



CHAIRE EUROPEAN
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Could State Aids regulation hinder policies of decarbonation and security of supply ?

Dominique FINON

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Introduction

- **Because challenge of decarbonisation, energy security and competitiveness**
Member states have moved to regain control of energy policies by MS
 - Development of different types of long term support to invest in capital intensive technologies and low carbon
 - Generalisation of FIT , CfDs, capacity mechanism example of British EMR
- Reaction of EC in November 2013 : **Guidance to Member States on state intervention in electricity markets** to clarify EC objectives.
 - State aid concerns
- In parallel review of **EU Guidelines on State Aid for Environmental Protection**, including now **Energy for 2014-2020**
 - Redefinition of the type of RES-E & Low Carbon technology support

Control of State Aids : becoming the key instrument available to the Commission in this area

But is it the right answer? Irrelevance of strong competition and market beliefs /Risk management virtue is not taken into account

- 1. Commission 's State Aid approach
- 2. The reform of renewables support
- 3. Low carbon technologies: the case of CCS
- 4. Low carbon technologies: the new nuclear case
- 5. Conclusion

1. Commission 's State Aid approach

Under the Guidelines, State Aid needs to be notified, and still requires assessment by the Commission

State Aid to Energy & Environmental protection

- Either the support scheme involves no State Aid in first place
- Or it is State Aid, but then it can be justified

Aid can get clearance, if it complies with the following principles

- Aid aimed at common interest
- Aid is appropriate instrument
- Aid has incentive effect
- Aid is proportionate to the objective

State aid should be limited in time and amount

Review of the EU Guidelines on State Aid for Environmental Protection and now Energy

(published in April 2014)

Areas reviewed

- 1. Harmonise and simplify rules
- 2. Energy infrastructure
- 3. System stability and generation adequacy : capacity mechanism
- 4. Support to low-carbon energy sources
 - Renewables (RES)
 - CCS

It goes without saying : exclusion of nuclear technology,

- 5. Exemptions from taxes and other charges

(finally to preserve the competitiveness of energy intensive sectors, granting them **reductions on the charges levied to support RES**)

Question during the consultation on Renewable energy support schemes

Critics of the FIT and priority dispatch:

- not market-oriented:
 - no incentive to efficiency by exposure to market price,
 - rents
- do not internalize the cost for the system

Questions

- How to promote cost-efficient support schemes?
- How to make schemes more market oriented?
- Technology neutral tendering for mature RES?
- Specific support for less mature technologies?

2. Revision of RES-E support up to 2017(April 2014)

To be authorized, operating aids for RES should be:

- **paid in from Feed-In Premiums (FiP)**
- **granted by technology neutral bidding process (to not distort competition)**
- Exception to the for equipment of less than 0.5MW mainly PV and 3 MW for windpower (can keep FIT)
- Exception to technology neutrality
 - in order to achieve some diversification
 - Exception for less mature technology
- **Beneficiaries are subject to standard balancing responsibilities, (unless no liquid intra-day markets)**
- Measures for no incentive to generate electricity under negative prices.

Comments on Feed in Premium:

Is exposure to market price the good answer?

- No real improvement of incentives to operational efficiency,
 - Variability incites to be operational during any time
- Incentive to cut wind generation **when negative prices > premium**
 - Do not solve the entire problem
- **And more risks for developers for fixed costs recovery**
 - Exposure to decrease of fuel cost and carbon costs (difficult to anticipate)
 - So higher risk premium (+3%), **less investment**
 - So **higher cost of the policy** per MW.
 - FIT or CFDs are better in this respect

Auctioning for long term contracts: Answer to what ?

- Relevant pressure by long term competition for contracts
- But important transaction costs and administrative risks (authorisation/ siting) :
 - no scale effects to small/medium-sized projects
 - FIT allows to cover these costs and risks
- They creates barriers for small developers
 - Advantage for large companies
 - Incentives to come back to projects below 3 MW
- Only valid for quite large sized projects

More generally balancing responsibility (BR) is the good answer

- But cost of BR would introduce risks and **would increase price bids in auctioning of FIPs**
- By the way **with FIT or CfDs**, BR implies also to **increase FIT or strike price of the CfD**

3. Operating aid for CCS

In the guidelines p. 46-47

« In order to promote the long term decarbonisation objectives, the Commission will presume the appropriateness of the aid »

1. Belief in the carbon price signal

« The EU ETS and national CO2 taxes internalise the costs of greenhouse gas (GHG) emissions,

*So the aid for CCS addresses a **residual market failure**, unless it has evidence that such remaining market failure no longer exists ».*

2. Many precautions

« Aid to support CCS projects does not include aid for the CO₂ emitting installation as such, but *only aid related to additional costs for capture, transport and store the CO₂ emitted* »

Comment

The fact is :

between an efficient supercritical coal plant and the same plant with CCS,
there is a loss of efficiency of the thermal plants from 45% to 32%

« All revenues, *including cost savings from a reduced need for ETS allowances, and subsidies of NER300 and EPR funding are taken into account* »

Comment

How could we define ex ante the level **of an operating aid with the very uncertain price of ETS price?**

3. Formal state aid investigation into subsidies for Hinkley Point C

The case of long term contracts for new nuclear build

Point 1

Commissioner Almunia: **“Energy companies might build new nuclear reactors without a penny of public support.”**

EC letter January 2014 “It is not clear to the Commission that nuclear technology is immature enough to warrant State aid”

Point 2 No justification by public interest

The EC letter **contests the contribution of nuclear to decarbonation**

- it introduces new environmental risks due to “the need to manage and store radioactive waste for very long periods of time, and the potential for accidents”.

EC letter says it is “difficult to argue” that Hinkley can help the UK **achieve security of supply**, given it will not be running before 2023

- Difficult to perceive some distance in the argument

Point 3. EC letter concludes the subsidies **may be risk “handing EDF excess profits” and could “severely distort competition”**

Good argument for state aid

- 1 Guaranteed price of £92.50/MWh on 35 y by the CfDs
 - bilateral contract with the CfD Counterparty Company Ltd (public neutral agency)
- 2 Credit guarantee to underwrite up to £10bn of debt on the project of £16 bn.
- 3. Carbon price floor
- For the EC sufficient to bring forward the investment without the guaranteed power price.
- Unrealistically high discount rates
 - and that, under modelling by the Commission using a lower rate, Hinkley “would be profitable under all price scenarios considered and in the absence of a CfD [subsidy contract]”.

But Commission ignores reality of new nuclear investment

- EC ignores market failures in matter of learning investment
- Decisions to invest in EPR in Finland and in France are not normal businesses
 - In Finland OK 3, Areva bears all the construction risks (€3.8 billion and TVO is a cooperative of consumers)
 - In France for Flamanville 3, investor is a deep pocket (€ 76 billion turnover) , not privatised (16%) and vertically integrated
- EC ignores difficulties to manage risk in large intensive equipment on the electricity market

- It probably may be seen an unallowable state aid
 - Inappropriate
 - Disporportionate
 - Not on the EU common interest

But the Commission overstep its authority concerning State Aid

- when the energy policy choices of a Member State (i.e. the UK)
 - What about the subsidiarity principle ? Article 194(2) of The Treaty
 - Member States are entitled to choose their own energy mix,
- When it expresses misgivings about the use of nuclear power per se.

Conclusion

- This market framework present a significant obstacle in the EU's effort's to develop a robust energy market for low carbon technologies
- State aid approach ignores
 - the reality of electricity markets coordination
 - The constraints to invest in large capital intensive equipment
 - The learning investment constraints
- The existing market structure is driven by short run marginal costs.
- These technologies have high upfront capital costs and low short run marginal costs
- Increase problem with penetration of RES-E:
 - lowering average price
 - self reinforcement of long term support

Need of a new directive ?

- To recognize priority of long term objectives on market coordination
- To recognize the central place of planning beside the market with only secondary role
- To recognize long term contracts with neutral agency
- To recognize central buyer (neutral agency)
 - and policy cost to be paid by all the consumers

Such process should lead to change the guidelines on Environment and Energy

At this stage we are only with

- Unusefully restricting guidelines
- For the Commission Communication « Delivering the internal electricity market and making most of the public intervention »

In fact

« Legitimate MS' public intervention is needed to overcome the failures of long term coordination by electricity market »

Back up

The problem is that long term market coordination does not work any more for any technology

The more decarbonised technologies with low variable costs come into the system, the less operators could invest in capital intensive technologies, even mature

- Large sized and small sized RES-E, new nuclear, CCS
- The variable RES-E are a bit more penalized:
 - the more they produce the less market price is
- Investment in fossil fuel equipment CCGT, peaking units are also altered by RES-E entries
 - which deliver long term security during critical periods and flexibility
- State aids (operating aid /subsidy to production) are definitively needed for any new equipment
- FIT or premium or CFDs is definitively needed

Comparison of generation cost structures (with a 10% capital cost)

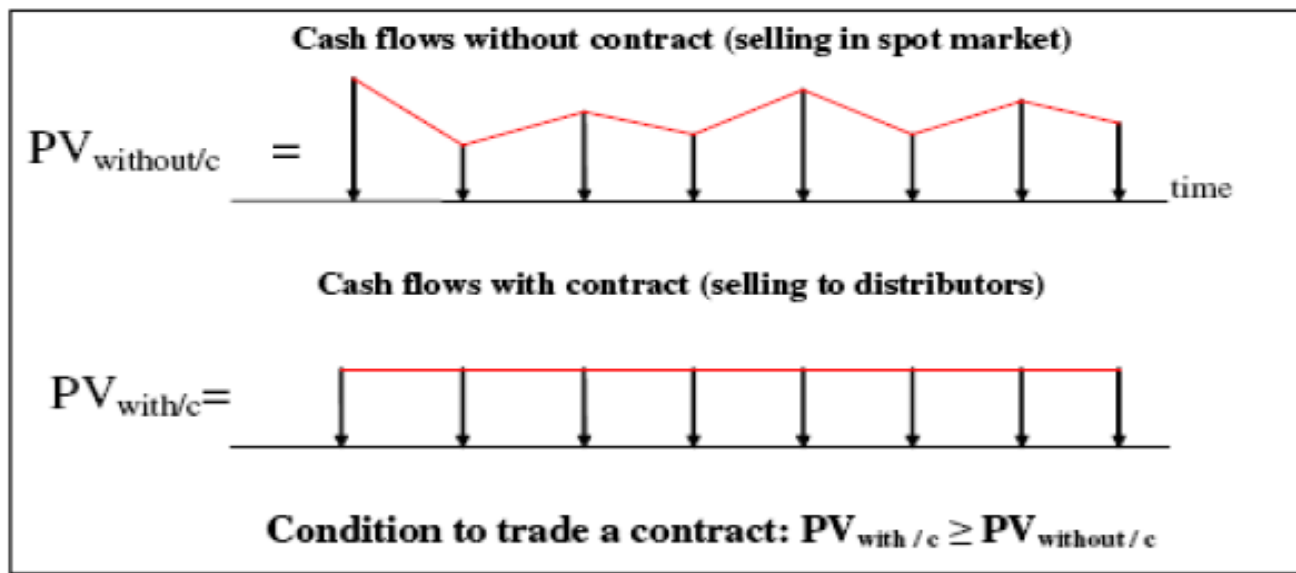
	Nuclear	Coal	Coal with CCS	CCGT	Windpower	Solar PV
Investment*(\$ /kW)	4100	2133	3840	1070	2350-onshore	6000
Size of the units	1.500MW	700	700	400 MW	20MW onshore	2 MW
Levelised costs (\$/MWh)	98.75	80.05	89.95	92.11**	137,1 (220.0)	618.55
Investment cost %	75.6 %	39.8%	66.8%	17.3%	83.5%	94.9%
O&M %	14.9%	7.5%	15.1%	4.9%	16.5%	4.0%
Fuel costs %	9.5 %	22.8%	14.5%	66.4%	0%	0%
CO ₂ cost *** %	0 %	29.9%	3.6%	11.4%	0%	0%

Intervene to transfer risk directly from investors to consumers

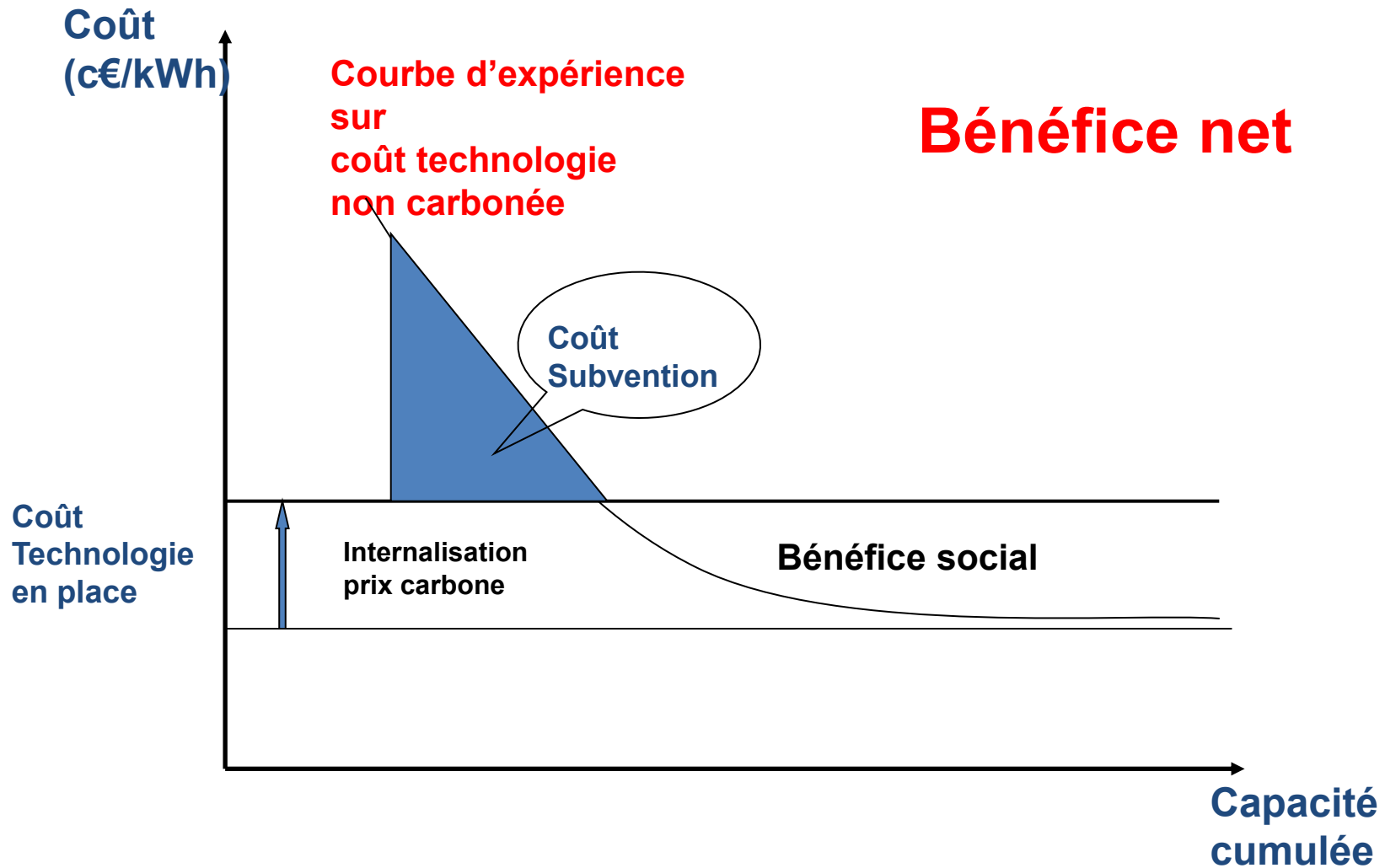


How?

Through signing long term contracts



Rationale to support learning investment after RD&D



By the Way Byzantine interpretation of State Aids derived from the art 107.1 of the Treaty

*“Any aid granted by a Member State **or through State resources in any form whatsoever** which distorts or threatens to distort competition (....)”*

“Through state resources in any form”:

if the **grant** (e.g. operating aid) is **paid by a company to producers**

and then **company** is **reimbursed** to the latter

by a fund abounded by a uplift,

with the fund **managed by public body or public firm**

Even if uplift is paid by consumers and not public budget

Typically a negative restriction on MS ‘ Energy Policy means

Competition is not distorted