



WORLD FORUM ON  
ENERGY REGULATION V

**STRIKING A BALANCE  
IN THE MIDST OF CHANGE**

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Québec City, Québec (Canada)

# ICER Report on Security of Supply

## “The National, Regional and Global Dimensions”

Presented by:

**CARLO CREA**  
ICER VWG1 Chairman

15 May 2011



# THE WORK DONE

## 9 conference calls

11 RRAs participating (and the AEMC)

MedReg; NARUC; CAMPUT; CEER; ARIAE; ERRA; EAPIRF; AFUR;  
OOCUR; RERA; SAFIR

## Survey on Security of Supply Issues

Addressed to the NRAs

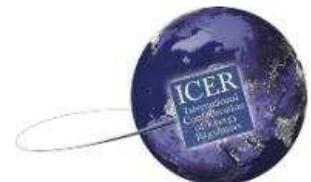
## Florence Workshop on Security of Supply

9 June 2011, kindly hosted by the Florence School of Regulation

Participants from the RRAs: CEER, MedReg, RERA, CAMPUT, ARIAE

Participants from institutions: Energy Charter, VLPGO, IEA, UNECE

Participants from financial institutions: IDB, WB, EBRD



# RATES OF RESPONSE TO THE SURVEY ACCORDING TO THE GROUPINGS ADOPTED IN THE REPORT

<i>SURVEY RESPONSE RATE (%)</i>					
	Number of potential respondents	Sections B, C and D		Section E	
		Response rate (%)	Energy share (%)	Response rate (%)	Energy share (%)
NARUC	51	100	100	33	32
CEER	29	69	91	55	78
AFUR and RERA	22	36	46	36	13
EAPIRF	18	6	5	11	8
ARIAE non CEER	15	20	33	20	33
Other ERRA	13	31	27	31	88
CAMPUT	13	100	100	100	100
MEDREG non CEER	11	64	70	55	50
OOCUR	8	25	78	25	78
SAFIR	6	17	83	33	84
<b>Total</b>	186	59	57	39	45

NARUC and CAMPUT provided a single joint response to Sections B, C and D for all members.

## Survey's sections:

**B:** Risks for Security of Supply (and demand); **C:** Management of Supply Emergencies; **D:** Medium and long-term Preventive Measures; **E:** Competencies of regulators

## CHAPTER 1

# KEY FEATURES OF THE ENERGY SYSTEM

The **principal findings** in the energy structure of RRAs regard:

- a) the large disparities in the size of RRA energy supplies;
- b) the presence of dominant countries in most RRAs;
- c) major differences in the structure of the RRA energy systems;
- d) large variation in import dependence of the RRAs;
- e) huge diversities in the energy systems of the countries within each RRA.

The weight of individual RRAs in the global energy system will change significantly over the coming two decades: the strongest increase in energy consumption will concern SAFIR, MEDREG non CEER, AFUR & RERA and EAPIRF, while CEER and NARUC, followed by Other ERRA, will maintain their current levels of consumption.

## CHAPTER 2

# EVALUATION OF THE RISKS FOR SOS

**No region as a whole appears to be under irremediably severe risk of supply interruptions, though a number of countries in certain regions run high levels of risk of either technical or geopolitical nature.**

The evaluation of the risks is based on two classical indicators:

- *the Herfindhal - Hirschman index (HHI)*, which measures the degree of diversification of imported energy sources
- *the Risky External Energy Supply (REES) index* which, in addition, takes into account the political and governance risks of fuel exporting countries.

However, these indexes do not take into account the importance of a given fuel in a country's energy system. For this reason we based our assessment on two further indexes:

- **HHIa and REESa**, which take into account the share of a given fuel in total primary energy consumption; and
- **HHIb and REESb**, which take into account the share of net imports of the fuel in total primary energy consumption.

## CHAPTER 3

# OVERVIEW OF ENERGY SUPPLY EMERGENCIES

The analysis is based on the non-exhaustive list of emergencies assembled from a variety of sources and the information provided in Section C of VWG1 Survey.

By far the vast majority of emergencies are registered in the power sector, for its greater technological complexity and technical vulnerability compared to gas, oil and coal.

### Main causes:

- natural events: 44%.
- network failures of various kinds: 32%
- human interference: 10%
- insufficient storage and reserve capacity: 6%;
- **inadequate regulation**: 5% (however, it seems that the underlying cause of a fraction of interruptions classified as being due to network failures and insufficient storage and reserve capacity may have been caused by poor regulation);

# CHAPTER 4

## INFRASTRUCTURE DEVELOPMENT AND REGIONAL ENERGY INTEGRATION

Energy infrastructure development on a regional scale can offer substantial cost reductions through economies-of-scale in investments and synergies in the use of shared resources.

**Energy sector reform is indispensable** to attract private investments, without which many regional projects are difficult to finance.

**Independent NRAs** are necessary for the creation of an effective regulatory environment which guarantees:

- the definition and application of adequate regulations,
- the enforcement of standard technical rules,
- capabilities for monitoring anti-competitive behaviour,
- effective communication and adequate dispute resolution mechanisms.

# CHAPTER 5

## ROLE AND COMPETENCES OF THE REGULATOR

A primary aim of the Survey on the NRAs was to examine the energy regulators' perception of three key SoS issues:

1. **The risks for security of supply:** the overall perception is one of low levels of risk to SoS for all fuels both currently and in the future.
2. **The management of supply emergencies:** selective rationing is the measure used more often to address supply interruptions in practically all RRAs.
3. **Medium and long term preventive measures:**
  - the promotion of investments in new infrastructure projects
  - efficient operation of energy markets
  - reducing demand through energy conservation and efficiency.

# CHAPTER 6

## REGULATORY GOVERNANCE IN A GLOBAL SETTING

The Report highlights that:

**Good regulation** means:

- To ensure investor participation and reasonable RoR
- To protect consumers
- To favour achievement of policy objectives

**Bad regulation** implies:

- Failure to adopt adequate tariff methodologies and quality standards
- Setting inappropriate benchmarks causing divergences between costs and prices

However, the **Regulator is almost powerless** when there are:

- Poorly designed market structures
- Inconsistent government policies
- Scarce independence from governments
- Macroeconomic crisis conditions



# CONCLUSIONS

## MAIN CONCLUSIONS:

- Energy sector reform is needed to enhance market efficiency: indispensable to attract private investments
- Regulatory Independence is a key prerequisite to enable market reform
- Harmonisation of rules on a regional scale must be achieved to facilitate cross border projects
- The successful implementation of regional energy projects relies to no small extent on effective collaboration between national regulatory authorities
- Best practice exchange is essential, particularly in the development of cross-border projects

# RECOMMENDATIONS

## FOR GOVERNMENTS:

- To clearly separate generation/transmission/distribution/supply functions
- To provide guarantees on project development
- To speed up authorisation procedures
- To recognise the role of energy regulation as distinct from government energy and social policy
- To endow regulators with stable responsibilities and an appropriate level of independence and autonomy

# RECOMMENDATIONS

## FOR REGULATORS:

- To clearly recognise the impact of their decisions on energy security
- To ensure that their decisions promote investments in infrastructure
- To work towards the harmonisation of rules with those of neighbouring countries
- To improve monitoring of quality of supply and reliability standards
- To support domestic energy resource development and end-use efficiency

Thank you for your  
attention!



The ICER report is on  
our [website](http://www.icer-regulators.net)



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