



## A Smart EU Energy Policy April 29th and 30th 2009 in Florence

### Smart Market Design and Regional Initiatives

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B12



## “Single markets is incomplete” Utility Week March 2009

- *...there are significant obstacles to the efficient functioning of the electricity market persists. Concentration is still too high...*
- *Still incomplete implementation of 2003 directive*
- The new major update, the 3rd Package will be into force shortly but a growing uncertainty becomes apparent – will the remaining barriers be removed – do we need a more fundamental update on markets and regulation ?
- Will ACER solve problems where ERGEG, CEER and the Florence Forum “failed?”
- Do we need a new “Market Design” ??

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2



## Structure of paper

### How to create a single EU power market

- Basic statement (lack) of progress : Efforts are many but progress slow – breakthrough still far ahead
- **Method used in this paper:** Collect and comment on progress EC reports and evaluate new directives and regulation, and
- Collect and enhance proposals and comments from “academic” paper and reports
- Any lessons from “success countries”?
- Comments on regulatory “repair” the EC way ; limited success,
- How to support the really “Smart EU Energy Policy - a “revised” Market Design necessary (?)



## Where did it all started – any lessons learned for a single market?

- Parallel development Chile –Argentina / England & Wales – Norway
- Domestic issues most important –cross country cooperation not present – but innovation strong and a driving force !
- Market oriented restructure – Power Pools important
- Strict unbundling and political support
- One seize fit all ?
- Ownership structure a challenge
- Regulatory Gaps (EU) a big challenge – legislation weak !



## Major Academic inputs used in this paper

- The Regional Approach in Establishing the Internal Market (Jacques de Jong, 2004)
- “Cambridge Paper of 2004” (E-Control and NVE) Newbery. ++
- TSO operation in Norway (NORDEL), unbundling and Investments – J. Moen
- “Why has the Nordic Market Worked so well” Lars Bergmann (2006)
- Compared with EC papers and reports – how to improve the Single EU Market !



## The Sector Inquiry (DG comp) “forced” EC to do a comprehensive review of current legislation the 3rd Package was born! (findings)

- Concentration
- Vertical foreclosure
- Market integration
- **Transparency**
- **Unbundling**
- **Asymmetrical access to information**
- **Incentives to invest**

**Competition issues!**

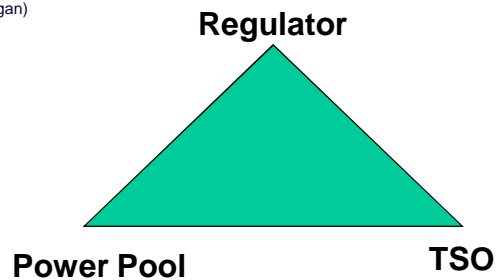
**The 3rd Package wanted to “repair” shortcomings and failures – but structural problems not solved – a Market Design approach is needed!**



## A full market design is needed – “repair only will not work”

- Market Design based on the integration of a pool-based, short term electricity market coordinated by a central dispatch operator provides a foundation for an open access system based on competition

(B. Hogan)



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7



## TSO unbundling revitalised ? Investments too low and served the incumbent only?

- Before 1991 utilities in **Norway** had an obligation to connect and supply within monopoly service area
- Demand covered by regional generation or contract with the Government (Stakraft)
- Self – sufficiency resulted in excess capacity (national level) optimizing within a local area - many restrictions and limitations create barrier to efficiency
- After 1991 focusing on efficiency both networks and generation – optimizing according to costs in Norway as a whole – lower capacity needed
- After 1991 new role of NORDEL !

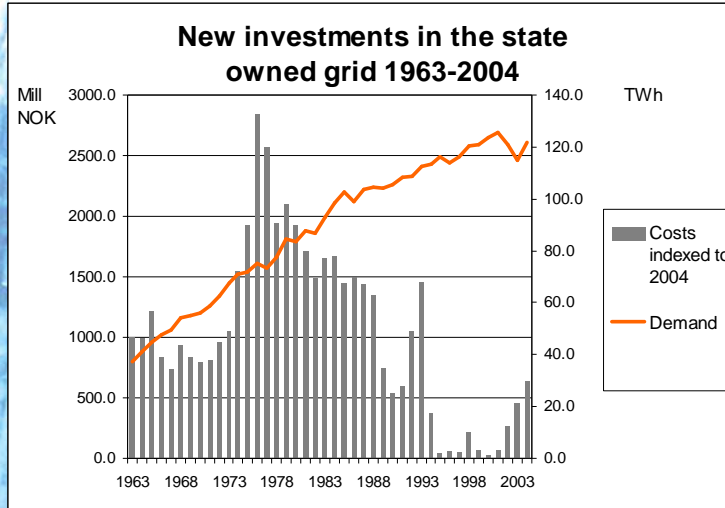
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## Development of Grid Investment and Demand

Improved utilization of existing grid- delay investments

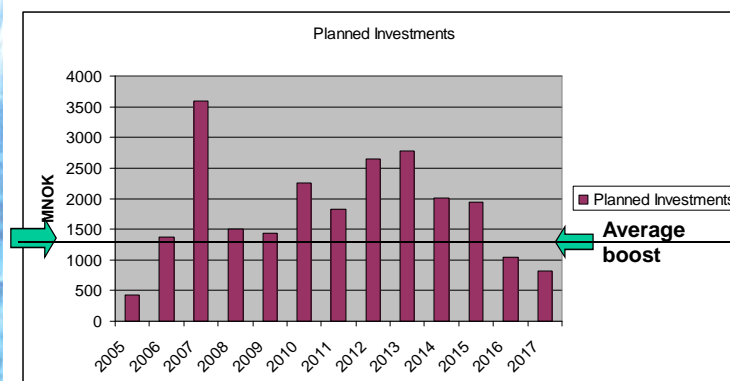


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9



## Demand growth –the need for new Investments in the unbundled system Statnett investment plan



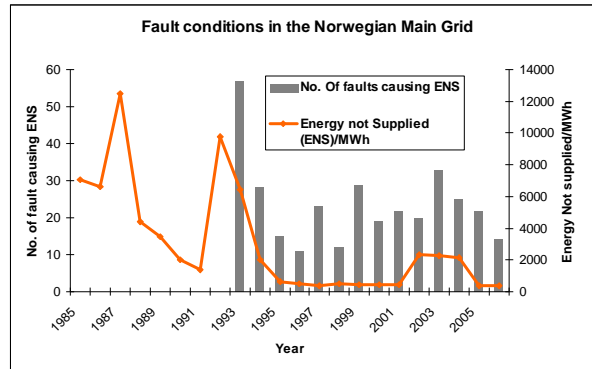
**Improved utilization periods may have come to an end - the boost period 1973 - 1988 may return !**

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10



## Indicator of investments and quality



**No correlation between lower investments and quality**

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11



## Traditional investment theory and Grid investments

- When a new TSO investment are decided – “alternatives” in the power system will be set
- Power lines are not reversible and all alternatives should be investigated to explore all solutions
- Such investments can be managed as “financial call options.”
- Irreversibility will “exercise” call option. (A.K. Dixit & R.S. Pindyk)
- TSO investments fits into this approach
- NPV formula need enhancement: **Add** costs to keep call option alive !
- Uncertainty will be more important and managers may delay investments accordingly
- Theory fits into Norwegian TSO efforts to better utilization behaviour
- Do incentive regulation handle all kind of risks to ensure TSO investments?
- What are the alternatives - more instructions – or bust & boost?

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12



## Some TSO conclusions

- The main focus : Investment **level** – but optimum investments more important ( **how and when to phase in**) – delay may be rational !
- More focus on TSO investments and risks
- Member states have implemented different TSO models and Market Design – any common lessons ?
- EC base line : There is a structural conflict created by vertical integration of networks and supply - BUT should **TSO unbundling and investments be the main focus only ?**
- Will more focus on market design bring EU back to the core issues (Harvard professor William Hogan)



## Bergmann paper and recommendations

### Baseline Norway/Sweden 2002-2003 situation

- **Simple but sound Market Design**
  - Efficient use of hydro, no price regulation,
- **Successful dilution of market power**
  - Integration of national markets, interconnectors capacity, TSO tariffs and well developed, forward markets
- **Strong political support for market based supply system**
  - No political intervention
- **And possibility an informal commitments to public service by the power industry**
  - Due to government ownership and commitments (?)
- **No price caps on NordPool and high prices passed on to all end users ' including the households – demand response high**
- The triangle Market Design worked very well



## Shortcoming of EU legislation and regulation

- The Market Design concept ( Hogan,& Newbery) not included in any EU legislation
- Power Pools a domestic issue – full benefits for efficient planning and operation not utilized
- Congestion management still not well coordinated and “optimum” flow not possible (Regulation 1228/03)
- ITC a barrier, not a facilitator (Regulation 1228/03)
- Success stories from regional integration not utilized
- Coordination of Regulation still a missing link – ACER will not be the “FERC” of Europe
- Regulation by “codes” – will it work??
- Market power still an issue – any cure ?
- Many of the necessary investments irreversible – do EU issue proper incentives?

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15



## Regulatory gaps –should they be closed !

- *“The first directive defined some rules to be applied by all member states in order to open up their energy markets.. However, directives provided little guidance as regard cross-border trade, development of regional markets etc.. A regulatory gap between national markets and EU goals concerning markets emerged.”*
- Such gaps have escalated instead of shrinking due to current EU (repair) regulation
- Regional development through international Power Pools will contribute to close gaps
- Nordic Market through NordPool and TSO (Nordel) cooperation closed gaps!
- One voice in Brussels another domestically
- 3rd Package may close gaps – but more power to Independent Regulators is a must - but ACER is too weak ! New Brussels bureaucracy !?

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16



## Gains fair distributed? Bergmann's concluding approach

- Will security of supply be maintained, when central dispatch and planning are replaced by market based decisions?
- Will the degree of competition be sufficient or will market power prevent the potential benefits of competition from being realised?
- Will competition bring about efficiency increases to the benefit of consumers
- The DG Comp study underlined several shortcomings and company structure and benefits
- Benefits to the incumbents were quite obvious and difficult to shelter
- Due to environment concerns, fuel prices and taxes – real prices will be veiled
- Some countries want stable prices others will manage spot prices as the “best” alternative
- Smart meters may bring changes if managed properly (Demand Response)

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17



## Free to choose –switching opportunities

- “In the majority of countries with regulated prices, 90% of households and more than 80% of business still on regulated prices!” John Mogg (2009)
- “Such regulated end-us prices can distort the development of wholesale and retail markets as well as interfering with with proper price signals to both suppliers and consumers” John Mogg.
- EC really want a market ? (Markets must be created !)
- When prices are set below costs – discrimination and cross-subsidies are applied – regulatory gaps (interventions) but can all customers pay according to costs?
- Regulated tariffs more simple to be applied domestically than in a regional approach!
- Does current EU legislation promote cross country cooperation, trade and regulation – are Bergman's assumption valid for EU power market development and goals?
- Affordability – “former east bloc countries – the big challenge!!

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18