# ECRA's Regulatory Approach to Maintaining Security of Supply

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**REGIONAL ASSOCIATION** 

Security of electricity supply is a priority for Saudi Electricity and Co-Generation Regulatory Authority (ECRA). This paper sets out our approach to maintaining security of supply in response to significant demand growth and continuity of supply as shown below.



ECRA is confident that the current arrangements are

A. The Electricity Industry Restructuring Plan (EIRP)

The development of open, competitive markets has the potential to deliver security of supply benefits for KSA. It opens up possibilities for greater supply diversification, mitigating local supply risks, allows flexible trading within and between neighboring countries.



sufficient to:

- Effectively monitor the security of power system
- Enhance security of supply.

ECRA will continue to assess the appropriateness of the current framework and identify where any improvements can be made to the exsting documents.

### C. Key Performance Indicators



#### **B. Planning and Standards**

To monitor Security of Supply, several documents have recently been developed as follows.

- i. Generation Expansion Planning Criteria
- ii. Distribution Security of Supply
- iii. Transmission and Distribution Capability Statements



a. Small scale solar PV regulations
b. Grid and distribution codes amendments to enable renewable generation

#### **Reference Materials**

 ECRA's KPIs regulatory Framework, Distribution security Standards, Transmission Planning Criteria, Grid and Distribution codes

#### Keywords

Security of supply, Continuity, Renewable, Restructuring, Planning and Standards

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# An Efficient European Regulatory Framework for Disclosure Information

Phil Moody, Dirk Van Evercooren Association of Issuing Bodies (AIB)



- European Directives prescribe that **electricity consumers** be **informed** about the source of the electricity they are supplied with ('disclosure information').
- It is **impossible** to physically track electrons, so once electricity is injected into the grid it is impossible to distinguish between electrons from different energy sources.
- To substantiate **claims** that electricity supplied/used is from renewable sources, a **reliable** tracking instrument is needed: Guarantees of Origin (GOs).

Guarantees of Origin – The principles

• GOs and Disclosure information provide a **process chain** that tracks electricity from production to consumption.

**Regulatory Framework GOs** 





• The RE-DISS project achieved a coordinated approach, raising reliability of disclosure information for Europe's electricity consumers.

From AIB to CEER and ERRA



ENERGY CERTIFICATE SYSTEM



• AIB (Association of Issuing Bodies) is the voluntary not for profit umbrella of issuing bodies of GOs.

• CEER (Council of European Energy Regulators) is the voluntary not for profit umbrella of energy regulators, who oversee disclosure information.

• The RE-DISS projects ended in 2015 meaning the end of a governance platform involving many relevant stakeholders, representing the different segments of the process chain from electricity producer to customer.

#### **Recommendations:**

• To achieve effective and efficient regulation to ensure correct information for and protection of electricity consumers, coordination is needed.

• Regulators and issuing bodies of all countries that comply with European Energy law, need to formally cooperate to harmonise and further develop the disclosure process.

#### **Reference Materials**

- Internal Energy Market Directive, 2009/72/EC, Art.3, para.9; Renewables Directive 2009/28/EC Art.15; Energy Efficiency Directive 2012/27/EC, Art.14
- CEER Advice on Customer Information on Sources of Electricity, Ref: C14-CEM-70-08, March 2015
- Klimscheffskij, Van Evercooren, Moody: Realising the Potential of Guarantees of Origin to Empower Consumers, ICER Chronicle Edition 4

#### Keywords

Regulation, energy transition, consumer empowerment, consumer information, renewables, trust, energy demand

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# Energy Trends and Perspectives in South Caucasus Region

Sopio Khozrevanidze, Lia Gvazava Georgian National Energy and Water Supply Regulatory Commission



- Global energy demand grew by 2.1% in 2017 (IEA).
- The growing global demand for energy has raised challenges for the global community. There is the central challenge for the countries to develop a common domestic and foreign energy policy, to achieve a sustainable energy system and to ensure secure and affordable energy supplies.



#### World Energy Consumption by Energy Source, quadrillion Btu

The research uses common analytical approach for the three South Caucasus countries

- First, the key stakeholders in the energy sector (state and non-state; local, national and international) of each country are mapped, and
- Second, analysis of narratives on renewable energy in media articles, expert discussions and policy documents are analysed.

Based on the high importance of the research topic authors use historical and logical generalization methods of research as well.

The research is largely exploratory and aims to offer a new angle in the studies and policy debates on energy sector in South Caucasus. In this sense, it presents a first sketch of how future of energy is perceived in the South Caucasus and what are the implications of these perceptions for regional energy policy.

Source: EIA

 South Caucasus countries are rich with renewable energy sources, including wind, solar, bio and hydro energy. The countries of this region have made tremendous achievements in the development of this sector and at the same time these countries are working on the development of wider energy corridors to export natural and renewable energy resources. • Incorporating experience and clearly understanding the needs of the Turkish and other Black Sea countries' markets are essential for the development of the energy sector in South Caucasus.

• To ensure secure and affordable energy supplies in South Caucasus countries energy diversification has a huge importance.

• Establishment of energy corridors has a potential to strengthen its role in implementation of East-West and North-South transit projects. Effective utilization of its geopolitical location, will contribute to South Caucasus countries' energy security and economic development.



- Establishment of new energy corridors, and the possibility for Turkey to become a regional energy hub, can mitigate external pressure on energy security in the region.
- To protect critical energy infrastructure, The governments of Armenia, Azerbaijan, and Georgia should accelerate the adoption and implementation

of relevant technical regulations, guidelines, standards and recommendations for harmonization of legislation with the EU within existing cooperation programmes and regulations.

#### **Reference Materials**

- http://www.iea.org/newsroom/news/2017/july/iea-sees-global-gasdemand-rising-to-2022-as-us-drives-market-transformation.html
- http://www.iai.it/sites/default/files/iai-ocp\_gas.pdf
- https://gep.mckinseyenergyinsights.com/

#### Keywords

Energy Security, diversification, infrastructure, EU legislation

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### The Role of Association "NP Market Council" in Support of New Technology Development in Russian Wholesale Energy Market

Oleg Barkin, Vladislav Berezovsky Association "NP Market Council"



#### Association «NP Market Council»:

- Unites participants of the wholesale market
- Arranges the commercial activities of the wholesale market

(The Association owns the Trade System Administrator & the Financial Settlement Center)

- Develops market rules
- Takes part in the regulation of the power industry
- The Supervisory Board consists of government, generators, resellers and consumers representatives



#### **Power Industry 4.0**

A regulator has to adopt different technologies according to their maturity level.

In the first levels, we select and assess useful technologies.

In the second step, the technologies are piloted to show their efficiency and competitiveness.

The mature technologies need actions that support their promotion in the energy market.





DR market mechanism for wholesale consumers that was created by the System Operator and the Trade System Administrator. Since 2018 DR mechanism for retail consumers is going to be piloted.

#### **Reference Materials**

- http://www.en.np-sr.ru
- https://asi.ru/eng/nti/

#### **Keywords**

energy market, demand response, regulation, industry 4.0

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### A Modern View of Energy Security

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Our views on importance of electricity in our daily routines have changed dramatically.

- High rate of population growth = higher demand for electricity.
- The world's economy is growing,

• More and more electrically-powered devices are being used. To reduce carbon emissions, fossil fuels are being replaced by new technologies which also entails higher electricity consumption. Each country needs a secure long-term supply of electricity that is economically viable and ecologically acceptable.



Our Study evaluates:

- previous experiences and effects of a different composition of energy mixes and experiences from the functional market coupling,
- the question, if there is a need to change rapidly the energy mix in some countries,

#### Do we need to change our energy mix?

Energy mix has fundamental role in the energy security of countries and especially for security of supply:

- Consumers expect that they will receive energy products regularly for stable prices.
- Today we obtain energy mostly from fossil fuels, but under pressure of reducing

CO2 in the air we try to change our energy mix and we start to use renewable sources.

• Therefore, countries try to motivate people to produce energy from renewable sources through feed-in tariffs especially. It causes high

2015 Paris Accord. Production of all forms of energy increases to meet growing demand. By 2040, use of renewables jumps 473 per cent to meet six percent of total global energy demand. Natural gas use increases 49 per cent while oil demand increases 12 per cent. As a group, fossil fuels continue to meet 74 per cent of the world's energy needs.

CD: Organization of Economic Co-operation

- the security of supply through the market coupling concept,
- importance of independent regulation in energy market of the present.

price of energy for ordinary consumers.



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The main conclusion of the study is that today's renewable energy technologies are not enough to replace the fossil fuels. They can only serve as a supplement but not as the main source of electricity in < each country. But we do not avoid a discussion about looking for new energy resources and improving the investments in renewable sources.

## The independent regulatory authority in terms of transitional energy markets

The integration of electricity markets creates new challenges to the regulatory authorities in their commitment to guarantee security of supply at affordable prices. Even at a national level, designing policies for electricity markets is an extremely complex task; but this is exacerbated in the case of market coupling, since different policies may be applied at the two ends of an interconnector.



In our opinion, in the light of the globalization and the national liberalization regulatory authorities ("NRAs") losing the are justification of their original reason for the establishment. NRAs are becoming more and more passive among the other players on the energy market in the European Union. This type of policy will rs in the future pose a threat for households and small enterprises.

bodies	Consumer

#### **Reference Materials**

- EU Energy Markets in 2014
- Look at "Pros and cons of different energy sources"
- Financing Renewables

#### Keywords

energy mix; renewable energy; electricity market; market coupling; transmission capacity; independent regulatory authority

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