twenty case studies have been prepared from around the world that illustrate the gaps in understanding amongst the various stakeholders. Some of the issues raised include the following:
There is a lack of a trusted, impartial voice within the industry and a significant level of misunderstanding due to the lack of easy to understand resources with verifiable information. Some stakeholders now expect more options to interact with flexibility and an engaging

experience where their view is heard and taken into account. They want these interactions to occur when they want them to, often via a mobile device.

Complex negotiations may need educated stakeholders to represent the various stakeholder groups. The goal of these interactions is to achieve consensus and understanding on the particular problem and the preferred solution. While there are particular differences of opinion between the various self interest groups, a solid understanding of the issues is an important step in achieving a level of consensus.

As the nature of the power system changes, particularly with the introduction of intermittent renewable generation and smart load control options, a number of technical issues are arising that affect power system operation and reliability. These may require complex solutions that are challenging to explain to the broader non-technical stakeholder groups. If explanations are not accepted or considered reasonable, much more expensive solutions may be implemented, leading to pressure on electricity prices.

In some cases the use of models to explain the complex technical issues has proved effective. One interesting analogy provided by a South African member compares the power system to a cake. In the past, the power system was considered as a whole, with customers buying electricity and generators supplying it. In this sense, it could be compared to a whole cake. In recent years, new forms of distributed and large-scale generation, such as photovoltaics and wind, as well as new technologies to help manage the customer load and ensure the power system operates efficiently have been introduced. As a result, some of the power system aspects that were previously provided by traditional generation may need to be provided by other means. Therefore, it is now more appropriate to consider the essential components that are required to ensure the power system operates reliably and sustainably. In this analogy, it is important to consider the ingredients necessary to make the cake, such as flour, sugar, baking powder, etc. Without the inclusion of all the ingredients in the correct proportions, the cake will not be palatable.

At the same time, changes are being made to market mechanisms to try to guide commercial solutions to the lowest cost options. Some of these may be administratively costly and complex and be associated with another gap in understanding. The mechanisms also require increasingly large volumes of data in order to capture all aspects and a solid understanding by all stakeholders of the importance of cyber security and the process for deciding requirements is critical.

Within this changing environment, demonstration of the efficient management of financial and operational aspects of the business is important. A wide range of opinions from within the stakeholder groups will influence the external perspective and this requires help in ensuring that all these opinions are well understood by all.

Solutions to these challenges have included significant work to develop a trusted online platform for the exchange of energy information and to facilitate conversations around the energy sector in the consumer marketplace. In addition, the enlistment of citizens and the use of facilitated engagement with technical experts and advocates and an independent chair have proved effective in grappling with complex issues that have varying degrees of understanding. It is also important to consider the full range of engagement platforms from Web sites to social media to face-to-face interaction.
Sometimes the agreed best solution is hampered by perceived inequities due to the impact on local communities. In some cases the establishment of a community fund to address these issues has proved effective and assessment panels made up of local councillors to allocate the funding have usually been established to support this.

The use of plain simple language in all communications materials, regardless of the complexity of the issues; approaching local representatives prior to going public to explain the need and process; ensuring a range of players from across the industry participate in public forums; and the use of multi-channels for communications has proved effective. Complete acceptance of stakeholders' different points of view and interest areas, the building of focussed and rapid relationships and the use of breakout groups to discuss detailed technical issues beyond the interest and understanding of the majority of stakeholders have also been useful.

Conclusions

Engagement within the working group has shown that there is significant interest in this work and that there is a range of challenges, many of which are common in a number of regions.

A number of the common gaps in understanding between the various stakeholders groups have been identified and solutions that have had success in various parts of the world have been discussed. Recognising that different approaches may be required in various countries, the working group will continue to examine these in more detail with the aim of providing a comprehensive description of the solutions and approaches that have proved successful. It is intended to complete a Technical Brochure on this work by the end of 2020.