

# C5 - Electricity Markets & Regulation

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**cigre**

For power system expertise

Assemblea Nazionale, 29 Novembre 2018

# Paris Session 2018



# Poster Session, Tutorial e Workshop

## Poster Session

- **29 paper** presentati di cui **3 italiani**
  - C5-103 The estimation of the Value of Lost Load (**Enel**)
  - C5-306 TSO-DSO coordination and market architectures for an integrated ancillary services acquisition: the view of the SmartNet project (**RSE**)
  - C5-307 Smart TSO-DSO interaction schemes and ICT solutions for the integration of ancillary services from distributed generation (**RSE**)



## Tutorial

- **Global Overview of Demand Response Markets and Regulations**

## Workshop

- **Market disturbance workshop (300 partecipanti, 7 presentazioni,...)**



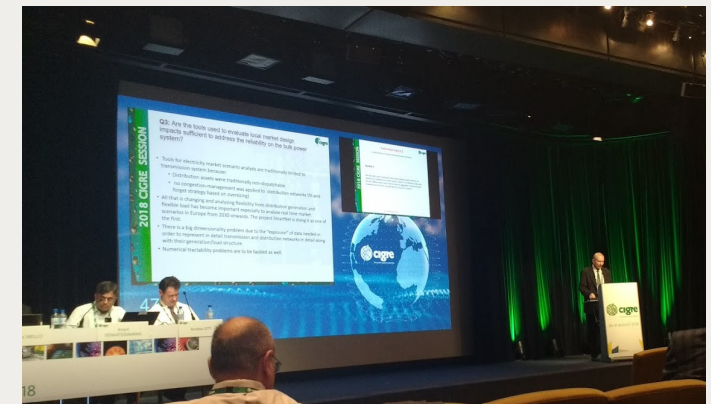
# Technical Session

## Temi

1. The need to **change business and regulatory models** driven by increase in distributed resources, storage and demand response
2. The impact of **climate policy** on electricity
3. **Localized markets or microgrids** interacting with wholesale markets

## Partecipazione italiana

- 5 presentazioni (written contributions) soprattutto sui temi 1 e 3
- Varie “spontaneous contributions”



## Novità del SC5

- Chairman



A. Ott (US) → A. Cruickshank (AU)  
PJM Oakley Greenwood





- Secretary

A. Taccoen (FR) → Y. Phulpin, (FR)

- Modifiche interne al SC5

- Focus anche su temi di **distribuzione e retail** oltre che trasmissione e mercati all'ingrosso
- Maggior focus **sull'Africa**
- Più **tempestività** nella pubblicazione di Technical Brochure ed articoli





## Working group Status

TITOLO	INIZIO	PUBBLICAZIONE ATTESA	PARTECIPAZIONE ITALIANA
JWG C2* & C5-05 Reliability standards and interactions with market rules	2000	TB ** - Q4 2019	
WG C5-16 Costs, Allocation Methods and Domestic Rate Trends	2014	TB - Q4 2018	
WG C5-22 Management of Systemic Market Risk in Electricity Markets	2017	TB - Q1 2019	
WG C5-23 Wholesale Market Price Caps	2017	TB - Q4 2018 Article in Electra- Q1 2019 Tutorial per Paris 2020	

\*Power system operation and control

\*\*TB: Technical Brochure

## Working group Status

TITOLO	INIZIO	PUBBLICAZIONE ATTESA	PARTECIPAZIONE ITALIANA
WG C5-24 Exploring the Market-based value of Smart Grid developments”	2017	TB*- Q4 2019	
WG C5-25 Regulation & Market design perspectives raised by new storage technologies	2017	TB - Q1 2019 (in approvazione)	
WG C5-26 Auction Markets and Other Procurement Mechanisms for Demand Response Services	2017	TB- Q2 2019 Joint publication con un WG del IEEE PES**	
WG C5-27 Market design for short-term flexibility	2017	TB - Q4 2019	
WG C5-28 Energy price formation in the wholesale market	2018	TB - 2021	

\*TB: Technical Brochure

\*\*Power and Energy Society

## Proposte per nuovi Working group

- **Local energy communities**
- Comparison **liquidity** of forward markets
- Classification of **market designs** (centralized, decentralized,..)
- **Carbon pricing** in electricity market
- Impact of **blockchain** technologies in power markets
- Impact of **environmental issues** on system operation and **tariffs** (Joint WG with SC C3 “Power system environmental performance”)



## Prossimi appuntamenti

- 2019 Montreal, 16-19 Settembre "CIGRE Canada Conference"
- 2020 Paris Session
  - Preferential Subjects:
    - PS1 : The changing nature of markets and ancillary requirements
    - PS2 : Changing role of regulators and standards
    - PS3 : Market designs for coordination of generation and network investments
- 2021 Tbd (probabilmente Kyoto o New Delhi)

# Grazie

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# Back up

# Study Committee 5

## Mission

To facilitate and promote the progress of engineering and the international exchange of information and knowledge in the field of electricity markets and regulation. To add value to this information and knowledge by means of synthesizing state-of-the-art practices and developing recommendations.

## Scope

The scope of Study Committee C5 is the Analysis of the impacts on the planning and operation of electric power systems of different market approaches and solutions; and of new structures, institutions, actors and stakeholders. The role of competition and regulation in improving end-to-end efficiency of the electric power system.

## Areas of attention include:

- Market structures and products such as physical and financial markets and the interaction between them, contracts, internationally integrated markets.
- Techniques and tools to support market actors such as demand and price forecasting profit estimation, financial risk management etc.
- Regulation and legislation such as regulation objectives, extension and limits, price regulation of transmission, and ancillary services, transmission/distribution coordination and interactions, international harmonization, environmental and regulatory objectives etc.
- Evolution of markets and regulation from wholesale transmission focus to include retail distribution. The increasing interaction between regulation and markets throughout the electric power system value chain and the ability of markets and regulation to cater to rapid evolutions in dynamic / variable generation, demand and storage technologies and behaviours.
- Coordination of regulation, funding and trading arrangements for new assets and technologies expansion in new market structures, including the trend of decentralization of operations with distributed applications; the remaining assets coexisting with the retirement of other in utilities; the consideration of legacy trading arrangements in the new market arena

# Preferential Subjects per PARIS 2020

## PS1 : The changing nature of markets and ancillary requirements

- Market adaptations to handle the value shift between energy and services
- Markets and services to address inertia and resilience
- Role of markets with respect to aggregation and the provision of network services
- Pricing approaches for emerging technologies and impacts of those approaches

## PS2 : Changing role of regulators and standards

- Role of regulators in the changing markets
- Evolving policy, standards, and guidelines to address issues affecting markets
- Regulatory policies on transmission and distribution; too little or too much?

## PS3 : Market designs for coordination of generation and network investments

- Markets and regulations to promote coordinated investments
- Customer-driven market changes – the transition from centralized to distributed planning
- Impacts of the changing nature of customers on investments and markets
- The impact of peer-to-peer trading on the provision of market services