A unique initiative by

the world’s largest power grid operators

for the development of stable, affordable and environmentally-sensitive energy
Dear friends and colleagues!

I’m honored and privileged to address you now as the newly appointed President of our Association.

Established in 2004, GO15 is a unique initiative of the world’s largest power grid operators to investigate fundamental issues of common interest and to develop joint actions for improvement and enhancement of power system security.

For over fourteen years since the founding of the Association drastic global changes have forced us to adapt and embrace new roles and responsibilities of the system operators and more generally of our industry. The year 2004 saw the start of GO15 as an opportunity to discuss and develop a survey and consensus on cascading events and blackouts. Today GO15 provides us with a framework to meet challenges that arise from the operation of our power systems with respect to current worldwide trends – digitalization, decentralization and decarbonization. Upon reflection on our past victories it is my honor to state that GO15 initiative has been widely successful and is gaining substantial visibility and recognition. We proceeded one step at a time to establish what is today recognized as a foresight club that helps us all to address jointly the major issues affecting our industry.

As the system transforms and becomes more distributed in nature, the system control has to adapt as well. Many are enthusiastic enough already to try and fully adopt distributed resources, including complementary decentralization. The others embrace security-constrained economic dispatch due to zero marginal costs of renewables. We all look for pace and ways of steering our companies through the challenges that face our industry and differ from country to country. The Russian system is yet to encounter the issue of supporting high renewable penetration. Some regions will most likely reshape their policies in the next two or three years and open up to renewable targets because of the environmental decisions already taken. Still for economic reasons renewable expansion will be relatively small. Key characteristics and planning principles of the Russian system – with unfavorable geography for renewables and reliance upon abundant fossil fuels – give strong reason to believe that thermal generation will continue to dominate in the years to come. Thus, the main challenge most likely will be posed by the aging of generation fleet. However, efficient modernization of conventional generation is undoubtedly of significant importance the world over. The vast majority of power systems still depends on thermal generation for maintaining reliability – until similarly efficient energy storage is available.

As we move forward, I confirm the Presidency’s commitment to continue the GO15 strategic initiative and to excellence the cooperation within the same well-organized framework we’ve developed through the years. I believe that GO15 strategic focus areas will facilitate the adoption of our vision by the industry and build up a broader understanding of the changing role of the system operators.

Also, the process we have established for ICER and our MoU signed with CIGRE illustrate how GO15 can complement effectively the work of other international organizations. Under the leadership of my predecessors, GO15 has been a very strong contributor to this cooperation. As the new president I will honor our current obligations and am looking forward to a constructive dialogue to choose and focus on domains of our mutual interest.

These are just a few thoughts facing the year of my Presidency. While leadership changes are inevitable, I would like to state what has not and will not change – our core values and willpower to guide GO15 in its commitment to the chosen strategy. Our initiatives demonstrate that, by working more closely together, we can help the entire industry. I hold in high esteem a unique framework GO15 offers us to achieve this: sharing information, best practices and deep understanding of the perspectives regarding the mutual challenges we face.

I look forward to continuing our professional dialogue in the future!
Roles of the Power Grid Operators

Power grids and continuous development of supporting infrastructure play an essential role in promoting social welfare of the world’s population. Reliable and safe supply of energy is a responsibility of the Power Grid Operators.

- Acting to ensure quality and security of supply, at an affordable cost to end-consumers
- Serving as an interface among direct users of the transmission grid: end-consumers, large industrials, generators, traders and distributors.
- Being interlocutors with regulators, competent authorities and governments.

Power Grid Operators are confronted with similar challenges:

- The large-scale penetration of renewable generation and other distributed resources embedded in the distribution grids increases uncertainty and volatility in power grid operations.
- Demand-side management and integration of electrical vehicles result in changing consumer load patterns and interactions with the grid operator.
- Improved grid resilience is needed to face increased exposure to natural or man-made disruptions to power grid operations.
- Smarter and stronger grids addressing the environmental objectives and the transition to a new energy mix require major investments and funding.
Background

GO15 (initially named VLPGO for ‘Very Large Power Grid Operators’) was founded in November 2004, as a joint initiative between 12 of the largest Power Grid Operators in the world. The initial intent was to create a top executive forum that could meet on a regular basis and discuss the challenges specific to the increasingly complex power grids. This initiative was done on a voluntary basis, with members, working together on selected joint activities with annual deliverables. Several working groups were formed to address challenges through exchanges of experience, best practices and joint developments.

Today, the GO15 comprises 19 PGOs from the six continents, who serve over 3.5 billion customers on an aggregate basis. The GO15 members are well aware of the important role that they have to play in the great energy debate, and in particular, in providing their contribution to solving the Energy Trilemma defined by the WEC at the 2013 World Energy Conference in Daegu as: “The development of stable, affordable, and environmentally-sensitive energy”.

More specifically, the GO15 is working through dialog, joint workshops or collaborative efforts, with a number of international organizations such as APEX (Association of the Power Exchanges), Energy Charter, ICER (International Confederation of the Energy Regulators), IEA (International Energy Association), WEC (World Energy Council) and other associations.

Objectives

1- Power Grid Operators support the transition to the New Sustainable Energy Mix.

2- Power Grids are the backbone of economic development.

3- Resilience and Safety of the Power Grids imply investments at a reasonable cost for consumers.

Vision

To be a leader and a catalyst in the transition of the electric power industry to the power grid of the 21st century.

Mission

Innovative thinking: build international consensus on the strategic issues challenging the very large power grid and market operators.

Technology advancement: develop a common vision with respect to the technologies and best practices.

Industry leadership: through a common communication policy, the dissemination and implementation of a common vision via information exchange, collaborative projects and cooperation.
GO15 – 15 years of best practice exchanges and joint developments

May 2004
RTE, PJM and Tepco agree to develop a joint initiative regrouping the largest power grid operators of the world

November 2004
First meeting in Philadelphia, hosted by PJM. Initial meeting included MISO, National Grid, ONS, PGCIL, PJM, RTE, SGCC, Tepco and Terna

November 2008
GO15 incorporates in the State of Pennsylvania

April 2012, London
Signature of MoU between GO15 and ICER

November 2013,
Annual Meeting and 2013 CEO Declaration, Joint Meeting with APEX

2nd GO15 Forum 2015,
Dubai – UAE

October 2013
GO15 participates in the WEC Conference in Daegu

2nd GO15 Forum 2015,
Dubai – UAE

3rd GO15 Forum in Collaboration with APEx 2017, Brussels – Belgium

4th Workshop GO15 and ICER 2018 World Energy Week, Milan - Italy
1st GO15 Forum 2014, Guangzhou – China

October 2013
GO15 participates in the WEC Conference in Daegu

2nd GO15 Forum 2015, Dubai – UAE

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Signature of MoU between GO15 and ICER

2017,
Signature of MoU between GO15 and APEX

TSO/DSO Workshop - CEM7 2016, San Francisco - USA

2017,
Signature of MoU between GO15 and APEX

3rd GO15 Forum in Collaboration with APEX 2017, Brussels – Belgium

4th Workshop GO15 and ICER 2018 World Energy Week, Milan - Italy

1st GO15 Forum 2014, Guangzhou – China
More than 150 experts working on technical, economic and regulatory topics

The World’s 19 largest power grid operators
More than 70% of the world’s electricity demand of which 21% from DER
3.5 billion consumers
The World's 19 largest power grid operators

- More than 70% of the world's electricity demand of which 21% from DER
- 3.5 billion consumers

More than 150 experts working on technical, economic and regulatory topics
GO15 - A unique initiative of the world’s largest Power Grid Operators’ transition challenge to the new energy mix

In order to better address the major challenges our members are facing, GO15 has reorganized its joint activities at its 2017 Steering Board Meeting in Brussels into Strategic Initiatives, aligned with the GO15 Member CEOs top concerns. Those initiatives are primarily dealing with the operational, technological, market, regulatory and financial aspects of the power grids of tomorrow, as the power system evolves towards low carbon energy sources.

Two major initiatives have emerged for 2019. These include:
- Pathways to a Low Emission Power System
- Resilience Models

Those strategic initiatives are being addressed by three Strategic Working Groups (SWG), who rely on Task Forces composed of subject matter experts selected from its international network of over 150 experts, built over the last 14 years.

The SWGs are under the responsibility of one or several co-chairs, who develop the multi-year road map and the work plans. Those work plans have annual deliverables to provide the GO15 Member CEOs with inputs and recommendations to feed their own company strategies. SWGs exchange their knowledge and best practices through regular webinars and face-to-face meetings.

These exchanges are complemented through conferences and regular workshops with major international organizations, such as ICER, APEX, Cigre and WEC.

In addition, a GO15 Communication Core Team (CCT) was created to promote the exchange of information, both among the GO15 members, and between GO15 and the major industry stakeholders, including policy makers, regulators, industry experts, and media.

### 2019 Strategic Working Groups

**Coordinator:** Pierre-Henri Gresse – Technical Coordinator - GO15 Secretariat

**SWG 1: Pathways to a Low Emission Power System**

*Chairs:* Wayne Schug (MISO) and Julian Leslie (National Grid)

GO15 members have volunteered to prepare case studies of recent or ongoing work efforts that position them to be better prepared for a transition to a low emission and decentralized power system. Work efforts fall into three categories: Market Pathway, Regulatory/Policy Pathway and Technical Pathway.

**SWG 2: Resilience Models**

*Chairs:* Shaun Murphy (PJM) and Giacomo Donnini (Terna)

In continuity with the work performed in 2018, the SWG2 activity for 2019 seeks to exchange in more depth the best practices and emerging strategies that System Operators are using to recover the system from high impact, low frequency events. In particular, the following areas are the focus: Operational Resilience, Cyber Resilience and Electricity Infrastructure.

**Communication Core Team 2018**

*Coordinator:* Salima Hebbache

*GO15 Secretariat*

**Contributors**

- Oscar Hidalgo - CAISO
- Youcef Al Marwan - GCCIA
- Raeesah Waja - ESKOM
- Tatiana Telushkina - SO UPS
- Katia Ogawa - ONS
- Sabina Moretti - Terna

**CCT Scope:** Planning and Implementation of 2019 internal and external communication objectives, among the members as with all external organizations and energy transition stakeholders.
GO15 - A collaboration Framework for Mutual Assistance

Recent major disruptions of the power grids caused by weather or other related events have led the GO15 members to develop a Protocol of Mutual Assistance. This protocol, complemented by a Communication Network, enables any member in major difficulty to contact and seek assistance from other members on a timely basis.

Agreement for Mutual Cooperation

Each year the power grids are affected by natural or man-caused events, which impact millions of people around the world. Recent events such as the 2011 Japan earthquake or 2012’s Hurricane Sandy have caused serious damage to the power grids, resulting in major outages at the time where delivery of electric power was more crucial than ever to provide basic relief to the population.

Power Grid Operators play a crucial role in restoring power supply after a major power system disturbance. During such periods of scarcity, the Power Grid Operators are first in-line to provide limited available power to critical loads and consumers. In some cases, rolling blackouts have to be organized to maintain the stability of the power grid.

By sharing operational experiences and best practices, the capability of Power Grid Operators around the world to respond quickly to exceptional situations is greatly enhanced. In cases of extensive damage to the power grid transmission assets, restoration of the service is accelerated by obtaining spare equipment and resources from neighbor operators.

In this context, the GO15 members have developed a framework for Mutual Assistance, that includes a signed protocol which defines pre-agreed terms for such assistance, a library of relevant reports documenting how previous incidents were handled, and a mapping guide that helps members in need of assistance to quickly access subject matter experts that can be consulted to address specific types of incidents.

Communication Network

In addition to the Agreement for Mutual Cooperation, the GO15 Members have created a global Communication Network. The goal of this unprecedented initiative is to strengthen information exchange among the worldwide Power Grid Operators, to give our members an opportunity to share information in a fast and efficient way when needed, and to help them to be better prepared to handle unusual situations.
International Cooperation

The magnitude of the changes that the energy industry is undergoing is unprecedented and cannot be addressed effectively unless the international organizations representing the various sides of the Energy Sector work together for comprehensive solutions. This suggests that government authorities, regulators, power generators, distribution and grid operators, as well as market operators need to embark on an industry-wide dialog that addresses the industry challenges in a holistic manner. To this effect, GO15 reached out to several key international organizations with the goal of developing information exchanges to address the challenges ahead.

In 2018, GO15 Steering Board has adopted endorsements by accepting speaking opportunities with, organizations that can further enrich the organization’s vision in the international debate through participation in Conference Events of other organizations and stakeholders (such as Grids Power operators and utilities), with the objective of increasing awareness of the grid role in the energy transition.
3rd GO15 Forum 2017
(Brussels, Belgium) – October 25th

On the occasion of the GO15 Annual meeting hosted by Elia Group, APEX & GO15 members came together to share their experiences and knowledge with industry peers from around the world. The Event was hosted by EPEX Spot and GO15, organized concurrently with the APEX Annual Meeting. The event started with the opening speeches by GO15 President 2017 (Mrs. Audrey Zibelman – CEO of AEMO) and APEX Chairman (Mr. Stu Bresler), they welcomed all the panelists from GO15 and APEX as well as the invited experts, they have addressed an audience of 135 participants from 30 nations during the plenary session.

Next GO15 Forum will be hosted by SO UPS

4th GO15 Forum
October 2020

www.go15forum.com

For Partnership and sponsorship
Contact the secretariat
salima@go15.org
GO15 members share the same vision on the evolution of the power grids linked to the transition to the new energy mix, the changing load patterns, as well as the development of global consumption driven by increased demand in the major emerging economies.

The current rate of change in the electricity industry is unprecedented and presents many challenges. These are driven by the transition to lower emissions generated and a changing fuel mix, as well as changes in technology, economic factors and consumer behavior. In rapidly developing economies, this is further compounded by the need to expand the generation and grid infrastructures to meet the rapid growth in energy consumption. These factors necessitate an expansion or a reinforcement of the world’s power grids to bring the power from the generators to the load centers.

In the future, the Power Grid Operators will manage increasingly complex power grids that accommodate the progressive integration of renewable energy sources and electric vehicles, together with the flexibility of the consumer demand, in support of the transition to a new energy mix. To maintain or improve the reliability and resilience of the grids of the future, it will be necessary to develop smarter grids by leveraging advanced communication and information technologies that will play an increasingly critical role. Today GO15 members jointly develop innovative solutions by sharing their experience and best practices, in order to prepare the grids of the future that will combine strength and flexibility to meet the challenges of the new energy world.

Power grids are the backbone of economic development, ensuring simultaneously the quality and the security of supply of electricity adapted to the needs of the consumers.
GO15 – Governance

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Providing customers with a reliable and safe supply of energy at a reasonable cost.

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