



Market, State, Regulation & Yellow Submarine

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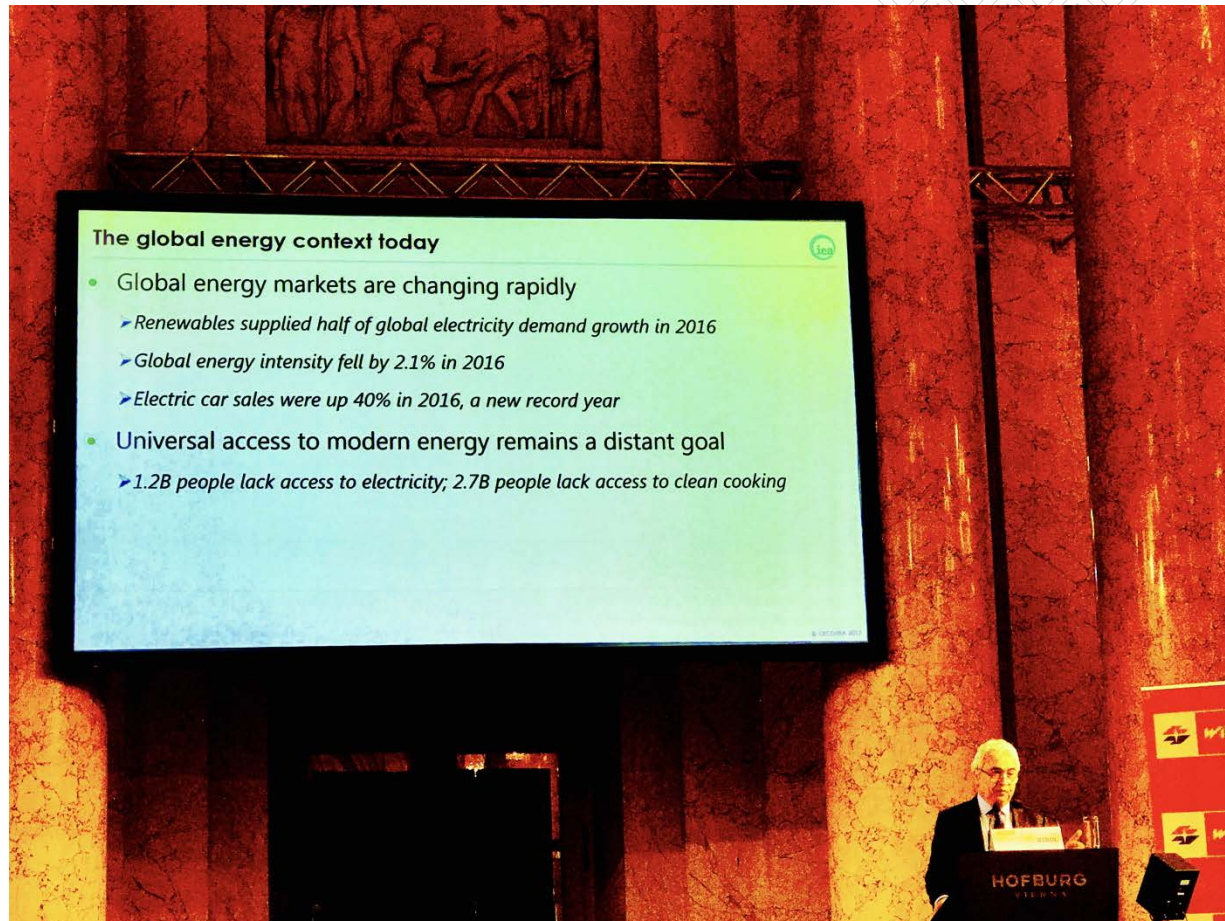
**In the city
where...**

Florence School of Regulation

I was born...



Yesterday, where's yellow vs Black & White?



Yellow's a governance issue = Institutional economics

***Institutional Economics
You know...***

Ronald Coase 1991...

Douglass North 1993...

Elinor Ostrom...

& Oliver Williamson 2009



Now please...

Florence School of Regulation



**Fasten
your seat
belt:
Take-off**

State, Market & Regulation Lego

- **Old governance:** Integrated Infrastructure Monopoly + “GrandPa” Public Service

1- Old roots & bones are “**infrastructure monopoly**” (“essential facility” pricing) (J. Dupuit 1840, A. Marshall 1880, A. Pigou 1920)

2- But real flesh is **Integrated “Mass Market”** regulated services framed by “Political economy”

Olie Williamson: *asset specificity > “fundamental transformation”*

Doug. North: *monopoly assets are trapped > General Institutions set basic rules > industry contracting align*

(Universal Service + Postal Stamp) + (Social Tariff + Labour working conditions + Coal miners jobs + Peripheral territories) + ?

State, Market, Regulation Lego

- **New Governance: Double unbundling + incentive regulation**
 - 1- Unbundling “Infrastructure facility” from “final services” > credibility to market opening for technology choices & final services
 - 2- Unbundling “Regulation” from “Political economy” > credibility to regulatory ruling outside political deals
 - 3- Power Sector two times unbundled > you can go to “Incentive Regulation”,
... and face its “seams”

Regulation: a Lego to play...

- **Seam(1):** Coordinating the unbundled Industry + Then designing (= ruling) the market

1- Rules for Infrastructures access & usage

interact with “final services market” via “system operation” (Olie Williamson)

2- “System operation neutrality”

is extremely “market design” sensitive

3- To get infrastructure operation right
you have to design the market rules

Regulation: a Lego to play...

- **Seam(1): Coordinating the unbundled Industry + Then designing (= ruling) the market**

4 - Revenge of Ronald Coase: markets need trade infrastructures; private order or public law; but Rules: transaction <> coordination

Hard fact – Comprehensive “Electricity Transaction” is made of:

- a- Trading Energy “day-Ahead” in wholesale market
- b- Looking if grid can deliver Energy Equilibrium > network capacity, or congestion
- c- Keeping Energy balanced “Real Time” > balancing with Power Reserve

“Real” electricity made of 3 goods: Energy, Power, Network.

Energy only is “incomplete market”

Regulation: a Lego to play...

- **Seam(2):** Coordinating zones of infrastructures + Then designing zones of the market
 - 1- Rules for each infrastructure “zone” interact with “final services market” in **other zones** via “system operation zonal rules” (Olie Williamson)
 - 2- “System operation neutrality” **at continental scale** is extremely “System operation seams” and “market design seams” sensitive
 - 3- BUT coordinating (**“zone” to “zone”**) is (**“country” to “country”**) AND THIs is not unbundled from national governments and legislators

Revenge of Douglas North: in zonal domain of X-B interactions, the zonal governments & legislators hold the national keys.

How to rebundle (at EU level) the “nationally bundled”?

Regulation: a Lego to play...

- **Seam(2):** Coordinating zones of infrastructures + Designing zones of market

At EU level? ... EU has no regulatory power to issue EU regulations & no agencies to implement them

EU Commission NOT a federal government with fed.agencies (as FERC or EPA)

- > NO EU system operation regulation till 2017!

- > NO EU market design till... 2017 (hidden into System Operation Guidelines)

*Tricks 3dPackage 2009 (NRAS> ACER)> Guidelines; (TSOs> ENTSO-E)>Codes

**SOFTWARE: 1st System Operation EU regulation 2015; input for drafting; coop. for methodologies & implementation

***HARDWARE: 1st Infrastructure EU Regulation 2013; but cut from ENTSO-E

I won't do... C02 & RES push

C02 mitigation as another brand new public policy; with 2 faces

1- Hard economic approach: pricing carbon

Carbon Tax (Jo Stiglitz) or Cap & Trade (Jean Tirole)

Read EEEP “*Economics of Energy & Environmental Policy*” IAEE Journal, September 2015

2- Political Economy & Industrial Policy approach: pushing renewables

RES obligation vs Feed-In;

FiT vs FiP

(RES *new Political Economy*) vs (Coal mines *old Political Eco.*)

Let's take RES push as given...

Does RES push delete or amplify “Industry-Market Seam(1)” and “Zonal vs EU Regulation Seam (2)” issues?

- **Seam(1):** Coordinating the unbundled Industry + Then designing the market
1- Rules for Infrastructures access & usage interact with “final services market” via “system operation” (Olie Williamson) 2- “System operation neutrality” is extremely “market design” sensitive 3- To get infrastructure operation right you have to design the market rules

(Reinhard Haas & Richard Green this morning >>>) + Karsten Neuhoff right now

- Need to go to EU MarketDesign 2.0
- Then too EU NetworkCodes 2.0 (Karsten Neuhoff)

Let's take RES push as given...

Does RES push delete or amplify “Zonal vs EU Regulation” Seam (2) issues?

- **Seam(2):** Coordinating zones of infrastructures + Then designing zones for market

1- To tackle massive EU RES integration we need full

X-B congestion management

X-B balancing (... postponed 2023)

Market Bidding Zones review

X-B Network planning

>> ***stronger Europeanisation of TSOs and of NRAs***

- ***4th package? Fierce national resistance!***

Let's take RES push as given...

RES also create new “Seams issues”: distributed generation, distribution grids, distributed systems

- **Seam(3):** Coordinating *deeper* the unbundled Industry + Then designing *deeper* the market
 - 1- Rules for *Distribution Infrastructures access & usage* interact with rules for transmission
 - 2- Markets for network services at distribution & transmission levels interact “final services market” via “*distrib. system operation*” (Olie Williamson)
- Need to go to **deeper EU MarketDesign 2.0 & deeper EU NetworkCodes 2.0** (Reinhard Haas) (Karsten Neuhoff)
- *Infra-national only? Or supra-national too?*

Schumpeter wave: Decentral. + Digital.

FORGET that RES are Green see them only as Yellow! !!

“Decentral. / Digital” to change Governance needs & options? OF COURSE

1/ Industry Unbundling 1990-2010 did create “modular” elec. Industry which did spread into “modular” Market Design(s)

Generation decentralization + Consumption decentralization push this to new limits as “Self-governed individual Prosumers”

2/ (***Digitalization + Massive data processing***) injected in Decentralization of Operation

brings “Internet & Smart Tools” inside Electricity world 4th Industrial revolution.
You don’t believe it? Electrical & self-driven “Google cars”

Schumpeter wave: Decentral. + Digital.

4th Indus Revolution accelerates all “**micro-micro**” = **nano?** changes:

micro modularity of industry (say RES > Prosumers);

modularity of “Transaction Designs” (Say > New Intermediaries as aggregators, alternative Transaction Platforms, etc.);

it opens too “Users modularity” (Say> Active Block-chain Communities)

How to conclude such amount of novelties?

#Pa & GrandPa both dead? #To see-smell corpses in 2022?



Schumpeter wave Digitiz.Decentriz.?

Governance “innovation” through decentralization & digitalization

Brave new world made of Industry strong Decentralization & Modularity +
Pioneer new Entrepreneurs + Pioneer Users Communities

If regulation follows, it can open 5 new worlds:

1-Forums (Open debate for new coordination rules)

~2-Innovation Zoos (“Sand boxes” for advanced innovators put outside common regulation)

~3-Communities (“Users & Prosumers Clubs” : self-regulated users-producers close-shop)

~4-Roaring Cow-Boys (New York “plug-and-play” infrastructures open to new entrants)

~5-Big e-Sisters (Google, Apple, Amazon, etc. creating “Re-Integrated” alternative worlds. Irony: universal access; “postal stamp” or “Social tariff” as basic service for free)



Thank you for your attention

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