Session Program

GRID SERVICE MARKET SYMPOSIUM

GSM 2024

KKL, Lucerne 1 – 2 July

SWITZERLAND

+ virtual attendance

GRID

FLEXIBILITY & BUSINESS

Featuring

1. **Future of Grid Service Markets**
2. **International Collaboration**
3. **Advanced Technologies providing Flexibility**
4. **Grid Service Operation**
5. **Enabling Technologies**
6. **Case Studies, Demonstrations & others**

www.GridServiceMarket.com

GSM 2024, 1 - 2 July

KKL, Lucerne Switzerland

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www.24-7zenproject.eu

7th Grid Service Market Symposium featuring grid flexibility & business

Chaired by:
Prof. Christoph Imboden
HSLU, Lucerne/Switzerland

Supported by: **GSM International Advisory Board (IAB)**

- **Davor Bošnjak**	HEP, Croatia	- **Dr. Michael Moser**	Swiss Federal Office of Energy SFOE
- **Prof. Nikos Hatziargyriou**	NTUA, Greece	- **Prof. Carlo Alberto Nucci**	Uni Bologna, Italy
- **Prof. Christoph Imboden**	HSLU, Switzerland (Chair)	- **Dr. Bastian Schwark**	Swissgrid AG, Switzerland
- **Ivana Kockar**	University of Strathclyde, UK	- **Andreas Svendstrup-Bjerre**	BattMan Energy, Denmark
- **Thomas Kudela**	Ørsted A/S, Denmark	- **Sebastian Ziegler**	50 Hertz, Germany

GSM SCOPE

www.GridServiceMarket.com/Scope

The electricity market is changing, opening opportunities for more flexibility in generation, storage and consumption. The integration of a large amount of new renewable energy sources poses great challenges for the European electricity grids & markets. Network reinforcement, market harmonisation and integration are solutions and challenges for the various players in the electricity industry.
New technologies such as Power to X, Batteries, Demand Side Response DSR, Water Electrolysers, Fuel Cells and others compete or complement each other in terms of technical capabilities and economic performance. The integration of such new technologies and methods, to provide grid services and optimise the use of existing infrastructure, is changing the face of the electricity industry in the long term.

GSM AIM

The 7th GSM-Symposium aims to outline recent developments in the European grid service markets, to highlight advancements and challenges in international cooperation and to reflect the technological progress. In addition, it reports on experiences and success stories, which support a rating of the performance, and future potential of new sustainable technologies.

GSM STAKEHOLDERS

The 7th GSM-Symposium addresses grid and technology experts, scouts and managers from the electricity industry, administration bodies and researchers interested in the commercial aspects of grid services and new technologies. Experts present their contributions to technological advances and propulsive business solutions. The international audience will exchange on market logic, regulations and harmonization activities, future trends, operations, technology capabilities, and long term business plans and other business related aspects of European grid service markets.

Session Program

KKL Terrassensaal, 5th floor

Monday, 1 July

Legend:
K - Keynote
P - Poster (with gray background)

			Presenter, Organisation, City/Country
10:00		**On-site GSM registration**	
11:00	**G01**	**OPENING & WELCOME**	**Presenter, Organisation, City/Country**
	G0101	**Welcome by the symposium chair**	Christoph Imboden (1), Michael Spirig (2), Olivier Bucheli (2) (1) Lucerne Uni of Applied Sciences & Arts, Horw, (2) European Electrolyser & Fuel Cell Forum AG, Lucerne/Switzerland
	G0102	**Welcome by TSO Swissgrid**	Bastian Schwark Swissgrid AG, Aarau/Switzerland
11:15	**G02**	**FUTURE OF GRID SERVICE MARKETS I**	Session-chair: **Thomas Kudela, Ivana Kockar**
K	G0201	**No transition without transmission**	Anser Shakoor GE Vernova, Bracknell/UK;
	G0202	**Industry's critical perspective on the NC DR**	Thomas König Enspired GmbH, Vienna/Austria;
	G0203	**Flexibility gap is looming: How do we bridge it?**	Ksenia Tolstrup Magnus Energy B.V. Naarden/The Netherlands;
12:35		Lunch break and coffee in the poster area	
13:20		**POSTER Pitches**	Session-chair: **Christoph Imboden**
6xP		**G0310, G0311, G0312** **G0410, G0411, G0412**	**5 min pitches** to introduce each poster see title, authours and institutions in the corresponding sessions
13:50	**G03**	**ADVANCED TECHNOLOGIES PROVIDING FLEXIBILITY I**	Session-chair: **Andreas Svendstrup-Bjerre**
	G0301	**Grid services and wholesale markets: the missing link**	Antonio Zecchino, Maurice Dierick Alpiq AG, Olten/Switzerland;
	G0302	**C3S Energy Service to ENTSO-E:** **Impacts of climate change in the Pan- European Climate Database (PECD)**	Alberto Troccoli (1,4), Giovanni Aldrigo (1), Stefano Campostrini (1), Stefano Cordeddu (1), Letizia Lusito (1), Elena Restivo (1), Susanna Strada (1), Mattia Zaramella (1), Matti Koivisto (2), Polyneikis Kanellas (2), Rodrigo Amaro e Silva (3), Yves-Marie Saint-Drenan (3) (1) Inside Climate Service s.r.l., Padova/Italy, (2) Dept of Wind & Energy Systems, Technical University of Denmark, Roskilde/Denmark, (3) Centre Observation, Impacts, Energy, Mines Paris - PSL University, Sophia Antipolis/France,
	G0303	**Water electrolysis powered by renewables:** **Optimizing the cost of green hydrogen production across Europe**	Paolo Marocco, Marta Gandiglio, Massimo Santarelli Department of Energy, Politecnico di Torino, Turin/Italy;
P	G0310	**Modelling charging behaviour of electric vehicles** **to estimate the potential flexibility income**	Enrique Romano, Andre S. Eggli, Claas Wagner Hochschule Luzern , Technik und Architektur, Horw/Switzerland;
P	G0311	**Optimal V2X operation of EV fleets** **with PV-battery charging station for demand-side flexibility provision**	Federica Bellizio, Philipp Heer Empa, Dübendorf/Switzerland;
P	G0312	**Relief of the power grid through cost-effective hydrogen generation**	Gabriele Humbert*, Hanmin Cai, Binod Prasad Koirala, Philipp Heer Urban Energy System Laboratory, Empa, Dübendorf/Switzerland;
15:00		Coffee break & poster visit	
15:30	**G04**	**ENABLING TECHNOLOGIES I**	Session-chair: **Ivana Kockar**
	G0401	**Intraday Solar Irradiance Forecasting** **Using Public Cameras**	Roy Sarkis (1), Ilker Oguz (2), Demetri Psaltis (3), Mario Paolone (4), Christophe Moser (2), Luisa Lambertini (1) Swiss Federal Institute of Technology, Lausanne/Switzerland; (1) College of Management, (2) Lab of applied photonic devices, (3) Optics Laboratory, (4) Distributed Electrical Systems Laboratory;
	G0402	**Provision of System Services by Offshore Wind** **Experiences and outlook**	Thomas Kudela Ørsted AS, Denmark;
K	G0403	**Resolving grid congestion with non-wire solutions**	Stefan Doerig smartEn & tiko Energy Solutions, Zurich/Switzerland;
P	G0410	**The influence of the World and European football championships on the electricity consumption diagram (load curve) of the Republic Croatia**	Petar Ribaric, Davor Bošnjak HEP, Zagreb/Croatia;
P	G0411	**Exploring the Potential of Quantum Computing** **for Electrical Power System Optimization**	Zlatko Ofak (1), Dino Mileta (1), Tin Bobetko (1), Dario Jukić (2), Karlo Lelas (3), Hrvoje Buljan (4) (1) Uprise d.o.o, Zagreb/Croatia; University of Zagreb, Zagreb/Croatia, (2) Faculty of Civil Engineering, (3) Faculty of Textile Technology, (4) Faculty of Science;
P	G0412	**Developing the DSO role using local flexibility markets** **for long-term, short-term and real-time operations**	Svein Jørgen Sønning NODES AS, Lysaker, Oslo/ Norway;
16:35		Short bio break	

24/7 ZEN

G05 Co-creating the Future
sponsored by **24-7zenproject.eu**

5 min presentation & common Q&A

Session-chair: **Christoph Imboden, Michael Moser**

G0501	**Equigy:** **European collaboration for distributed flexibility**	Raphael Wu, Lyuba Schulz Swissgrid Ltd, Aarau/Switzerland;
G0502	**DigIPlat:** **Transboundary Exchange in Flexibilities in D-A-CH**	Albrecht Reuter Fichtner IT Consulting GmbH, Stuttgart/Germany;
G0503	**ENFLATE:** **Market-based procurement of grid-friendly flexibility**	André S. Eggli (1), Sébastien Rolland (2), Christoph Imboden (1), Davide Orifici (2) (1) Lucerne University of Applied Sciences and Arts, Lucerne/Switzerland; (2) European Power Exchange EPEX SPOT, Paris/France;
G0504	**A Case Study for Unveiling Flexibility Options** **in Achieving Swiss National Energy Goals**	Olena Levon (1), André Eggli (2), Christoph Imboden (2) (1) HSLU, Institute of Electrical Engineering, Horw/Switzerland; (2) HSLU, Institute of Innovation and Technology Management, Horw/Switzerland;
G0505	**Flexibility provision from local energy communities exemplified** **by the SUSTENANCE and SERENE H2020 projects**	Birgitte Bak-Jensen (1), Rakesh Sinha (1), Sanjay Chaaudhary (1), Hessam Golmohamadi (1), Gerwin Hoogsteen (2), Aditya Pappu (2), Bahman Ahmadi (2), Richard van Leeuwen (3), Javier F. Gonzales (3); Patryk Chaja (4), Weronika Radziszewska (4), Zakir Rather (5) (1) Aalborg University, Energy, Aalborg East/Denmark; (2) University of Twente, Faculty of Electrical Engineering, Mathematics & Computer Science, AE Enschede/Netherlands; (3) Saxion University of Applied Science, Sustainable energy systems, DH Deventer/Netherlands; (4) Institute of Fluid-Flow Machinery, Polish Academy of Science, Gdansk/Poland; (5) Indian Institute of Technology Bombay, Mumbai /India;
G0506	**Q&A to the Project Presentations I**	Christoph Imboden (1), Michael Moser (2) (1) Lucerne Uni of Applied Sciences & Arts, Horw/Switzerland; (2) Swiss Federal Office of Energy, Bern/Switzerland;
G0507	**VPP implementations:** **Different types of services developed, experiences and platforms**	Gary Howorth, Ivana Kockar Electronic and Electrical Engineering Dept, University of Strathclyde, Glasgow/UK;
v G0508	**Empowering Prosumers in the Energy Transition:** **The REEFLEX Approach to Flexibility Markets and Improved Grid Management**	Gregorio Fernández (1), Asier Rueda (1), Lorena Elorza-Uriarte (1), Marcos Remiro-Cinca (1), Georgios Skaltsis (2) (1) CIRCE Technology Centre, Zaragoza/Spain; (2) CERTH ITI, Thessaloniki/Greece;
G0509	**Opentunity creates Opportunities:** **NODES™ Flexibility Market solutions in Greece, Switzerland and Spain**	Gesa Milzer NODES AS, , Lysaker, Oslo/ Norway;
G0510	**Q&A to the Project Presentations II** **Summary of the day & outlook**	Christoph Imboden (1), Michael Moser (2) (1) Lucerne Uni of Applied Sciences & Arts, Horw,/Switzerland; (2) Swiss Federal Office of Energy, Bern/Switzerland;

18:00 **End** of sessions

19:30 **GSM Network Dinner**

22:00 **Return to Lucerne, boat standing until 23.00**

Tuesday, 2 July

08:30 On-site GSM registration

09:00 G06 ADVANCED TECHNOLOGIES PROVIDING FLEXIBILITY II

Session-chair: **Carlo Alberto Nucci, Christoph Imboden**

K G0601	**Local Energy Communities**	Nikos Hatziargyriou National Technical University of Athens, Athens/Greece;
G0602	**A V2G Business Case in the Netherlands**	Baerte de Brey ElaadNL, Arnhem/The Netherlands;
G0603	**The value of flexibility** **for electrolyzers and the electricity system**	Simon Hedegard Jensen Energinet (Danish TSO), Fredericia/Denmark;

10:30 Coffee break& poster visit

11:00 G07 ENABLING TECHNOLOGIES II & Operation and Regional Coordination

Session-chair: **Nikos Hatziargyriou, Thomas Kudela**

G0701	**Sector coupling for renewable energy sources integration** **A case study for the German gas transmission network**	Luisa Di Francesco (1), Marco Cavana (1), Yifei Lu (2), Pierluigi Leone (1), Andrea Benigni (2) (1) Politecnico di Torino, Department of Energy “Galileo Ferraris”, Torino/Italy; (2) Forschungszentrum Jülich, IEK-10: Energy Systems Engineering, Jülich/Germany;
G0702	**UrbanTwin:** **Development of Local Energy Strategy and Grid Infrastructure 2050**	Pål Forr Austnes (1), Riccardo Saporiti (2), Catarina G. Braz (3), Bingqian Liu (3), Luc Girardin (3), Mario Paolone (1), Fabio Nobile (2), François Maréchal (3); EPFL Switzerland: (1) Distributed Electrical Systems Laboratory – Power Systems group, Lausanne; (2) Scientific Computing and Uncertainty Quantification, Lausanne; (3) Industrial Process and Energy Systems Engineering Group, Sion;
G0703	**Managing and optimizing a set of photovoltaic installations** **at the low-voltage grid level: A data-driven concept through** **Machine Learning models and spatio-temporal modeling**	Thibaud Alt (1), Beat Wolf (2), Jean-Philippe Bacher (3), Frédéric Montet (2) (1) Groupe E SA, Granges-Paccot/Switzerland; (2) iCoSys institute, HES-SO University of Applied Sciences and Arts, Fribourg/Switzerland; (3) ENERGY institute, HES-SO University of Applied Sciences and Arts, Fribourg/Switzerland;
G0704	**Interoperability by Sovereign** **and Secure Data Exchange in Trustworthy Data Spaces**	Andreas Rumsch, Eugen Rodel, Christoph Imboden Lucerne University of Applied Sciences and Arts, Horw/Switzerland;

12:20 Lunch break and coffee in the poster area

13:05 **POSTER SESSION**

Session-chair: **Christoph Imboden**

13:50 G08 GRID SERVICE OPERATION

Session-chair: **Andreas Svendstrup-Bjerre**

G0801	**Regional Coordination Center:** **Cases and duties**	Stelios Kromlidis (1), Ioannis Kampouris (1,2) (1) SELENE-CC RCC, Thessaloniki/Greece; (2) IPTO – ADMIE TSO, Athens/Greece;
G0802	**Data-driven predictive control for demand side management:** **Theoretical and experimental results**	Mingzhou Yin (1), Hanmin Cai (2), Andrea Gattiglio (2), Fazel Khayatian (2), Roy S. Smith (1), Philipp Heer (2) (1) Automatic Control Laboratory, Swiss Federal Institute of Technology in Zürich, Zürich/Switzerland; (2) Urban Energy Systems Laboratory, Swiss Federal Laboratories for Material Science and Technology (Empa), Dübendorf/Switzerland;
G0803	**Assesment of economic surplus** **of the European balancing platforms**	David Steber (1), Ulf Kasper (1), Andreas Kindsmüller (1), Dominik Schlipf (2), Alexander Warsewa (2), Simon Remppis (2) (1) Amprion GmbH, System Operation - Balancing, Pulheim/Germany; (2) TransnetBW GmbH, System Operation - Balancing, Wendlingen/Germany;

14:50 Coffee break& poster visit

15:15 G09 FUTURE OF GRID SERVICE MARKETS II

Session-chair: **Carlo Alberto Nucci, Christoph Imboden**

G0901	**Meeting Ireland's 2023 30% Flexibility Targets:** **The Regulatory Approach**	Robert O'Rourke CRU, Dublin/Ireland;
K G0902	**The energy transition requires the convergence of SmartGrids & Smart Renewables with the rest of the Energy system enabled by AIOT**	Maher Chebbo UNIVERS, Courbevoie/France;

16:10 CLOSING

G0903	**Final Discussion & Active Summary**	Christoph Imboden & Board Members Lucerne Uni of Applied Sciences & Arts, Horw/Switzerland
G0904	**Closing**	Christoph Imboden (1), Michael Spirig (2), Olivier Bucheli (2) (1) Lucerne Uni of Applied Sciences & Arts, Horw, (2) European Electrolyser & Fuel Cell Forum AG, Lucerne/Switzerland

16:50 **End of sessions & end of official part of GSM Symposium**

Networking possibilites on Tuesday evening

18:00 **EFCF Welcome Reception: GSM participants are kindly invited by EFCF**

19:00 **End GSM 2024**

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GSM 2024

KKL Lucerne, 1 – 2 July

Grid Service Market Symposium

featuring: Grid Flexibility & Business

Invited Speakers & Presentations

G0902

Dr. Maher Chebbo, Managing Director Europe at UNIVERS, Norway

www.univers.com

Speech: The energy transition requires the convergence of SmartGrids & Smart Renewables with the rest of the Energy system enabled by AIOT

In 2050, EU carbon-neutral and especially renewable energy alternatives to fossil fuels are to be implemented for all energy needs. The use of crude oil for all domestic, commercial, industrial, buildings, cities and mobility needs is marginal thanks to the substitution of crude-oil with wind, solar, hydro, hydrogen, geo-storage, biomass, biofuels and other renewable energy sources, such as CO2-free electricity for cars, trains, urban buses and delivery trucks.

Massive & immediate sustainability investments are required in SmartGrids, Renewables (Wind, Solar, Hydro, Hydrogen, Geo-storage, Virtual Power Plants), Smart Cities (Smart Buildings, Green Transportations such as Green Ports, Green Airports, Green Railways, Batteries Giga-factories & Industrial Parks), eMobility & Carbon Lifecycle Management for Enterprises, Districts, Cities and Nations. Digital & Clean Technology Platforms, like EnOS platform, support these massive & immediate investments towards the journey to Net Zero and accelerate the transition to a more sustainable world by combining energy data, non-energy data, carbon data, well-being data and economics data covering CAPEX, OPEX, NPV, IRR and fully measurable outcome-based-financing.

Bio: Maher acted in Global and EMEA Senior Executive roles within large Corporates (GE Digital, SAP, Cap Gemini) as well as successful Startups (accenta.ai), Digital, AI and Data Science, Energy, Telecommunications, Manufacturing, Mobility & Cleantech (Renewables, Batteries & BESS, Green Hydrogen, Green Ammonia, Smart Cities, Smart Building, Geo-Storage, EV Charging, Carbon Management). He is currently Managing Director for Europe at Univers.

Maher is a non-Executive Board member of Elisa, Telecom operator of Finland.

Maher has been President of ESMIG (European Smart Metering Industry Group), is a member of the Council of Engineers for Energy Transition of UN (CEET) and is chairing the digital batteries task force at Batteries Europe.

Maher's areas of expertise are AI, ML, AIOT, Blockchain, SmartGrids, Cleantech, Smart Renewables, Smart Cities, SaaS, PaaS, Cloud, AI, AIOT, ML, Cyber Security, and Data Science.

G0603

Baerte de Brey, Chief International Officer within Elaad, NL

www.REScoop.eu

Speech: Technical & regulatory lessons learned from scaling up V2G in different EUropean countries

Bio: Baerte works at Stedin, a Dutch DSO on e-mobility, and is the Chief International Officer within ElaadNL. Responsible for analyzing the long-term effect of electric mobility on the electricity grids, Baerte helps building a sustainable business case around this transition. This includes vehicle2grids, EV-storage and cyber security. He graduated from Leiden University in 2001 with a law degree and received a MBA from Nyenrode Business University in 2006. On behalf of Stedin, he is one of the executive board members of ElaadNL, the knowledge and innovation center in the field of (smart) charging infrastructure. As an expert for the European Commission, he sometimes reviews collective European programs concerning EV interoperability and smart charging. In his spare time he is Vice-President of Avere, the European Association for e-mobility.

G0301

Maurice Dierick, Head of Development and Projects at Alpiq, Switzerland

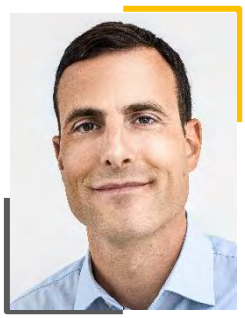
www.alpiq.com

Speech: Grid services and wholesale markets: the missing link

Grid services are focused on relatively short timelines, from seconds to several hours. For a successful energy transition, it is clear that long-duration, commercial energy storage will be needed. But what about the time horizon of several hours to several days? Although a number of technologies have reached industrial readiness maturity, it is not clear whether under the current regulatory framework, there is a business case that allows for sufficient investment in these solutions. So, should this perhaps be considered as a new category of grid services, to be provided under market conditions rather than under a subsidy model?

Bio: Maurice Dierick, Dipl. Ing. Maschinenbau, is Head Development & Projects at Alpiq. Prior to this, he was the Head of Market at Swissgrid and a member of the Board at ENTSO-E. From 1998 to 2015, he worked as a consultant in the energy sector, supporting various transformation projects in the field of asset management at German, French, Australian and Swiss power companies. He started his career as an engineer at major industrial companies in France and Germany.

G0403



Stefan Dörig, Head of Regulatory and Public Affairs, tiko Energy Solutions, Switzerland

www.tiko.energy

Speech: Resolving grid congestion with non-wire solutions

Grid congestions will soon become a European challenge. An EU strategy is needed, focusing on harmonized approaches, promoting non-wire solutions, and complementing existing EU rules if necessary. To support this strategy actions are required, including improving planning processes, incentivizing operational investments, implementing cost-reflective network tariffs, promoting local self-balancing initiatives, and developing a dedicated data exchange layer for efficient grid management.

Bio: Stefan Dörig is Member of the management board at tiko Energy Solutions and Chairman of the board at smartEn. Supporting swisscleantech Association with Public Affairs. Former Energy Counselor at the Mission of Switzerland to the European Union. Historian and economist. Part-time politician and proud owner of a Maltese dog called Patron.

G0704

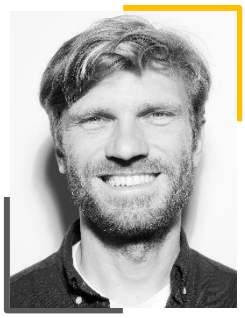
Simon Hedegård Jessen, Energy Systems Engineer, Energinet, Danish TSO

www.energienet.dk

Speech: The value of flexibility for electrolyzers and the electricity system

The expected massive integration of variable renewable electricity production requires implementation of flexible consumption, to meet the ambitious climate goals.
This presentation highlights how to unlock flexibility from electrolyzers, hence, quantifying the value of operating the electrolyzers dynamically. With regard to flexibility, it is often the implicit flexibility, i.e. reacting on day-ahead price signals, that is in focus. However, explicit flexibility from electrolyzers is anticipated to enable cost-efficient balancing of a 100% renewable-based electricity system. Therefore, the presentation will promote active participation in ancillary service markets (explicit flexibility), to showcase the value proposition for the electrolyzer owners and magnify their business cases.

Bio: Simon Hedegård Jessen is an energy systems engineer at the Ancillary Service department of the Danish TSO, Energinet. His work is dedicated towards developing and designing ancillary service requirements for the successful transition of the energy system transformation. His focus is particularly on evaluation and analysis of PtX integration, hydrogen backbone development and compatibility with ancillary service markets, respecting legal-, economical- and technical aspects. Prior to joining the Ancillary Service department of Energinet, he has been studying BSc and MSc in energy systems engineering at University of Southern Denmark.



Thomas König, Regulatory Expert, enspired GmbH, Vienna, Austria

www.enspired-trading.com

Speech: Industry's critical perspective on the Network Code on Demand Response

In many cases relying on existing assets and infrastructure is more sustainable than building new ones. When applying this principle on the energy transition, considering higher utilization of the small-scale flexibility from households, commerce and services seems essential: In Germany e.g., this makes up over half of the power consumption. Additionally, there is over 10 GWh capacity of power storage installed in households. With a growing number of heat pumps and electric vehicles consumption will rise significantly – as well as flexibility supply.

This tremendous amount of flexibility has not been unleashed but there lies a great chance for consumers to source their energy at lower cost. At the same time, it is a great chance for aggregators and traders to develop new business models. But they have to be brought together: and this is where the Network Code unfolds its strengths. It gives guidelines for processes for system operators, suppliers, and service providers, but also requirements for respective stakeholders to enable Demand Response.

However, Consumers are only onboarded on that journey if it pays off. Hence, all action taken need to be converted into one price signal for the consumers to react. Also, the price signal does not come out of the

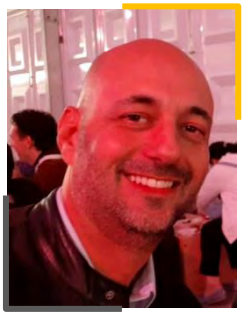
blue – it requires the effort of many stakeholders in the background. Whereas the power producing and consuming assets are already in place, the surrounding infrastructure for measuring/aggregating is not. Building this infrastructure requires large Investments and which have to return. These Investments will only be taken, when providers of those services are rewarded adequately.

The basis for that is trust in markets and the Network Code on Demand Response will be measured upon that. And again, it will be the price signal leading to success and everything that distorts it should be limited to absolute needs of system security. Here we can take a closer look from a trader's point of view on the;

- *Interactions between (local) markets on one side and foreseen possibilities like Flexible Connection Agreements, rule-based Redispatch and so-called temporary limits on the other side*
- *effects of coordination between markets*
- *market design of local markets*

Bio: Thomas König is Regulatory Expert at enspired and in his Role as Representative for Energy Traders Europe part of the Drafting Committee of the Network Code on Demand Response. His past thirteen years in the Energy Branch circled around short term markets but from different viewpoints. Starting very operatively with power plant dispatch and Intraday trading at Iqony (formerly Steag) he later focused on the conditions to make that happen: engaging in the regulatory world being an internal advisor and representative in associations like BDEW and Energy Traders Germany. Another angle was taken during his work for Amprion in International Regulations before entering enspired.

G0801



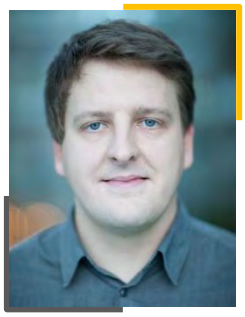
Dr. Stelios Kromlidis, Director of Operational Business Department, SEleNe, Greece

www.selene-cc.eu

Speech: Regional Coordination Center: Cases and duties

Bio: Dr. Kromlidis is the Director of Operational Business Department at SEleNe-CC (in Thessaloniki) and has many years of experience in the TSO and Power industry. He has received a MSc Degree from UMIST in Power Systems Engineering and a PhD from The University of Manchester. Prior to Selene-CC he has worked at the RSC of Coreso SA (on behalf of National Grid). He has been involved in ENTSO-E projects related to CIM and CGMES and has a background on Battery Energy Storage and Power Quality Improvement. He is currently leading a team of 16 (operators, IT and admin) at Selene-CC that delivers all the RSC services.

G0402



Thomas Kudela, Regulatory Affairs Manager, Ørsted, Denmark

www.orsted.com

Speech: Provision of System Services by Offshore Wind – Experiences and outlook

New capabilities required for the energy transition

- *Case study aFRR provision*
- *Challenges for intermittent producers*
- *Ancillary Services in the future electricity system.*

Bio: Thomas Kudela is a Regulatory Affairs Manager with more than fifteen years of experience in the field of European, German, GB and Nordic energy market policy and regulation. He has experience in business development and stakeholder engagement to shape regulatory frameworks for the energy transition.

G0509

Gesa Milzer, Senior Project Manager, NODESTM AS, Oslo

www.nodesmarket.com

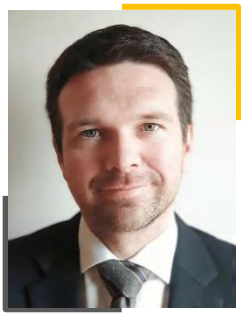
Speech: Opentunity creates Opportunities – NODESTM Flexibility Market solutions in Greece, Switzerland, and Spain

The EU Horizon project OPENTUNITY aims to improve system interoperability, secure and reliable data exchange among grid operators and prosumers using common format and system standards to reduce system integration efforts and costs via an interconnected flexibility ecosystem. Flexibility markets are an important component to such an ecosystem as they enable grid operators to use distributed flexibility to manage their grids while Flexibility Service Providers can monetize on their flexibility availability. Flexibility markets may thus improve grid resiliency and help to optimize operational costs while avoiding expensive grid investments.
NODESTM market and technology solutions facilitate access to flexibility across all grid levels and coordination among grid operators to utilize the currently unused flexibility potential.

In the Opentunity flexibility market pilots in Spain, Switzerland, and Greece NODESTM presents market solutions to enable the use of distributed flexibility for grid services while providing a level playing field for all asset types.

Bio: Gesa Milzer is Senior Project Manager at NODESTM with focus on continental Europe. She started working in the energy sector at Vattenfall in 2009. In 2015, after a Ph.D. in Marine Geology, she decided to combine her environmental background and experience in the energy sector to work as International Business Manager in Power Production Forecasting at Meteológica, managing the accounts and commercial activities in the DACH region and the Netherlands.

G0901



Robert O'Rourke, Senior Manager Electricity Networks, Commission for Regulation of Utilities, Ireland

www.cru.ie

Speech: Meeting Ireland's 2030 30% Flexibility Targets: The Regulatory Approach

Ireland has ambitious renewables targets of 80% RES by 2030, mainly from wind generation. Improving the flexibility of the transmission and distribution systems, and the market, will be a key component of achieving this.

Ireland's NRA, the CRU, has been given the responsibility under the National Climate Action Plan to develop a National Energy Demand Strategy and policies to increase system flexibility to 30% by 2030.

This strategy is due to be published in Q2 2024 along with a decision on the proposed mechanism to procure local demand response and energy storage services on the distribution system as part of a wider suite of measures to procure flexibility on the electricity system.

Bio: Robert O'Rourke is the senior manager for Electricity Networks at the Commission for Regulation of Utilities in Ireland and is responsible for the economic regulation of the transmission and distribution network companies, and the integration of renewables onto the Irish system, including the design of a new ancillary services market.

G0502

Dr.-Ing. Albrecht Reuter, Managing Director of Fichtner IT Consulting GmbH and Director of Business Development Smart Grids of Fichtner GmbH & Co. KG

Speech: DigIPlat: Transboundary Exchange of Flexibilites in D-A-CH

Bio: Dr.-Ing. Albrecht Reuter began his career at Brown, Boveri & Cie AG in Mannheim overseeing the construction works of power plants, before continuing as an international energy consultant at Lahmeyer International GmbH in Frankfurt. From 1983 until 1995 he worked at the University of Stuttgart, in charge of the department dealing with “Energy Planning in Developing Countries” and “Systems Analysis” at the Institute for Energy Economics and the Rational Use of Energy (IER), where he was awarded his doctor’s degree under the supervision of Prof. Dr. Alfred Voss. Thereafter Dr. Reuter continued to become the Division Manager for Energy Management as well as a member of the Executive Board at Verbundplan GmbH in Austria. Before finally joining Fichtner IT Consulting in 2008, he was the general manager of IRM Consulting & Services GmbH in Vienna.

Albrecht Reuter is renowned throughout professional circles via his numerous publications and through his regular appearances at international conferences. He is the initiator as well as the scientific leader of the renowned Energy Talks Ossiach, an international energy conference held on a yearly basis since 1997. He is chairman of the energy committee at IHK Stuttgart and board member of iER.

G0501

Lyuba Schulz, Market Program Manager, Swissgrid, Aarau

www.swissgrid.ch

Speech: Equigy: European collaboration for distributed flexibility

As a joint venture between 5 Transmission System Operators (TSOs), Equigy aims at enabling Distributed Energy Sources (DERs) to provide services to system operators by 1) developing a data exchange platform and 2) fostering international collaboration and standardization. We will present Equigy and the related “TDC Phase B” project where a consortium of Swiss distribution system operators, aggregators and the TSO develop a concept to use DER flexibility in a coordinated and grid-safe way.

Bio: Lyuba has been involved in various topics related to the system and market design, such as grid planning or imbalance pricing. In the past 5 years her work was focused on the integration of the decentralized energy sources (DER) in electricity markets.

Dr. Anser Shakoor, leads GE Vernova's Consulting Services business in Europe

www.ge.com

Speech: No Transition Without Transmission

Energy Transition is happening across the globe at different pace in different geographies. However, most of the drivers of this transition and posed challenges are similar across different jurisdictions. There are lessons to be shared and actions to be taken now to ensure that the future systems are reliable, economic, and sustainable. Key considerations are:

- *Optimal grid planning and integration of renewable energy – lessons from the past*
- *Avoiding the derailing of decarbonization train by;*
  - *maintaining system reliability and availability of adequate system flexibility,*
  - *improved system management & control, and technological innovations*
  - *ensuring finance, appropriate market design and consumer affordability.*
- *Net Zero Target is a 'Mission Possible' – however, all low-carbon technologies and timely grid reinforcement are essential and concrete actions are required 'now'.*

Bio: Anser Shakoor is a leading expert in energy transition focusing on reliable and efficient grid integration of renewable energy and storage, economic operation of energy assets, and electricity markets. He has over 25 years of diverse experience providing strategic advisory services to utilities, large energy consumers and energy infrastructure developers/investors across Europe, South Asia, Middle East, and North America.

Dr Shakoor has led multiple high-profile projects in the energy industry including Energy Roadmap 2050 for EC & European Climate Foundation, the Smart Energy Roadmap for the UK Committee on Climate Change, Reaching Net Zero Carbon in Great Britain.

Prior to joining GE, Dr Shakoor was the Head of Energy Portfolio Management (EMEA) at Hitachi Energy, Head of Advisory (EMEA) at ABB, Manager European Power Market Outlook Analysis at AFRY (former Poyry) and a Fellow at the UK Energy Research Centre.

He holds a PhD in Power System Economics.

G0412

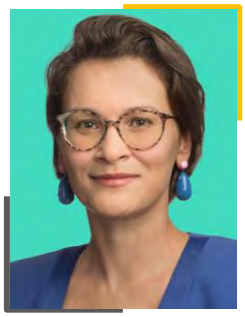
Svein Jørgen Sønning, Head of Technology at NODES

www.NODESmarket.com

Speech: Developing the DSO role using local flexibility markets for long-term, short-term, and real time operations.

Bio: Svein Jørgen is a tech and energy optimist with responsibility for NODES overall tech strategy. Ahead of joining NODESTM, he was focusing on developing novel product offerings for flexibility service providers and the grid at a vertically integrated utility in Scandinavia. Over the last years, Svein Jørgen has had a key role in expanding NODESTM flexibility markets from Europe to transformative initiatives in Canada.

G0203



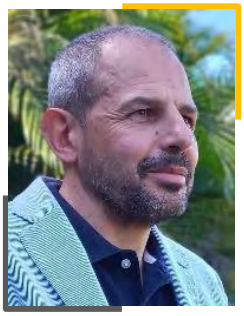
Dr. Ksenia Tolstrup, is a Principal at Magnus Energy

www.magnus.nl

Speech: Flexibility gap is looming: How do we bridge it?

The decarbonization of the European energy system will require more flexibility to ensure system stability and operational security. Yet, a flexibility gap is looming. European countries are using different approaches to bridge this gap. How are the existing flexibility services evolving to attract more providers? What new flexibility services are emerging? How do they fit with the incentives on the supply and demand side?
This talk will address these questions and will put it into a broader system perspective.

Bio: Dr. Ksenia Tolstrup co-leads Magnus Energy's Technical Advisory Practice and is involved in several projects related to electricity market and regulatory analysis, balancing, flexibility, and hydrogen transition. Ksenia has almost a decade of experience in the energy sector - in consulting and in research. As a Senior Research Engineer at AIT Austrian Institute of Technology she led multiple research projects and authored over 30 top-journal articles, conference papers and project reports. In 2021 she obtained her PhD cum laude in energy economics from Delft University of Technology.



Alberto Troccoli, Co-founder and Managing Director of WEMC, UK

www.wemcouncil.org

Speech: C3S Energy Service to ENTSO-E: Impacts of climate change in the Pan-European Climate Database (PECD)

Bio: Prof. Alberto Troccoli is the co-founder and Managing Director of WEMC and a visiting professor at the University of East Anglia (UK). He has over 25 years of experience in the fields of meteorology and climate, and in the last 10+ years has been exploring their applications in the energy, and other, sectors. His career includes time at several leading institutions such as NASA, ECMWF (UK), the University of Reading (UK) and CSIRO (Australia). He is the main author of the UN-led Global Framework for Climate Services (GFCS) Energy Sector implementation plan and the leader of the C3S Energy operational service. In addition, he has published extensively and is also the chief editor and an author of four books. Recently, he has led the development of the Teal tool (tealtool.earth), a user-friendly free interactive visualisation tool which allows global historical climate and carbon emissions data (and soon climate projections too) to be easily visualised, understandable and accessible. Its design is distinctive and modern incorporating the teal colour that gives the tool its name. It is conceived to both raise awareness about our changing climate and to be used to assist with decision making by the industry and policy makers. Alberto holds a PhD in Physical Oceanography from the University of Edinburgh (UK).

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Prof. Christoph Imboden

Institute for Innovation & Technology Management
CC for Business Engineering
Lucerne University of Applied Sciences, www.HSLU.ch

Christoph is professor for product innovation at the Lucerne University of Applied Sciences and Arts HSLU and Head of Research at the Institute for Innovation & Technology Management. He is engaged in several research projects focusing on power economy.

He studied electrical engineering at the ETH Zurich, received his doctorate in 1995 and an executive MBA at the University of Zurich in 2006. After working in different positions in the industry, he started working for HSLU in 2012.
Christoph has been the chair of GSM since 2017. He looks back to more than twenty years of industrial experience in different application areas of the energy, communication and information technologies.

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