



# ACTIVITY 20 REPORT 2

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# GOVERNANCE

## Letter from Chairs

There is no doubt that the year 2020 will be the one to remember for decades to come. Undeniably, the COVID19 pandemic changed the way we work and approach our partners, but also even how we think and live our private lives. In parallel, the impact on economy is profound and many sectors will be recovering from their losses for years. Energy industry is no exception here, however crisis brings some hope towards greener transition pathways to follow.

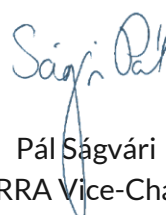
Apart from the pandemic, Year 2020 for the Energy Regulators Regional Association meant most importantly the 20th anniversary of its successful operation, which fills us with pride and genuine satisfaction. By today ERRA has established itself as a standard-setting, multi-continental organisation with robust membership and partner base and increasing international reputation. Our Association also proves to be resistant towards adverse external factors such as volatile global economy, not only in 2020 but over the course of the past two decades. We also succeed in bringing closer regulators of different stage and scope of energy market oversight. We have achieved the above-described reputation under constantly evolving and transforming market structures through adaptation, flexibility and restless search for new solutions, common interests and grounds for cooperation. Naturally, all of these conclusions called for an appropriate celebration. The culmination, though not easy to conduct in these challenging times, took place on December 11 as an online Jubilee Day broadcasted from Budapest. The details of that joyful program can be found later on in the report.

Looking into more details of this year, one could say that for ERRA it brought both negative and positive developments. The negative ones are quite easy to identify and they can actually be summarized in two sentences. **The pandemic brought less interactions due to no physical contact, which directly affected the efficiency of knowledge and experience sharing in the Association.** What's more, the impossibility to meet each other loosened the links that expand beyond the technical scope of ERRA's cooperation – the ones that are based on sincere friendliness and human empathy. Even though, the 'human' element of our interactions had to be put aside, **the Association still made its best to adapt to the new situation and grasp all opportunities that arose in the circumstances of widespread restrain.** The new context allowed to, *inter alia*, facilitate the reorganization of our Standing Committees, implement new and adapt well-established trainings in e-learning format or organize webinars and online workshops. What's more, the digital needs of today sped up many important processes and allowed us to increase participation in our virtual events – online meetings allowed many emerging regulators to join discussions and share their opinion on *forum publicum*. This year has also been outstanding in terms of expanding our member base – we welcomed 4 new associate and 1 new full member of ERRA.

To conclude, we would like to emphasize, that even though we are living in difficult times that limit our usual freedoms and professional interactions, our Association proves to be adaptive and resilient. The new tools and solutions enable online operation that turns out to be both effective and inclusive and bring hope, that the cooperation of tomorrow will reach new levels and extents. As mentioned during our Jubilee Day – we, the regulators, are all stronger together, and together we will guide our 'fleet' through the rough waters of early 2020s on the course towards calmer and more stable energy markets, that are ready for the great energy sector challenges of the 21<sup>st</sup> century. By this, we would like to thank you for your interest in our 2020 Activity Report and we wish you both insightful and interesting reading as well as optimism for the time to come!



Maia Melikidze  
ERRA Chair



Pál Ságvári  
ERRA Vice-Chair

# GOVERNANCE

## The General Assembly

2020 General Assembly brought a number of important updates to the Association and due to the pandemic circumstances was held in a virtual format for the first time in ERRA's history.

One of the most important developments was the election of the new Presidium Members and consequently the new ERRA Chair and Vice-Chair for a 2-year term. Commissioner Maia Melikidze is the second woman to assume the role of ERRA Chair, while the new Presidium has almost 50% of female representation – both of these facts make our Association progressive and well-aligned in terms of gender equality.

As mentioned in the introductory letter above, the Association has recorded an outstanding growth in membership. More specifically, the recent General Assembly meeting was marked by welcoming 4 new associate members and 1 new full member through approval via an open ballot with 2/3 majority:

### NEW FULL MEMBER:



Energy Regulatory Commission (ERC) of **Thailand**

### NEW ASSOCIATE MEMBERS:



Commission for Electricity and Gas Regulation (CREG) of **Algeria**



Energy Regulators Association of **East Africa** (EREA)



Energy Regulatory Commission (CRE) of **France**



**Abu Dhabi** Department of Energy (DoE), United Arab Emirates

The General Assembly meeting focused also on approval of program and financial reports and adoption of 2020-2021 workplan and budget, which are both based upon the following principles: sustainability, online operation, effective e-learning and strengthening internal and external relations. What's more, the meeting acknowledged past members and contributors with honorary memberships and certificates of appreciation. Lastly, the delegates voted on and approved the new line-up of ERRA's financial committee.

# GOVERNANCE

## Introduction of the new Presidium

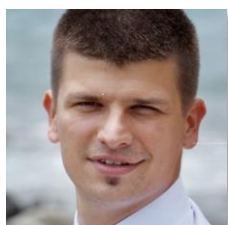


**Maia MELIKIDZE**  
**ERRA Chair**

since September 2020 (ERRA Presidium Member since May 2016)

Commissioner

**Georgian** National Energy and Water Supply Regulatory Commission

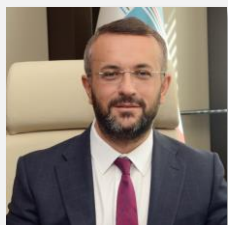


**Pál SÁGVÁRI**  
**ERRA Vice-Chair**

since September 2020

Vice-President for International Affairs

**Hungarian** Energy and Public Utility Regulatory Authority



**Ahmet Çağrı ÇİÇEK**  
**Presidium Member**

since September 2020

Commissioner

Energy Market Regulatory Authority of **Turkey**



**Rolands IRKLIS**  
**Presidium Member**

since May 2016

Chairman

Public Utilities Commission of **Latvia**



**Maria MANICUTA**  
**Presidium Member**

since April 2009

Director, Network Tariffs and Investments Monitoring Department

**Romanian** Energy Regulatory Authority

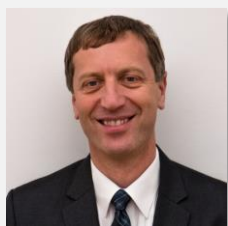


**Andrijana NELKOVA-CHUCHUK**  
**Presidium Member**

since September 2020

Commissioner

Energy and Water Services Regulatory Commission of **North Macedonia**



**Dietmar PREINSTORFER**  
**Presidium Member**

since September 2020

Director of International Relations

Energie-Control of **Austria**

# ERRA SECRETARIAT

ERRA Secretariat is a small, but lively environment of proactive people oriented at effective assistance to Association's members and with keen enthusiasm towards all sorts of topics in and around energy regulation. We are of diverse working backgrounds and nationalities, but we are united by one goal – to diligently fulfil ERRA's mission and follow its strategic vision. Simultaneously, we all are open-minded and very communicative – through work we not only establish and develop ERRA network, but we do our best to transform it into the ERRA 'family' by creating friendly bonds and adding a human touch to our professional interactions.



**Krisztina KASZA**  
Head of Secretariat  
Program Director



**Ardian BERISHA**  
Regulatory Specialist



**Valéria FARKAS**  
Senior Program Manager



**Anikó KISS**  
Senior Program Manager



**Kacper JAROSZ**  
Project Manager



**Krisztina CSOMBOR**  
Senior Program Manager



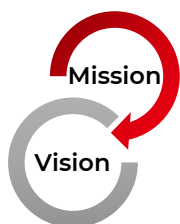
# OUR MANDATE

## What we do

The Energy Regulators Regional Association (ERRA) is an inter-institutional non-profit organisation unified by the shared goal of its 48 regulatory members to improve energy regulation. ERRA's focus is to bring together effective energy regulators with the necessary autonomy and authority to make positive change. Our Association is widely seen as an example of a highly successful inter-institutional organisation that facilitates the advancement of regulatory policy worldwide.

## How we work

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Support strengthening and improving the regulatory framework.

Being a reference point for practice and knowledge in the constantly evolving regulatory environment.

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ERRA has played a vital role in accelerating energy reform and market development in Europe and Eurasia, and its story, from its establishment to the present day, offers important lessons on how to support progress toward self-reliance in energy regulation.

Member regulators exert substantial ownership of ERRA, designing the organisation to be demand-driven and responsive to its members' needs. ERRA members voluntarily commit their time and expertise to grow the organization, contribute to internal capacity building programs and prepare technical and benchmarking reports, which serve as a key mechanism to spread expertise and best practices within the member base.





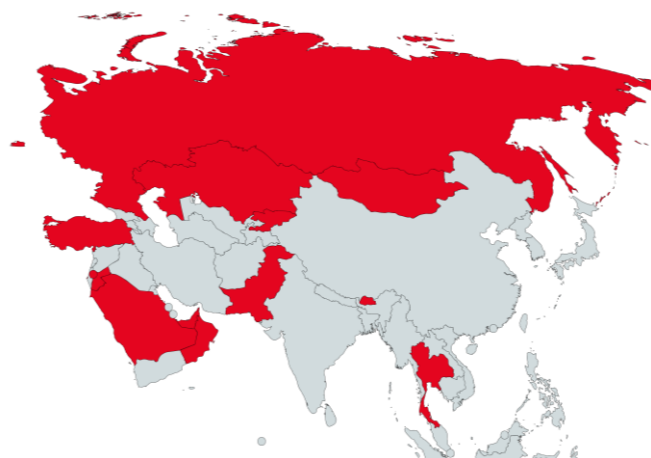
# OUR MANDATE

## Where we work – Our member organizations in different regions



- **Albanian** Energy Regulatory Authority
- Public Services Regulatory Commission, **Armenia**
- Energie-Control, **Austria**
- **Azerbaijan**: Tariff (Price) Council; Azerbaijan Energy Regulatory Agency
- **Bosnia and Herzegovina**: State Electricity Regulatory Commission; Regulatory Commission for Energy in Federation of Bosnia and Herzegovina; Regulatory Commission for Energy of Republika Srpska
- Energy and Water Regulatory Commission, **Bulgaria**
- **Croatian** Energy Regulatory Agency
- Energy Regulatory Office, **Czech Republic**
- **Estonian** Competition Authority
- Energy Regulatory Commission, **France**
- **Georgian** National Energy and Water Supply Regulatory Commission
- **Hungarian** Energy and Public Utility Regulatory Authority
- Energy Regulatory Office, **Kosovo\*** (This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.)
- Public Utilities Commission, **Latvia**
- National Energy Regulatory Council, **Lithuania**
- National Energy Regulatory Agency, **Moldova**
- Energy and Water Services Regulatory Commission, **North Macedonia**
- Energy Regulatory Office, **Poland**
- **Romanian** Energy Regulatory Authority
- Federal Antimonopoly Service, **Russian Federation**
- Energy Agency, **Serbia**
- Regulatory Office for Network Industries, **Slovakia**
- Energy Market Regulatory Authority, **Turkey**
- National Energy and Utilities Regulatory Commission, **Ukraine**

- **Bhutan** Electricity Authority
- Energy and Mineral Regulatory Commission, **Jordan**
- Committee on Regulation of Natural Monopolies under the Ministry of National Economy of **Kazakhstan**
- State Agency for Fuel and Energy Complex Regulation at the Government of **Kyrgyzstan**
- Energy Regulatory Commission, **Mongolia**
- Authority for Public Services Regulation, **Oman**
- National Electric Power Regulatory Authority, **Pakistan**
- **Palestinian** Electricity Regulatory Council
- Electricity & Cogeneration Regulatory Authority, **Saudi Arabia**
- Energy Regulatory Commission, **Thailand**
- **United Arab Emirates**: Regulatory and Supervisory Bureau for Electricity and Water of **Dubai**; **Abu Dhabi** Department of Energy



- Commission for Electricity and Gas Regulation, **Algeria**
- Electricity Sector Regulatory Agency, **Cameroon**
- **ERERA**: ECOWAS Regional Electricity Regulatory Authority
- Gas Regulatory Authority, **Egypt**
- **EREA**: Energy Regulators Association of East Africa
- Public Utilities Regulatory Commission, **Ghana**
- **Nigerian** Electricity Regulatory Commission

- **Peru's** Regulatory Agency for Investment in Energy and Mining
- National Association of Regulatory Utility Commissioners, **United States of America**





# YEAR IN REVIEW

## A Year Like No Other...

As COVID-19 related lockdowns started to become a new reality in more and more ERRA member countries in March 2020, also the ERRA Secretariat in Budapest had to quickly adapt to the new setting. A switching to home office regime was soon followed by a letter from the Chairman to all Members and a cancellation of all physical meetings until 2021. The Secretariat's quick reaction allowed to safeguard continuous operation and ongoing projects in a matter of a few weeks. Successful investigation and purchase of online meeting software allowed to proceed with all activities in a virtual manner – these included Presidium, Committees, workshops and webinars. **As training is ERRA's second most important activity, the Secretariat had to find an instant solution in order to be able to provide uninterrupted educational services. In fact, this was achieved within 2 months through organization of our pilot online course based on an e-learning platform.** This approach proved to be so successful that all later programs followed the same methodology.

Similar principles had to be introduced for the strategy and the budget as well. An interim April-September workplan was swiftly prepared and introduced to the Presidium for approval. **Fast and consequent action aiming at minimizing costs, while concentrating on key areas of work in a highly uncertain time allowed for ERRA to remain sustainable, maintain ongoing priorities and not to lose control over the course of events and actions.**

As spring and summer months passed and the situation became clearer in the longer run, the virtual General Assembly meeting in September brought more answers on how to conclude 2020 and enter 2021. The action plan for the 12 months to come constituted a reinforcement of the assumptions of the interim workplan of the previous months. The new context pushed towards rethinking some of the well-established, but recently marginalized projects, such as the ERRA Regulatory Research Award, which returned to the agenda after 3 years of absence. On the other hand, fresh ideas allowed for emergence of new initiatives, such as the Regulatory Topic of the Month.

Sustainability in online operation and relevance for members remain the key drivers along which ERRA continues on its mission in early 2021.



# YEAR IN REVIEW



## ... A Special Year for ERRA – 20<sup>th</sup> Anniversary

It is now more than 20 years since ERRA was inaugurated during the founding General Assembly meeting in Bucharest on December 11<sup>th</sup>, 2000 through an adoption of the association's name, seat and constitution.

On that memorable day the founding members (Albania, Armenia, Bulgaria, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Poland, Romania, Russia and Ukraine) elected the first Chairman, Vice-Chairman and Presidium. ERRA was created with a mandate to improve energy regulation, foster development of stable energy regulatory bodies and ultimately to indirectly contribute to energy markets integration.

For 20 years, the association has been a reliable, professional framework that connects an ever-growing network of energy regulators. ERRA played a vital role in accelerating energy reform and market development in many of its member countries, by actively assisting these processes e.g., through facilitating expertise transfer. Today ERRA continues its mission by providing capacity building, networking opportunities and a continuous ad-hoc support to its member base with professionalism, dedication and enthusiasm towards making a positive change. Over the years the association grew stronger, nearing 50 member regulators by late 2020 and attracting interest from more and more distant locations all around the globe.



## The Story of ERRA

On the occasion of the Anniversary, the ERRA Secretariat with the help of NARUC compiled a timeline of ERRA's past 20 years that marks select development stages and the most worthwhile advancements which happened along ERRA's way. This short 'chronicle' concisely summarizes our growth and emphasizes the factors that significantly contributed to our success

You may follow the timeline and the history of ERRA here:

<https://erranet.org/20-years-of-erra/#timeline>

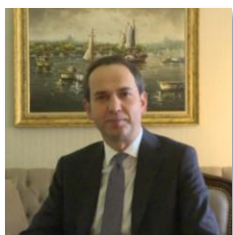
## The 20<sup>th</sup> Jubilee Day



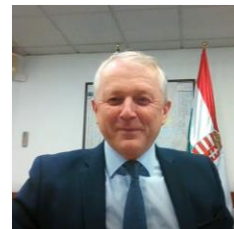
Even though the COVID-19 reality made it impossible to hold an initially-planned anniversary conference in 2020, the celebrations took place as a process of online commemorations, memories' sharing, interviews, photos and many more.

During the Jubilee Day we had plenty of valuable, technical insights and analysis in a form of speeches, interviews and discussions:

## ... A Special Year for ERRA – 20<sup>th</sup> Anniversary

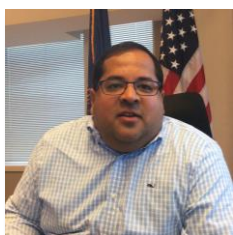


The technical contents of the Jubilee Day were initiated with a **salutation** by **Mr. Alparslan Bayraktar**, Deputy Minister at Ministry of Energy and Natural Resources of Turkey, former ERRA Chairman. Mr. Bayraktar's speech was followed by an **interview** with **Mr. Péter Kaderják**, First ERRA Chairman and currently State Secretary for Energy and Climate at Ministry of Innovation and Technology of Hungary, who gave us a perspective on policy and market developments aimed at COVID19 aftermath mitigation, as well as outlooks towards continuous decarbonization. While asking questions, ERRA Regulatory Specialist Ardian Berisha, also inquired about the role of ERRA in helping its member base in facing the challenges of today and tomorrow.



After that, the program focused on **keynotes** by **Mr. Alberto Pototschnig**, former Director of Agency for Cooperation of Energy Regulators, who spoke about creation of the Internal Energy Market in the European context. He was then followed by **Mr. Steve Burns**, Chief of Energy and Infrastructure for Europe and Eurasia at USAID who elaborated on the global energy sector overview from the US assistance perspective.

The technical part of our event then proceeded with two sessions, each comprising a keynote address and a panel discussion:



The **first session** called “**Critical Success Factors in Regulation**”, was launched by **keynote address** from **Commissioner Neil Chatterjee** from the Federal Energy Regulatory Commission, USA.

The **panel discussion** that followed was moderated by **Mr. Konstantin Petrov**, Managing Consultant at DNV GL – Energy who was joined by:

- **Mr. Walter Boltz**, ERRA Strategic Advisory Board Member; Former Executive Director, E-Control
- **Mr. Nick Haralambopoulos**, Director, Economic Consulting Associates (ECA)
- **Mr. Necmi Odyakmaz**, CEO, Sakarya Electric Distribution Company (SEDAS)



The discussion focused on defining what are the good regulation principles, where are potential conflicts of interest and how to reach success with correct actions, noting what factors influence the regulatory process along the way.



Finally, the **second technical session** concentrated around the theme of the “**Future of the Global Power and Gas Sector**”. The **keynote opening** was delivered by **Mr. László Varró**, Chief Economist at the International Energy Agency (IEA), who spoke about IEA's World Energy Outlook 2020 and the energy market perspectives up to 2050.

The session was closed with a **panel discussion** that was moderated by another long-standing ERRA contributor, **Mr. John Gulliver**, Partner at Pierce Atwood LLP, USA and was held among another roster of senior experts:

- **Mr. Hans-Arild Bredesen**, CEO, Nord Pool Consulting
- **Mr. Gábor Szörényi**, Former ERRA General Secretary, Former ERRA Chairman
- **Mr. Jorge Vasconcelos**, Chairman, New Energy Solutions (NEWES)
- **Mr. Stephen Woodhouse**, Director, AFRY Management Consulting



# YEAR IN REVIEW



## ... A Special Year for ERRA – 20<sup>th</sup> Anniversary



Each of the speakers presented their views towards priority areas for future energy markets' development by drawing conclusions from present regulatory arrangements. All of them agreed however, that more sophisticated and complex regulatory solutions will be needed to meet the ongoing change in the role of consumers and in the context of increased penetration of new technologies.

On the other hand, our Jubilee event paid a lot of attention to the casual birthday celebrations combined with ERRA-related memoirs. It all began with the **story of our Association**, presented by the “founding” ERRA characters of NARUC and USAID: **Mr. Robert Archer** and **Ms. Erin Hammel**, followed by **Mr. Robert Ichord**, **Mr. Frederick Butler** and **Mr. Ron Eachus**. Later on, the focus was put on 6 relaxed interviews representing the **Voice of Our Members**.

Special attention was also given to **our past leaders** who contributed to the development of ERRA over the years. Virtual **acknowledgement and recognition** were conducted by Chair Melikidze. Lastly, the audience could enjoy a pre-recorded round of informal **birthday wishes**.

The festive character of our meeting during the Jubilee Day was supported by the **Anniversary Photo Contest** and country promoting videos provided by ERRA Members that pleased our longing-for-travel eyes. Additionally, a touch of special celebratory atmosphere was provided by Danubia Orchestra Óbuda and its conductors, which gave us two great performances.

**Congratulations!**



**2<sup>nd</sup> BEST PHOTOGRAPH**  
by Monowar Hossain Akhand  
AKM, Bangladesh

**Congratulations!**



**WINNING PHOTOGRAPH**  
by Ahmet Hukic  
formerly at FERK,  
Bosnia and Hercegovina

**Congratulations!**



**3<sup>rd</sup> BEST PHOTOGRAPH**  
by Stephen Woodhouse  
AFRY Management Consulting, UK

Upon **conclusion of the event**, Chair Maia Melikidze promised the association's members a lasting commitment towards continuous growth and long-standing engagement in regulatory cooperation. “In spite of the obstacles of today and challenges of tomorrow, which were best described by the speakers of the event, ERRA holds the potential to lead positive change in member energy markets and in regions of their presence. By working together, we can do our best to secure a more sustainable future for ourselves and our children” – summarized Chair Melikidze.

The recording of the whole event is available at:  
<https://erranet.org/single-event/errra-20th-jubilee-day/#recording>

# YEAR IN REVIEW

## 2020 Timeline

### JANUARY



Tailor-made Workshop for Authority for Electricity Regulation of Oman  
January 26–28 ■ Muscat, Oman

### FEBRUARY



10<sup>th</sup> Training Course:  
Principles of Economic Regulation  
and Electricity Tariffs  
February 10–13 ■ Budapest, Hungary

### MARCH



ERRA Secretariat switching to home office mode – March 16,  
all activities turned online or  
cancelled/rescheduled

### APRIL



First webinar held – COVID-19  
implications for the energy sector  
and related regulatory measures  
April 28–29

### MAY



E-Mobility publication:  
Current Status, Plans and  
Related Regulatory Issues –  
ERRA Internal Survey Results

### JUNE



First E-Learning program held on  
Electricity Tariff Setting:  
A Practical Guide  
June 22–July 17

### JULY



First online meetings  
of the newly established  
ERRA Committees and  
Working Group

### AUGUST



Getting ready for the ERRA Online  
Training on Natural Gas Tariff  
Setting: A Practical Guide  
September 1–25

### SEPTEMBER



Virtual General Assembly:  
New Presidium Elected  
5 New Members joined  
September 17

### OCTOBER



1<sup>st</sup> Region-Specific Regulatory  
Workshop: MENA  
October 20

### NOVEMBER



With the support of:  
**THE WORLD BANK**  
ERRA's Capacity Building Project  
for Uzbek Energy Ministry and  
Company Officials  
November 9–13

### DECEMBER

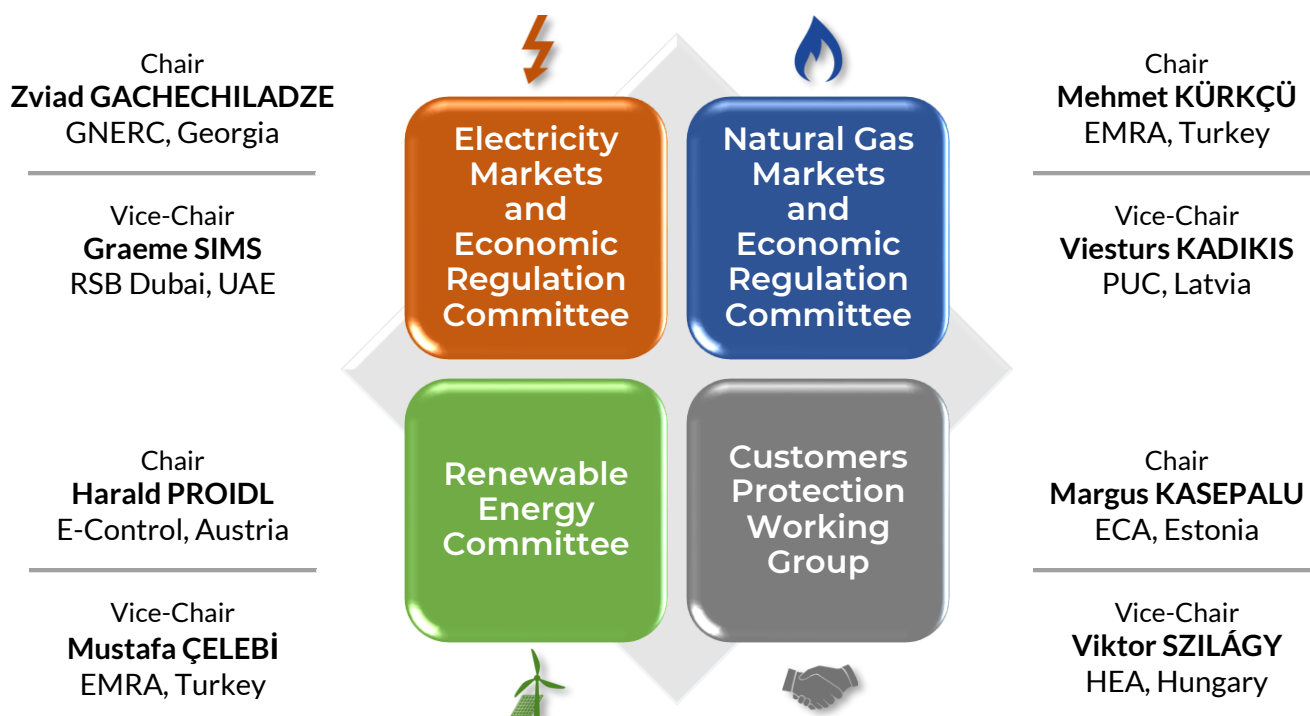


ERRA 20<sup>th</sup> Jubilee Day  
December 11





# TECHNICAL ACTIVITIES

## New ERRA Technical Committees

In May 2020 ERRA established a new structure and coverage of its Technical Committees. The most important objectives of the new arrangement were to improve the relevance of the scope of the committees while reflecting on current regulatory topics as well as to safeguard higher level of members' involvement in technical work of the Association. The operation of the new Committees and Working Group base on a mandate from the Presidium that undergoes revision after every 2 years, which allows for a regular assessment of their work and focus areas.



The Committees had 3 online meetings in 2020, which allowed for election of Chairs, finalizing 2-year workplans as well as deliver first technical topical analyses and discussions. The most important topics discussed included:

- 
  - Utilizing end-user flexibility for demand management
  - Tariff setting for prosumer support schemes – how do we maintain network neutrality?
  - Price regulation mechanisms in the electricity markets in transition. Ensuring smooth market opening and price stability
  - Positive experience in introduction of competitive electricity market
- 
  - Introductory market framework/ sector regulation survey with draft status-quo report
  - The role of market opening in facilitating competition
  - Current market developments in ERRA Member Countries
  - Turkish Transmission Tariff Case Study (part 1) – Revenue Setting
- 
  - ERRA's Internal Survey on the status of RES regulation in ERRA member countries
  - COVID19 implications on RES projects
  - Duties and Activities of regulators
  - How can the regulator support the development of RES
  - RES: what must be regulated and what can be left over to the market
- 
  - Introduction by Working Group Members: Current Duties, Most Challenging Consumer Protection Issues; COVID-19 Implications
  - Regulatory Implications and Challenges of the Energy Communities
  - Prepaid Meters – Regulations, Advantages and Disadvantages



# TECHNICAL ACTIVITIES

## New ERRA Technical Committees

### Technical Scopes



- Retail competition: Deregulation effects and the removal of subsidies; end-user tariff impacts
- Parametric and non-parametric methods in assessing efficiency of regulated infrastructure, econometric models and methodologies
- Price instruments in incentivizing end-user flexibility and enhancing demand-side management
- Digitalization: Smart grids and smart meters and their impact on price regulation
- Decentralization: Distributed generation; prosumers
- ERRA Tariff Database inputs



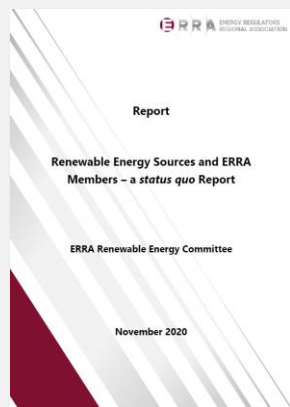
- Economic regulation of transmission & distribution networks
- Security, quality and reliability of supply; infrastructure development and investment incentives; smart systems
- Retail competition: How to do; unbundling regimes
- Cross-border trade and regional market integration aspects
- LNG and CNG: policies, regulatory models and approaches
- Licensing procedure of market activities, the regulatory approaches to applications for licenses
- Organized wholesale markets and derivatives



- Enhancing flexibility options: Storage and demand response; challenges in RES integration
- Support schemes: Feed-in tariffs, feed-in premiums, auctions, etc.; good regulatory practices
- Non-price support mechanisms: Land usage rights, connection privileges, tax exemptions etc.
- Renewable gases: Impact on grids and markets
- RES communities



- Commercial quality: Standards and measuring tools; call center experience; digital customer platforms and applications
- Smart meter impact on consumers
- Complaint handling: Standards and approaches
- Protection of small and vulnerable consumers
- The role of regulator on price comparison tools and dynamic bill



#### Renewable Energy Sources and ERRA Members – A Status Quo Report

The Report is based on the input received from 28 member organisations and provides an overview of how ERRA members are currently involved in RES-policies. The analysis focuses on the status quo of renewable energy sources' (RES) technologies in individual countries, the activities of the regulators in the field of RES and the major trends and developments for the future.

Similar publications by each ERRA Working Bodies are in progress

Read the Report here: <https://erranet.org/2020-renewable-energy-sources-report-published/>

# TECHNICAL ACTIVITIES

## ERRA Training and E-Learning

In the early months of 2020 ERRA followed the business-as-usual scenario which still allowed for regular in-class training courses. The two programs organized in line with this principle were:

- **Tailor-made Workshop for Omani Authority for Electricity Regulation**  
(January 26-28, 2020 ▪ Muscat, Oman)
- **10<sup>th</sup> ERRA Training Course on Principles of Economic Regulation and Electricity Tariffs**  
(February 10-13, 2020 ▪ Budapest, Hungary)

The unexpected circumstances of operation since March called for redesigning ERRA trainings into a virtual format. As a result, the Secretariat successfully shifted all classroom training programs to e-learning through an instructor-led, collaborative online platform. This replacement was met with high interest among energy professionals and also proved to be effective by causing no quality loss of the offered courses. This statement is supported by high participation figures and positive feedbacks.

Successful switching to online training was also facilitated by our previous experiences. In 2005, ERRA organized its first ever e-learning program, which also met with positive feedback but at that time lacked the effectiveness of the in-class ones. Even though the e-learning offer was not continued until 2020, that first experience years ago allowed us to make a more diligent choice of the platform and methodology under pandemic.

In November 2020 with support of the World Bank, ERRA provided a capacity building program to 30+ Uzbek energy ministry and company officials on key issues relating to the energy sector in order to facilitate sector reform. Speakers of the 5-day English-Russian online training were the current and former ERRA member regulators covering issues such as roles and functions of the regulator, economic regulation, licensing and performance standards as well as stakeholder communication.



In 2020, ERRA offered 3 Online Trainings:

Main take-aways for participants:



- **Calculation of utility revenue requirement** through the building-block approach and obtaining thorough understanding of the underlying cost drivers, the impact of capital expenditure, WACC and efficiency factors;
- **Understanding tariff structure design** principles and be able to convert revenues into regulated end-user tariffs and network charges;
- **Enhance modelling skills.**



- Ability to **calculate gas network tariffs and end user price**;
- Knowledge about the **capacity allocation methods**, principles and how to choose between them;
- Ability to **allocate cost to the network points**;
- Ability to **calculate the reserve price and do the adjustments**;
- Understanding of how to **design regulatory monitoring and benchmarking of the regulated utilities.**

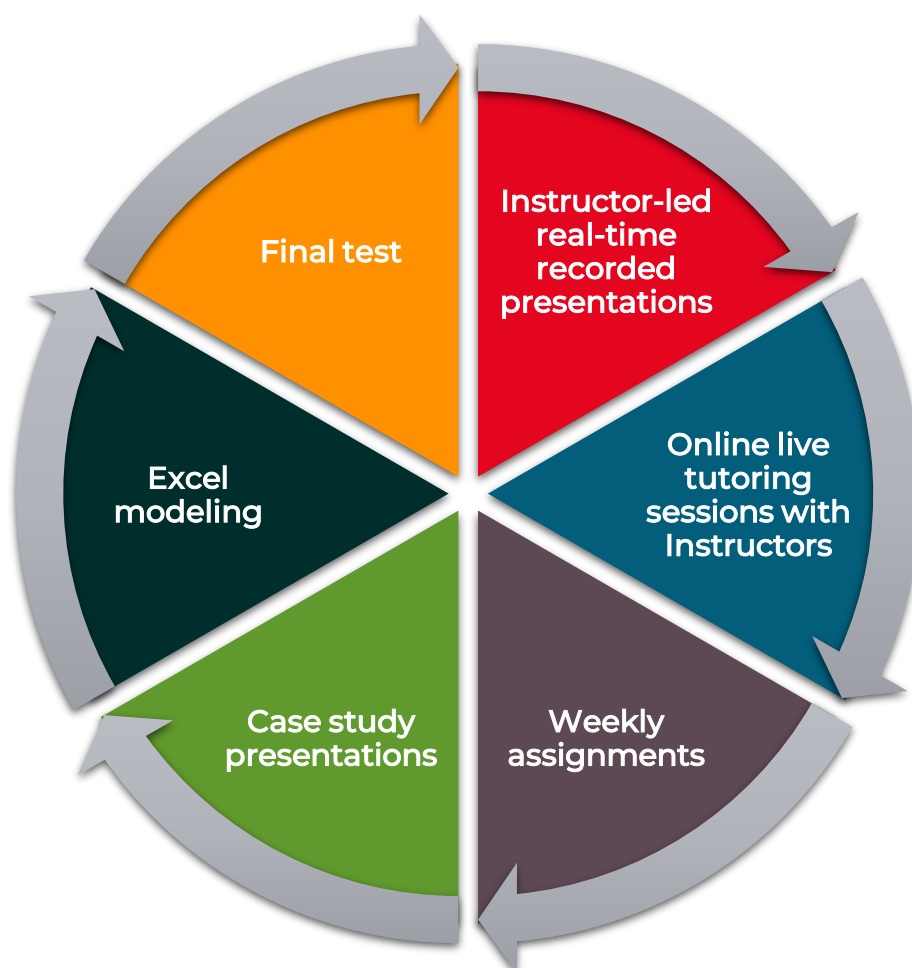
# TECHNICAL ACTIVITIES

## ERRA Training and E-Learning



- Familiarity with the **advantages and disadvantages of the various wholesale market design** and the **role of regulation** (and regulators) under various models;
- Understanding the principles of **calculating prices and tariffs in the energy sector**;
- Awareness of regulatory roles in **increasing competition levels** in wholesale energy markets;
- Information on the **global trends in natural gas markets** – including LNG markets;
- Knowledge about the main types of support schemes applied globally **for promoting renewable energy**, including **auction designs**;
- Information on the **drivers in providing flexibility** in the DSO networks and the role of **demand response** in electricity markets.

Our E-learning offer bases on a comprehensive methodology, which summary is presented below\*:



\* Online Training methodology is carefully selected for specific courses and may vary between them.

# TECHNICAL ACTIVITIES

## Webinars and Online Workshops

This year brought not only adaptation, but also novelties to ERRA's technical offer. One of them were **topical webinars on selected regulatory hot-topics** that we decided to **bring closer to our members and interested parties**. This activity was delivered both single-handedly by ERRA and also in partnership with other organizations such as NARUC, CEER or Energy Exemplar. The aim of the webinars was mainly to attract ERRA members' attention to cutting-edge topics, ranging from COVID-19 impact related analyses, cybersecurity issues, electricity generation and transmission modelling, e-mobility or stakeholder engagement issues to the best research papers of the 2020 ERRA Award.

On the other hand, a 'switch to online' was also undertaken in the context of workshops. In recent years ERRA co-organized those events in physical environment in e.g., Budapest and Istanbul. In 2020, a new category of **online regional workshops** was created in order to **better address the growing ERRA member base** by making sure that all ERRA regions receive appropriate attention and focus, with their particularities duly analysed and discussed. Another rationale for the meetings was a goal to create regional regulatory connections under ERRA's umbrella.

A pilot virtual meeting gathering MENA region regulators took place in October. The valuable session allowed members to share experiences regarding e.g., approaches towards district cooling, wastewater and water desalination, cogeneration, demand side management programs or gas market establishment.

The complete list of ERRA Webinars and Online Workshops is presented below:

<b>April 28-29</b>	<b>June 3-4</b>	<b>June 10</b>
COVID-19 Implications for the Energy Sector and Related Regulatory Measures	Modelling Electricity Generation & Transmission Systems' Adequacy <i>in partnership with Energy Exemplar</i>	Regulatory Tariff Considerations due to the Pandemic <i>jointly organised with CEER, NARUC</i>
<b>June 17</b>	<b>June 24</b>	<b>September 3</b>
The Regulatory Role in Supporting Cybersecurity Investments <i>jointly organised with CEER, NARUC</i>	Transition Plans and Cost Recovery Following the COVID-19 Pandemic <i>jointly organised with CEER, NARUC</i>	E-Mobility Webinar: EV Charging, Network Tariffs and Related Regulatory Implications <i>in partnership with NCCC, PSPA, RAP</i>
<b>October 14</b>	<b>October 20</b>	<b>November 24</b>
Stakeholder Engagement in Regulatory Decision-Making Process <i>in partnership with NARUC</i>	Region-Specific Regulatory Workshop: MENA <i>Algeria, Egypt, Oman, Saudi Arabia, UAE (Dubai and Abu Dhabi)</i>	ERRA Award 2020: Presentation of Best Research Papers

# TECHNICAL ACTIVITIES

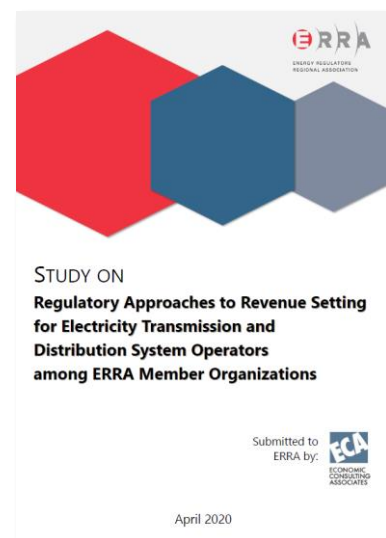
## Study on Regulatory Approaches to Revenue Setting for Electricity Transmission and Distribution System Operators among ERRA Member Organizations

April 2020 came with a long-awaited conclusion to our electricity TSO-DSO revenue determinants project. The results were presented in the Study, which on the one hand summarizes inputs from ERRA members and on the other provides analysis on revenue setting principles and methodologies. The final report was submitted by Economic Consulting Associates.

The Study provides a comprehensive overview of the cost and revenue determination of regulated electricity transmission and distribution system operators, and their subsequent adjustments, among a sample of 20 ERRA Members.

### Core chapter breakdown is as follows:

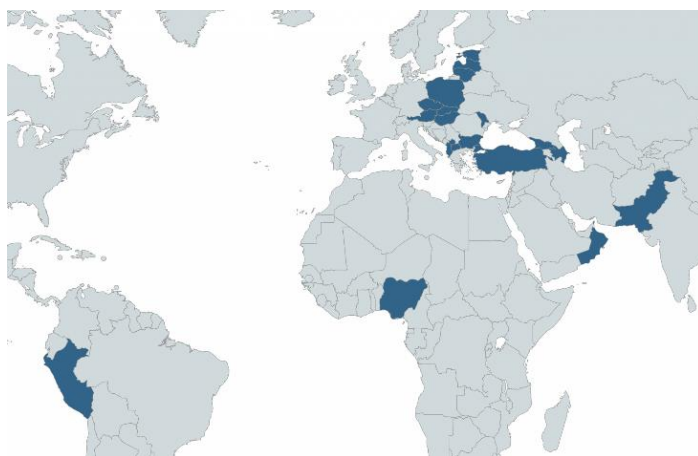
1. Regulatory governance
2. Overall tariff framework
3. Cost and revenue determination
  - OPEX; CAPEX; WACC
  - Other revenue determinants
4. Revenue adjustments



The document is complemented with insights on regulatory governance regimes in place and overall frameworks for tariff setting applied by Members for the regulated entities. The report is based on a detailed questionnaire through which the authors extracted the targeted information and data from the Members. In the main part of the Study, the authors provide a benchmarking analysis in order to present the findings in graphs and tables and point out the solutions that are applied for a given regulatory issue together with specific indicators/ models and the values defining them in particular regulatory context. This is further coupled with general regulatory insights on applied methods with necessary theoretical descriptions, pointing out examples of best practices among the sampled Members. The report is concluded with an identification of general tendencies in the development of regulatory frameworks among Members as well as possible areas of improvement.

### ERRA sample group:

- |                       |                        |
|-----------------------|------------------------|
| ▪ ERE, Albania        | ▪ NERC, Lithuania      |
| ▪ E-Control, Austria  | ▪ ANRE, Moldova        |
| ▪ AERA, Azerbaijan    | ▪ NERC, Nigeria        |
| ▪ EWRC, Bulgaria      | ▪ ERC, North Macedonia |
| ▪ ERO, Czech Republic | ▪ AER, Oman            |
| ▪ ECA, Estonia        | ▪ NEPRA, Pakistan      |
| ▪ GNERC, Georgia      | ▪ Osinergmin, Peru     |
| ▪ HEA, Hungary        | ▪ ERO, Poland          |
| ▪ ERO, Kosovo*        | ▪ RONI, Slovakia       |
| ▪ PUC, Latvia         | ▪ EMRA, Turkey         |



\* This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

The Study can be downloaded from here: <https://erranet.org/electricity-tso-dso-revenue-study-published/>



# TECHNICAL ACTIVITIES

## ERRA Regulatory Research Award 2020

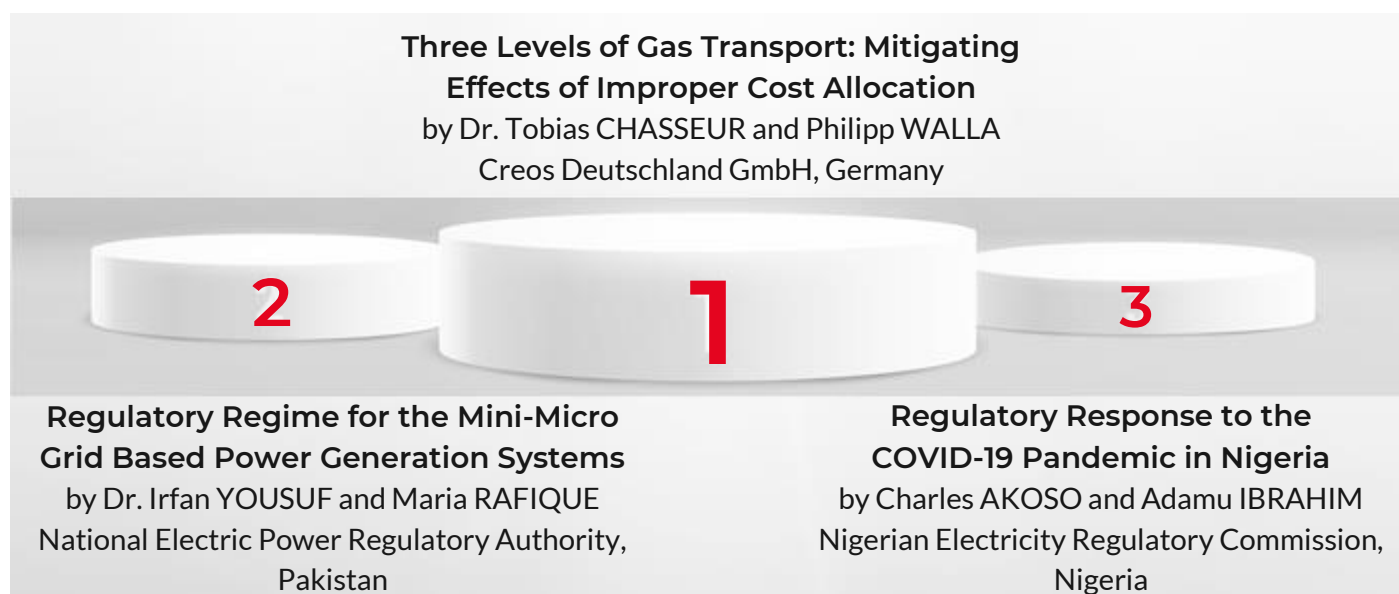
Another development worth mentioning when discussing technical activities of the Association in 2020 was the previously mentioned reintroduction of the ERRA Award.

The latest edition of the Award called for submission of Research Papers based on a selected topic to be chosen from the four:

1. Regulatory Responses to the COVID-19 Pandemic
2. Regional Integration, Cross-Border Trade
3. Approaches to Mini-Grid Regulation
4. Disruptive Technologies in Energy Systems



The results of the competition were announced on November 16 and published on ERRA website together with the **3 best Research Papers**:



In addition to the results' announcement, the Secretariat organized a webinar on November 24, where the above-listed papers were presented by their authors to the wider public.

The winning papers of the competition can be accessed at:

<https://erranet.org/knowledge-base/erra-regulatory-research-award/#award2020>

The submitted works were evaluated by a roster of former and present ERRA staff and senior partners and collaborators:

- Gábor SZÖRÉNYI, 2020 ERRA Award Evaluation Team Chair; former ERRA General Secretary
- Abdulwahhab AL-HINAL, Director of Licensing & Legal Affairs, APSR, Oman
- Fayez Ghaith AL JABRI, General Director for Technical Affairs, ECRA, Saudi Arabia
- Ardian BERISHA, ERRA Regulatory Specialist
- Zviad GACHECHILADZE, Chair of ERRA Electricity Markets and Economic Regulation Committee; First Deputy Director of Electricity Department, GNERC, Georgia
- John GULLIVER, Partner, Pierce Atwood LLP, USA
- Harald PROIDL, Chair of ERRA Renewable Energy Committee; Head of Department for Renewables and Energy Efficiency, E-Control, Austria
- László SZABÓ, Director, Regional Centre for Energy Policy Research (REKK), Hungary
- Pálma SZOLNOKI, former Chair of ERRA Natural Gas Markets and Economic Regulation Committee; former Head of Natural Gas Market Monitoring Unit, HEA, Hungary



# TECHNICAL ACTIVITIES

## Other Activities

Except for Committee work, trainings, webinars/ online workshops and the ERRA Award competition, the Association undertook a number of other activities that enrich our framework and deliver value to the members.

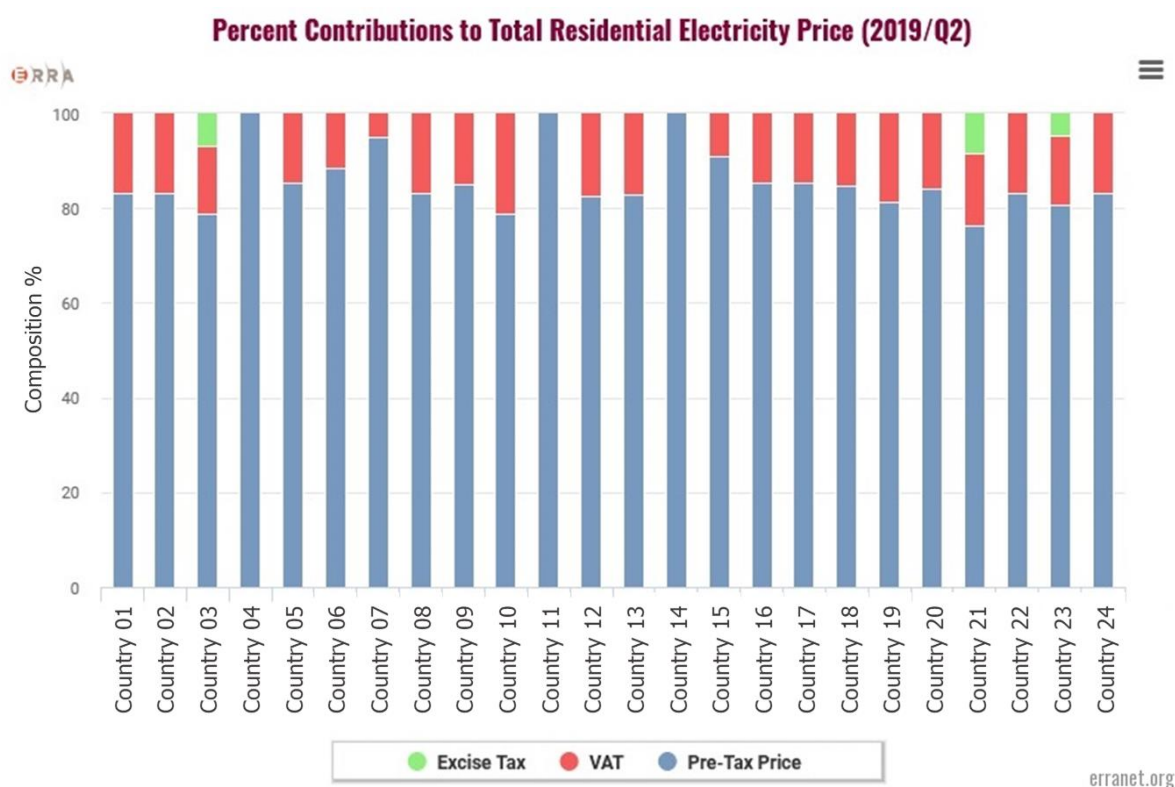
### ERRA Tariff Database

Most notably, we continue to develop our Tariff Database, which now has a fully functional collection of data on revenue determinants. This category of data is calculated on an annual basis and covers the period of 2015-2018. It is available for the following categories:

- **WACC for Electricity and Gas:** disaggregated calculations for the return on debt, gearing ratio, risk-free rate, equity beta, equity risk-premium, corporate tax rate, debt-risk premium, year of WACC determination;
- **Electricity Network Charges:** Average Transmission, System and Market Operator Charge, Average Transmission and System Operator Charge, Average Market Operator Charge, Average Distribution System Operator Charge;
- **Natural Gas Network Charges:** Average Transmission Charge, Average Distribution Use of System Charge;
- **Electricity and Gas Efficiency:** Average Actual Transmission Losses, Average Allowed Transmission Losses, Average Actual Distribution Losses, Average Allowed Distribution Losses, Efficiency Factor.



The database can also generate graphic representations for selected data records, examples of which are presented below (anonymized):

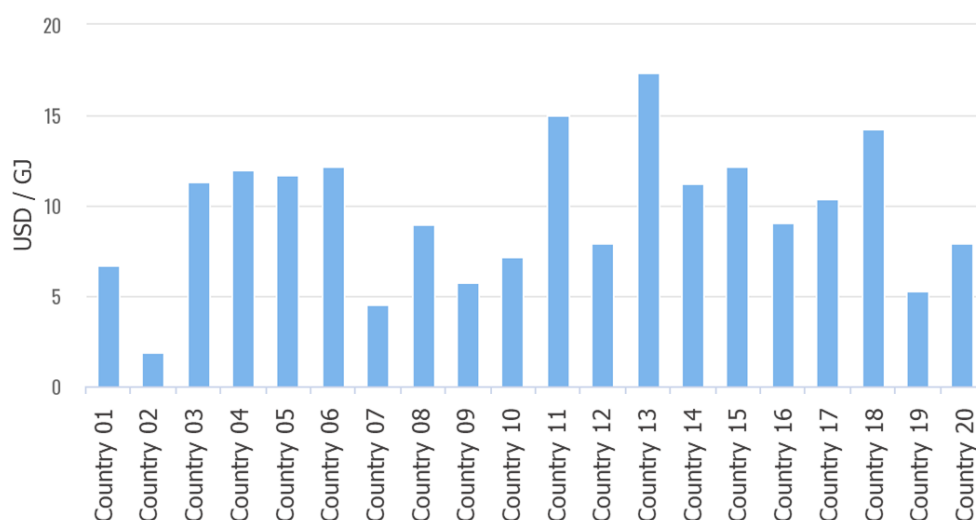


# TECHNICAL ACTIVITIES

## Other Activities



Natural Gas Residential Prices (Pre-tax price) - 2019/2



erranet.org

The database also continues to hold the 'previous' types of data, which include a wide range of indicators on gas and electricity including end-user and wholesale prices, average transmission and distribution charges, retail margins in avg. price for residential customers and many more going back to as early as 1998.

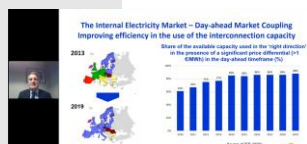
Please see more information on our database at:

<https://erranet.org/knowledge-base/online-tariff-database/>

## ERRA E-Library

Another valuable resource that we maintain is the E-library, which includes ERRA publications, reports by respected energy sector organizations, video podcasts of select presentations and many more. With the new additions in 2020, the E-library now contains close to 600 documents.

E-Library access: <https://erranet.org/search-for-documents>



**Video Podcasts**  
More than 50 video presentations



**Newsletters**  
Two issues including Member Portraits on Moldova and Peru



**Energy Sector Glossary**  
update



**Literature Collection**  
Monthly/bi-monthly reading lists to ERRA members and partners

# COUNTRY STORIES

The Secretariat closely monitors regulatory developments in various regions and member countries and as such we are proud to share some country stories of 2020.

## Baltics Synchronization of Power Systems

The Baltic States' electricity systems are still operating synchronously with IPS/UPS within the Belarus, Russia, Estonia, Latvia and Lithuania (BRELL) synchronous area, but the Baltic electricity market is integrated into common EU internal electricity market through HVDC interconnections with neighbouring EU Member States - interconnections with Finland (Estlink 1 commissioned in 2006 and Estlink 2 in 2014), Poland (LitPol Link commissioned in 2015) and Sweden (NordBalt commissioned in 2015). This hinders a full integration with EU electricity markets and European transmission grid.

With the EU support and following political agreements, the challenging and technically complex synchronisation goal must be achieved by 2025. When implemented, it will allow the three Baltic States to gain a full control of their electricity networks and allow to fully operate under common and transparent European rules to the benefit of all consumers in the Baltic Sea region.

The Synchronization project has 3 phases:

*Phase I* investments are meant to strengthen Baltic grids to increase the transmission capacity internally within the Baltics and avoid bottlenecks on the borders. Not only internal investments to the network reinforcements were included into the Phase I, investments to synchronous condensers (one per country), AGC-systems and into voltage control units were made. All projects of Phase I will be commissioned by the end of 2025 at the latest. The total cost is EUR 76 million, where 75% are co-financed by the European Union from the Connecting Europe Facility (CEF).

*Phase II* investments include construction of the interconnector Harmony Link, synchronous condensers, reinforcement of national grids, and upgrade of IT control systems, which will facilitate connecting the Baltic States with the Continental European Network. The total costs represent EUR 432 million. All projects of Phase II will be commissioned by the end of 2025.

*Phase III* – investments connected with the Baltic States desynchronization with IPS/UPS. Scope of this phase is dependent on third parties' future decisions.



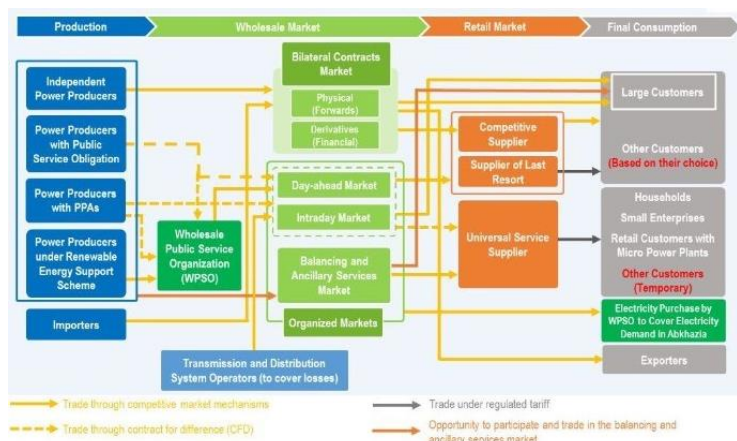
*Topology of the investments included in the Phase I and Phase II of synchronisation*

Following the application of the transmission system operators (TSOs) of Lithuania, Latvia, Estonia and Poland, EU co-financed EUR 719.7 million Phase II, and that will ensure a smooth implementation of infrastructure projects and will allow the Baltic States to start operating on the same frequency as Poland and other continental European countries already in 2025.

Besides constructing additional infrastructure between the countries, the synchronization would foster market integration in the region and would create new opportunities for energy market participants. The TSOs will develop the load-frequency control (LFC) block that will allow Baltic TSOs to establish a well-functioning LFC system by the time of synchronization of Baltic power systems with Continental Europe to comply with the requirements set by the Continental Europe Synchronous Area. New balance energy market products such as frequency restoration reserves with automatic activation (aFRR) and frequency restoration reserves with manual activation (mFRR) will enter the market. The capacities will be procured from the market and FRR reserves procured for the Baltic LFC block will be shared and exchanged among Baltic TSOs. ■

# COUNTRY STORIES

## Georgia Market Rules Pave the Way for Competitive and Efficient Markets



*New Georgian electricity market model and organisation of electricity trade*

Since becoming a Signatory Party to the Energy Community Treaty in 2017, Georgia has undertaken concrete measures to transpose EU Acquis Communautaire in its national legislation, most recently through the approval of a new Law of Georgia on Energy and Water Supply. The Law was approved by the Parliament at the end of last year, paving the way a competitive electricity market.

In August 2020 GNERC, the Georgian Regulator, approved Wholesale Market Rules based on a market design concept approved by the Government. According to the newly adopted Market Rules, the wholesale market will comprise of a day-ahead market, intraday market, balancing and ancillary services market. The Electricity day-ahead and the intraday markets shall be operated by the Georgian Energy Exchange, whereas the balancing and ancillary services markets will be under the responsibility of the Transmission System Operator.

The Market Rules approved by GNERC will promote entry of new participants into the market, facilitating competition and leading to stable and transparent electricity price formations produced through the EUPHEMIA algorithm. Apart from promoting competition, market liquidity, fair price setting and efficient management of the local resources, Georgians expect that the implementation of such a trading mechanism will facilitate cheap energy resources in the long-term perspective that will ensure affordability of the electricity for the customers. ■

## Kosovo\* Approval of REMIT



ZYRA E RREGULLATORIT PËR ENERGIJË  
REGULATORNI URED ZA ENERGIJU  
ENERGY REGULATORY OFFICE



The Energy Regulatory Office (ERO) approved the Rule on Wholesale Energy Market Integrity and Transparency (REMIT). This rule, sets out the criteria that prohibit abusive practices that affect wholesale energy markets, and also provides for the monitoring of wholesale energy markets in the country.

Approval of this rule proves the importance that the Regulator dedicates to the competitive market, and the need to ensure the integrity of this market, based on the Acquit of the European Union, especially knowing that Kosovo's Regulator is the first among the contracting parties of the Energy Community to approve this rule. ■

\* This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

## Moldova Wholesale Electricity Market Rules



### Implementation of the Moldovan wholesale electricity market

The National Energy Regulatory Agency (ANRE) approved the Wholesale Electricity Market Rules which create the necessary grounds for the development of a competitive electricity market in the Republic of Moldova. The rules will contribute to the development of domestic sources of electricity production and the electricity networks for cross-border exchanges, as well as, foster regional and European electricity market integration.

The rules stimulate the electricity trading in organized markets by trading at lower costs, attract additional market participants, increase competition and offer the opportunity to electricity suppliers to use different types of bidding strategies. Thus, by developing the secondary regulatory framework related to the Law on



# COUNTRY STORIES

Electricity, suppliers will be stimulated to identify new sources of electricity at competitive market prices.

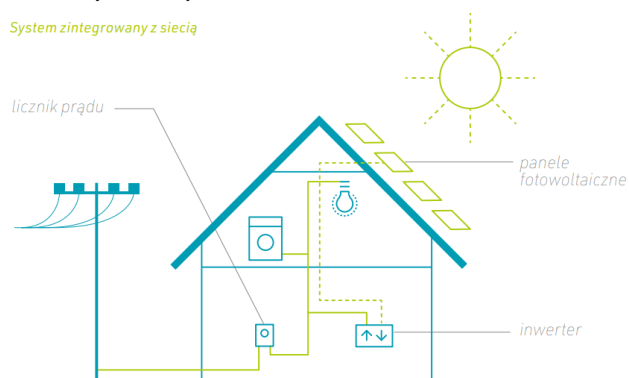
The diversification of electricity sources would lead to a higher competition, which would benefit the final consumers and the national economy. The implementation process will start with - the launch of the new Electricity procurement procedure on January 1 2021, the approval of technical requirements by the TSO and the actual implementation of the organized markets starting October 2 2021. ■

## Poland A Guide for Prosumers in Household

The ERO together with the 5 biggest DSOs (Enea Operator, Energa-Operator, innogy Stoen Operator, PGE Dystrybucja and Tauron Dystrybucja) affiliated to the Polish Electricity Transmission and Distribution Society (PTPiREE), developed the "Household prosumer guide". The publication is addressed to households interested in purchasing and installing photovoltaics, i.e. prosumers. It is also an answer to the needs and inquiries of such consumers.

The guide describes in an accessible way what are the available renewable energy sources, how to optimally match their power to your needs, what to pay attention to before making a decision about choosing a PV installation, best locations for installing PV panels, what affects the operation of the installation, and how to use it optimally.

System zintegrowany z siecią



A simplified diagram of the operation of a photovoltaic system

The study also contains information on the process of connecting the PV installation to the power grid. The guide is available free of charge on the websites of ERO ([www.ure.gov.pl](http://www.ure.gov.pl)) and PTPiREE ([www.ptpiree.pl](http://www.ptpiree.pl)). ■

## Romania Introducing Competition for Households

Electricity market is completely liberalized in Romania as of 01 January 2021 for the household customers. They will have to select a supplier according to their specific needs and the competitive offers made available to them. The National Energy Regulatory Authority (ANRE) developed the regulatory framework necessary for the complete liberalization of the electricity market including obligations of suppliers of last resort and methods to inform customers regarding the liberalization.

In order to give the final customer the opportunity to compare several offers, ANRE made available a comparison tool on its website. These independent and non-commercial tool, the purpose of which is to allow the comparison of supply prices and the conditions offered by suppliers, before choosing a specific supplier or a specific standard offer, are accessed through [website](#) or by downloading the ANRE application on mobile devices.

ANRE price comparison tool

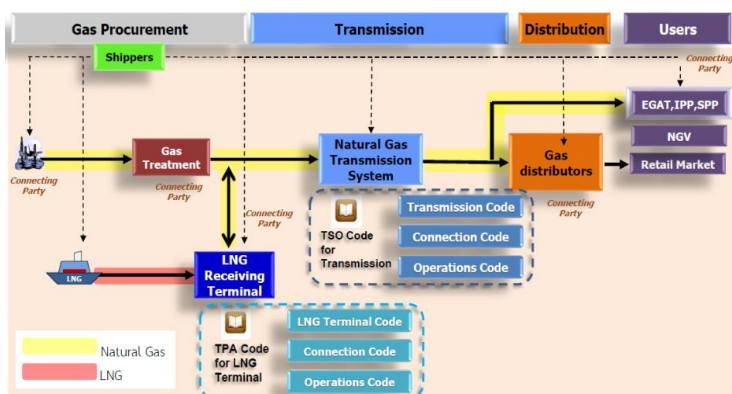
In order to inform the households regarding the switching process, ANRE has drawn up flyers and leaflets to be distributed at the country level, a guide to help household consumers change their electricity supplier or contract, in the context of market liberalization. ANRE recommends to households customers to conclude of a contract in the competitive market with any licensed electricity supplier. The process of changing the electricity supplier is free and does not involve technical changes. At the same time, there is no risk of disconnection in the process of changing the supplier. In order to conclude a new contract for the supply of electricity, the household

# COUNTRY STORIES

customer can contact any electricity supplier, choose the best offer by accessing the "Standard offer comparator" on the ANRE website, or wait at home for information on the process, as well as a selection form offered from the current provider. The offer selection form submitted by the current supplier contains the lowest competitive offer, an alternative competitive offer and the universal service offer, offers applicable in the first semester of 2021, as well as the discount value granted and the period of application. In order to conclude a new contract with the current supplier, it is no longer necessary to travel to the premises of the supplier's public relations centres. By completing the offer selection form, the client can directly choose the competitive offer and send it. The form by selecting an offer constitutes the contracting agreement and, implicitly, the contractual obligation for both parties.

The supplier has the obligation to, at least 5 days from the date of receipt of the completed selection form, to send to the final customer, together with the first invoice, a copy of the signed supply contract. There is no deadline to enter the competitive market. All household customers have the right at any time to change their electricity supplier / contract within 21 calendar days from the date of the request. ■

## Thailand New Natural Gas Regulation



Promotion of competition in the Thai Gas Market

The gas sector in Thailand was dominated by PTT Public Company Limited (PTT), which was established 40 years ago to act as the Thai national oil and gas company. PTT own extensive submarine gas pipelines, gulf gas, LNG terminal and gas distribution companies. In an effort to enhance competition, ERC introduced a Third Party Access (TPA) regime in 2014 in accordance with Energy Act 2007. With this TPA regime, a gas transmission pipeline company and an LNG terminal

had to develop TPA. Despite these measures, PTT was still the single shipper and there were no new shippers in 2015. In July 2017, the government had assigned a generation/transmission state-owned company, named EGAT, to be a new shipper and bring LNG for their power plants by 2019. The government also assigned PTT to be a Transmission System Operator (TSO) for the gas pipeline. In May 2020, ERC granted 3 new shipper licenses, allowing them to import LNG and use it for their power plants.

The new gas regulation sets LNG terminal and gas transmission pipeline tariffs, monitors the standard of service and lays out the procedures for resolving disputes among stakeholders. ERC has given permission to EGAT to bring two spot cargos of LNG for EGAT's power plants in 2019-2020, slightly reducing the electricity tariff, an endeavour which was undertaken as a pilot project which showed that TPA worked but improvements are still needed. The next challenge for ERC will be to complete the regulatory framework and allow the market to develop to a level where it attracts more players, provides stable and sustainable price signals and lowers the supply costs for customers. ■

## Turkey Renewable Energy Resource Guarantee System (YEK-G System)

Watching the new developments closely throughout the world,



EMRA has started to work on a new legislation in January 2020. After examining the good examples, energy sector meetings, national needs and interests, EMRA decided to build a national renewable energy certificate system (aka YEK-G system), which EMRA considers a first step for entering the EU's Guarantees of Origin system. The system will enable the trade of YEK-G certificates issued for each megawatt-hour green energy generation from renewable energy power plants. YEK-G certificates will be tradeable within licensed market players by bilateral agreements and organized wholesale YEK-G market. The system framework and certificate properties are designed similar to the GO system. The system will be operated by EPIAS (energy market operator of Turkey) and is planned to be operative in June 2021. The system will also complement the ongoing green tariff (YETA) in the matter of proofing the green electricity generation. ■

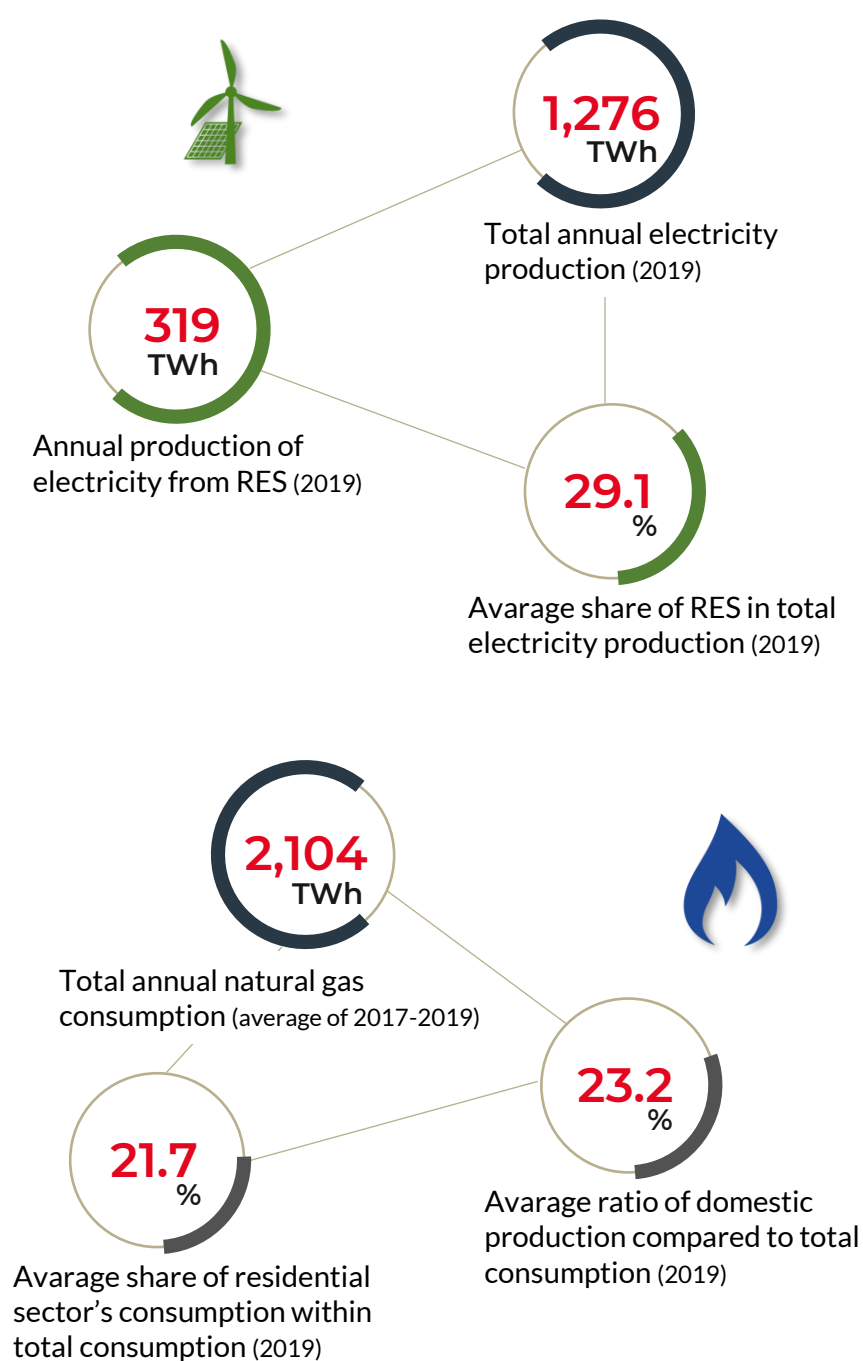


# STATS AND FIGURES

## ERRA's Geographical Coverage



## Renewables and Natural Gas Sectors in Numbers



### Data submission by

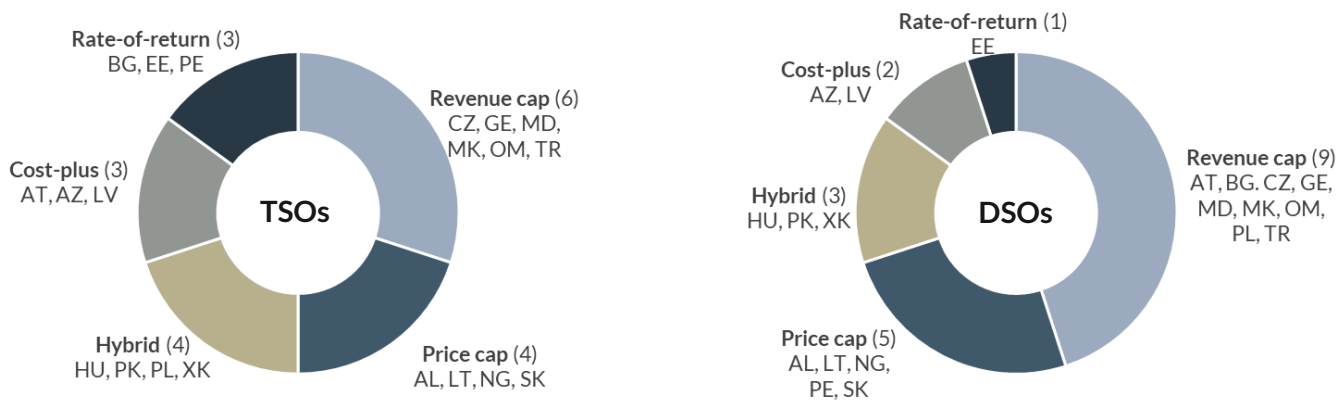
		
Albania, ERE	■	
Armenia, PSRC	■	■
Austria, E-Control	■	■
Azerbaijan, AERA	■	
Bhutan, BEA	■	
Bosnia and Herzegovina, SERC	■	
Bulgaria, EWRC	■	■
Cameroon, ARSEL	■	
Croatia, HERA		■
Czech Republic, ERO	■	■
Egypt, GASREG	■	■
Estonia, ECA	■	
Georgia, GNERC	■	■
Hungary, HEA	■	■
Kosovo*	■	■
Kyrgyzstan	■	■
Latvia, PUC	■	■
Lithuania, NERC	■	■
Moldova, ANRE	■	■
North Macedonia, ERC	■	■
Oman, APSR	■	
Pakistan, NEPRA	■	
Peru, Osinergmin		■
Poland, ERO	■	■
Romania, ANRE	■	■
Serbia, AERS	■	■
Thailand, ERC		■
Turkey, EMRA	■	■
UAE, RSB Dubai	■	
Ukraine, NEURC	■	■

\* This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

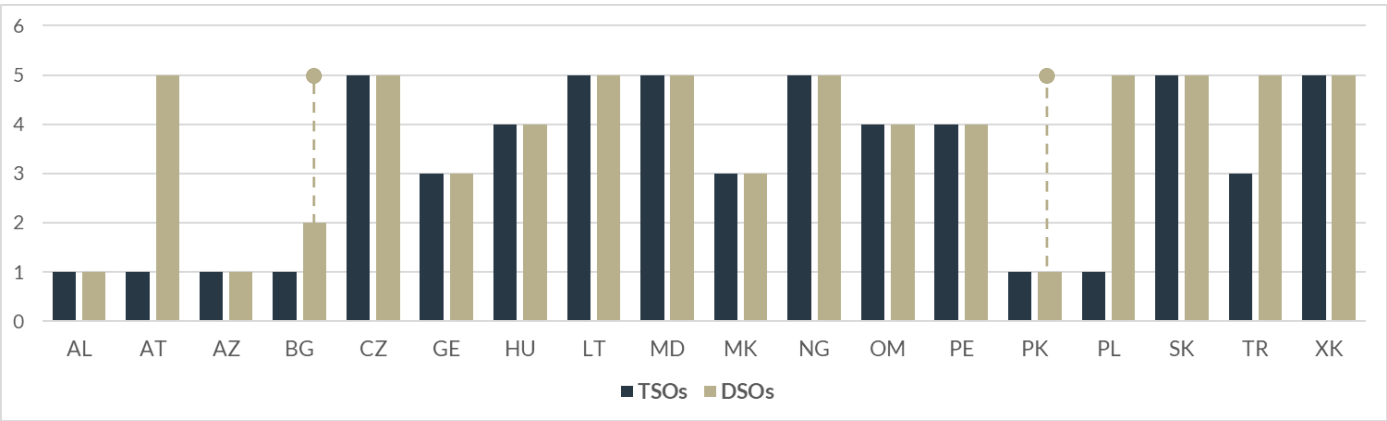
# STATS AND FIGURES

Select data from the Study on Regulatory Approaches to Revenue Setting for Electricity TSOs and DSOs among ERRA Member Organizations

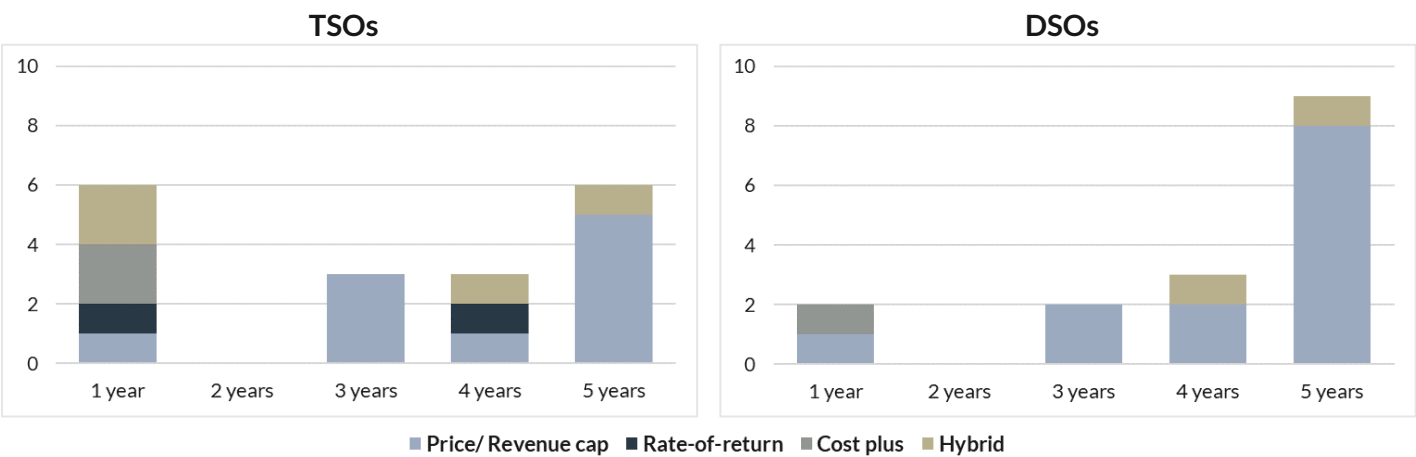
Tariff regulation methods



Length of regulatory period (in years)



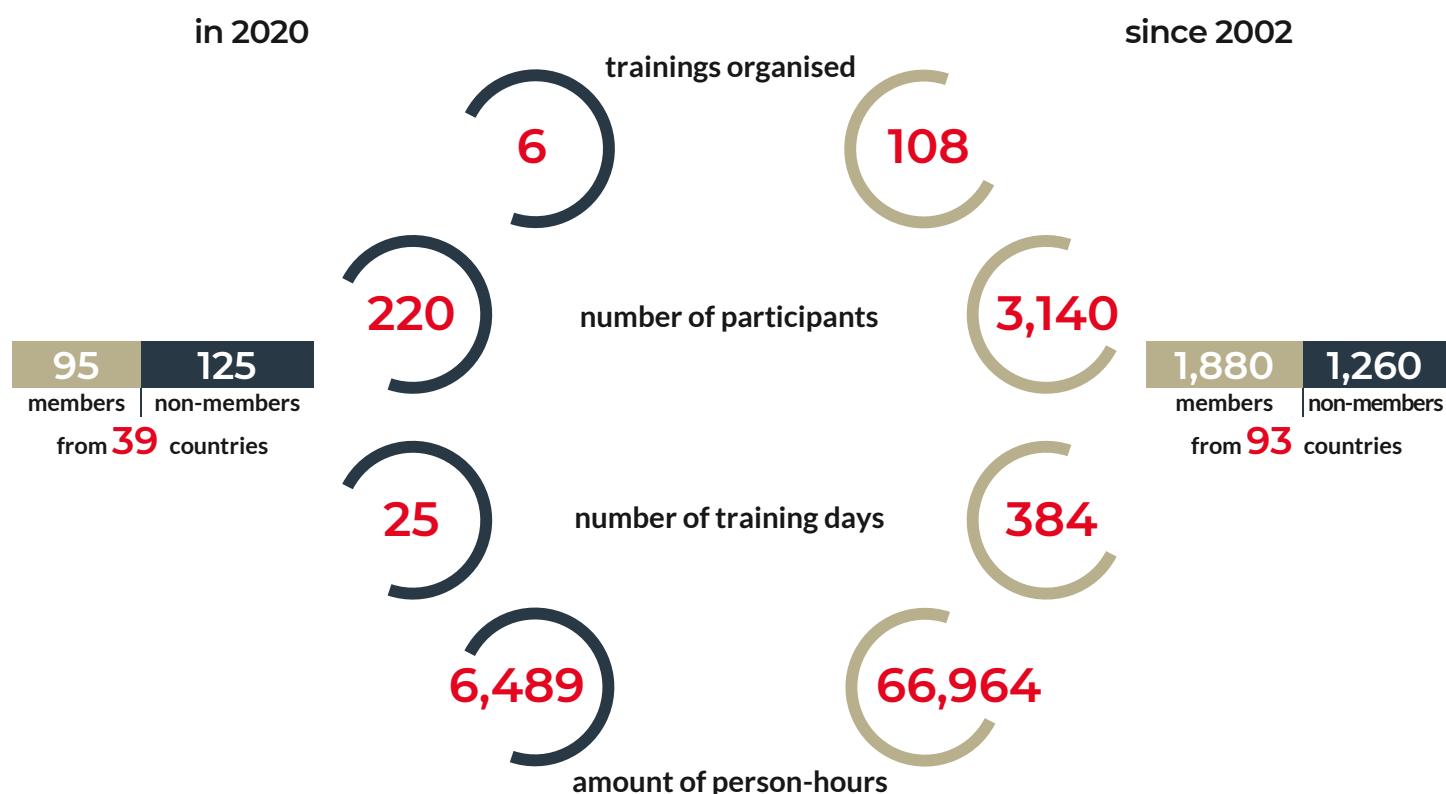
Aggregated chart for system operators in the ERRA sample



For more information on the Study please see page 19.

# STATS AND FIGURES

## ERRA Training Courses



### ERRA Certified Energy Regulator Programme



ERRA developed the Certified Energy Regulator (CER) training certificate to indicate that participants in ERRA courses have achieved a set level of fluency in the regulatory field.

The certification system is supposed to acknowledge those ERRA training participants who have successfully participated in minimum three different training programs organized by ERRA. In order to receive the certificate, participants should collect at least 30 credits within 3 years.



ERRA issued **32 CER diplomas** since 2010.

For more information please refer to: <https://erranet.org/trainings/cer/>



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