

Comments on the paper by Andres, Guasch, Lopez Azumendi (2009)

Regulation and performance of power sector

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I. An innovative approach...

- Analysis at the regional level
- Relationship between private sector involvement and regulation on performance
- Comprehensive definition of regulation agency's governance characteristics
- Beyond electricity generation per capita, an extensive database of performance indicators

... leading to very interesting results :

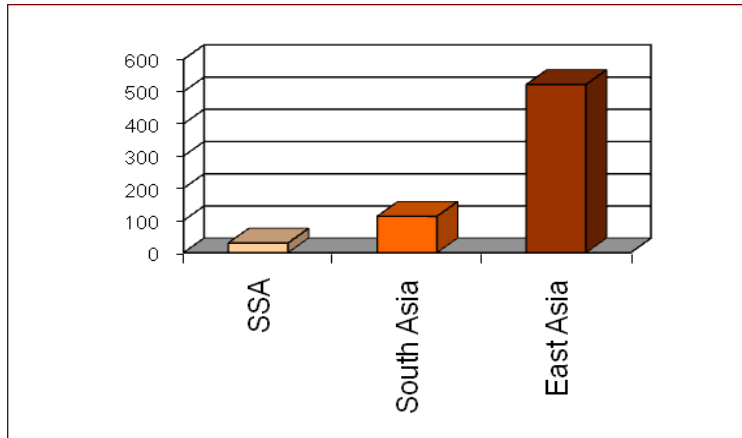
- Yes! Regulation does matter!
- Disentangle the effects of distinct governance indicators

II. Further issues on regulation and power sector performance

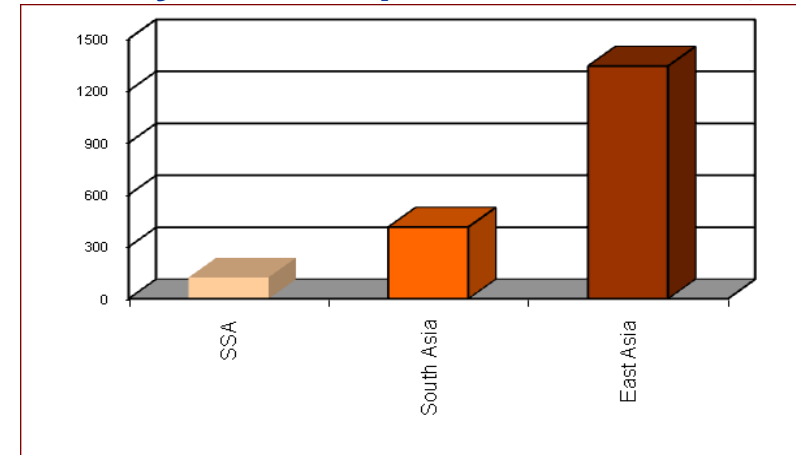
1. Regional integration

Performance gaps among regions

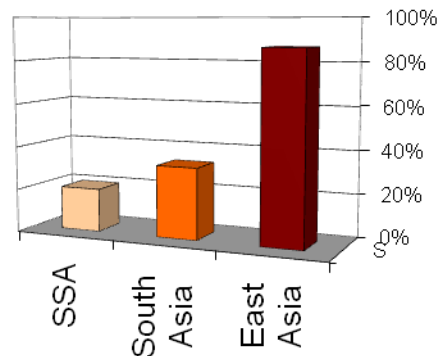
Generation capacity (MW /mln population)



Electricity consumption (kWh/capita/yr)



Access (% of households)

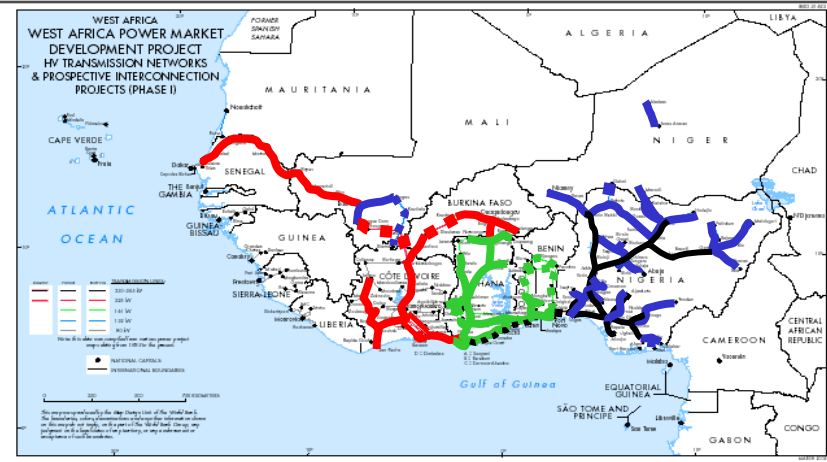


... with price per kw/h
up to 5 x higher in SSA !

Regional integration : leverage to respond to energy challenges

Expensive, insufficient, and of poor
quality electricity

Low resilience both energetic and
economic



Integration process implemented for decades :

- Improve and facilitate cross-border trade
- Improve quality and affordability of electricity supply
 - secured energy for importing countries
 - Optimized use of natural primary resources, in particular renewables

Objectives of regional regulation

Increase cross-border
exchange

Ensure fair competitiveness

Validate commercials and
contractual commitments

Promote international
standards (technical,
economic, financial)

REGULATION
FUNCTION

Contribute to public
policies

Facilitate best-practices
exchanges

Improve cooperation among
actors

Restore investors'
confidence

Key concepts of power system's regional integration

- **TRANSPARENCY**
 - Regulation of third party access
 - TSO independence
 - Regulation agency independence
- **HARMONISATION**
 - Access and tariffs rules
 - National regulators mandate
 - Markets rules

A new a paradigm to define performance ? Improve power system resilience to external shocks and risks

- Broaden the scope of economic analysis (SEA)
- Better factor in fossil fuel depletion, environmental externalities, financial pressure in master plans
- More aggressive on DSM and Renewables

**(re)-assessing sector performance and
regulatory issues:**

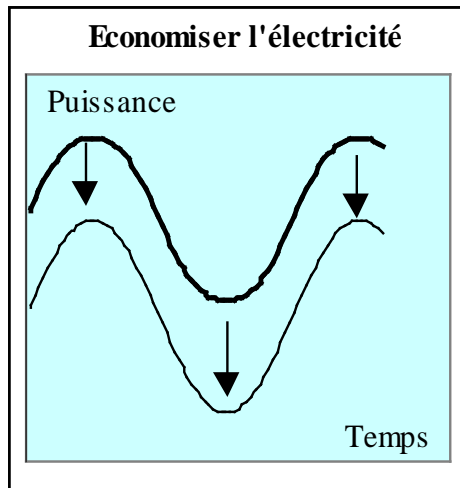
**Taking on board Climate change and
power system resilience**

II. Further issues : Regulator's mission

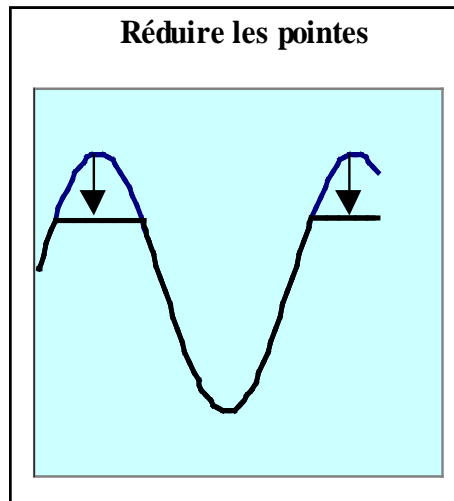
2- Regulation and DSM

What is DSM ?

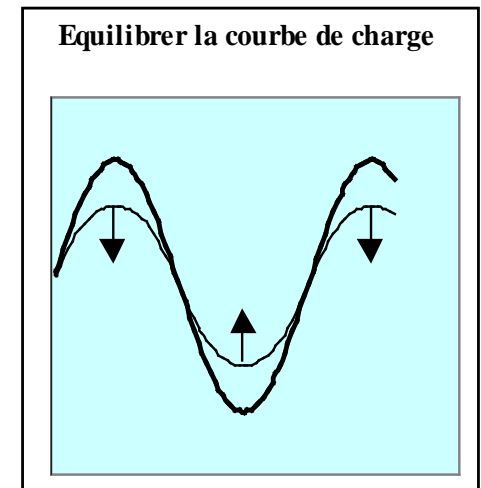
**Save
Electricity**



**Reduce peak
loads**



**Balance load
curves**



Tools for DSM

- ❑ Give long term visibility to stakeholders through **regulatory schemes** and market based instruments

- ❑ EDF's, French monopoly power supplier until 2000, tariff structure has provided since long time incentive for DSM through appropriate tariffs for industry, commercial and household customers:
 - **Time-of-Use tariffs**
 - **Power Factor incentive and penalty/Reactive Power Charges**
 - **Penal Charges for overdrawal**
 - **Two-part Tariffs**
 - **Interruptible contracts during peak loads...**

- ❑ An innovative mechanism to promote DSM:
Energy Saving Certificates (ESC)

II. Further issues : Regulator's mission

3- Regulation and (C)lean energy

[R. Angioletti, 2009]

C-lean Energy : A regulatory toolbox

❑ Non financial regulatory tools

- **Persuasive** : laws, rules, imposed quotas
- **Incentive based** : norms, voluntary agreements, labels, communication

❑ Financial / market based tools

- **Tariffs** : Specific tariffs for renewable energy or energy efficiency
- **Fiscal** : Tax reduction, income tax credit, accelerated depreciation
- **Budgetary support**
 - Support for policy & decision making, R&D, pilot projects, etc.
 - Bonified credit lines
- **Cap & trade** : Clean Development Mechanisms – Carbon Funds

Incentive regulation of C-lean power supply

□ Different regulatory tools can be mobilized

1. Feed in tariff
2. Dedicated public biddings (Ex : on Bioelectricity)
3. Fiscal incentives on C-lean investments
4. Additional tools :
 - Subsidizing the decision making process
 - Carbon financing (CDM...)

How to feed...the feeding tariffs ?

In France, through the « CSPE »

« *Contribution au Service Public de l'Electricité* »

+ 0,45 Euro cents/kWh paid by all consumers and collected by electricity companies

→ 2 billions Euros/year to compensate over-costs of

- . C-clean power supply
- . Power supply in oversea french territories
- . Fuel poverty

II. Further issues:

4- Transitory regulation regimes

[AICD, 2009]

Many independent regulators in SSA

- ❑ Objective: efficient, low-cost, reliable power service...
- ❑ ... ensuring financing viability and attracting investors

Reality hurts

- ❑ Young and fragile institutions...
- ❑ ... facing decisions politically and socially very sensitive [Eberhard, 2007]

➔ Might be more efficient and pragmatic to set a transitory regime of regulation

Feasibility of additional scope for research ?

- Regional regulation effect
- Broaden the definition of power performance
- Identify thematic issues for regulation
- Assess efficiency gains of transitory regime for regulation

Many thanks for this insightful and stimulating paper... and for your attention !

regulated
sector

*Just keep an
eye on them ...*

Non regulated
sector



An innovative mechanism to promote DSM: Energy Saving Certificates (ESC)

- ❑ Since 2005, a new law requires energy suppliers to achieve or encourage energy savings amongst their customers
- ❑ They have to meet a target of energy savings or pay a penalty
- ❑ They can implement energy saving measures and programs themselves or they can buy ESC (cap & trade mechanism)
- ❑ Local communities, building owners or industrial and commercial companies can implement savings and get certificates

ESC obligations for suppliers

- ❑ Global obligation: 54 TWh (cumulated during life time & discounted) for a first period 2006-2009
 - Likely 15 % of the annual consumption trend
 - Estimated cost of savings < 1ct€/ kWh (cumulated & discounted)

- ❑ A penalty of 2c€ per kWh is applied if target is not achieved

- ❑ Forms of energies under obligation:
 - Electricity, natural gas, heating & cooling (sales > 400 GWh/year)
 - LPG (sales > 100 GWh/year)
 - Domestic fuel (no threshold on supplier sales)