

The Central Trader-Buyer model*

A solution to foster low carbon transition and protect consumers

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Three challenging objectives for an exhaustive reform

- Maintaining hourly markets to ensure short-term coordination inside the system and with the other systems (market efficiency)
- Decoupling short term price signals and long term signals for investment in low carbon technologies
 - **Revenue guarantee contracts** for sharing risks of investing in new equipment
- Insuring the consumer protection with quite stable retail prices **by their alignment with long-term costs,**
 - while keeping some price variability to incite consumers' reactivity (avoiding dilution of price signal)

Former building block additions to the market design to correct market failures

Addition of patches to the Energy Only Market without consistency

1. Capacity remuneration mechanisms for capacity adequacy **in view of the security of supply**

- After long reluctance of the Commission (state aid)
- Member states have chosen their own design
- Some CRMs are based on capacity contracts with government
 - Not only to postpone closures of conventional dispatchable equipment
 - The most effective for development of new peaking units

2. Long term revenue guarantee for renewables (**innovation and then low carbon**)

- Before commercial maturity, feed in tariffs (with their cost financed by a tax per MWh).
- After commercial maturity (competitiveness) , **auctioning of financial contracts (CfD type) for wind, solar PV, for**
 - hedging developers' market risks by revenue guarantee per MWh;
 - Helpful to substitute to corporate PPAs between RES developers and large buyers

To generalize these mechanisms in order to accelerate the transition by

combining developments of low carbon technologies and complementary flexible sources (fossil, storages, etc.)

Keeping total integrity of market architecture (day ahead, infra day, balancing,etc. & market coupling)

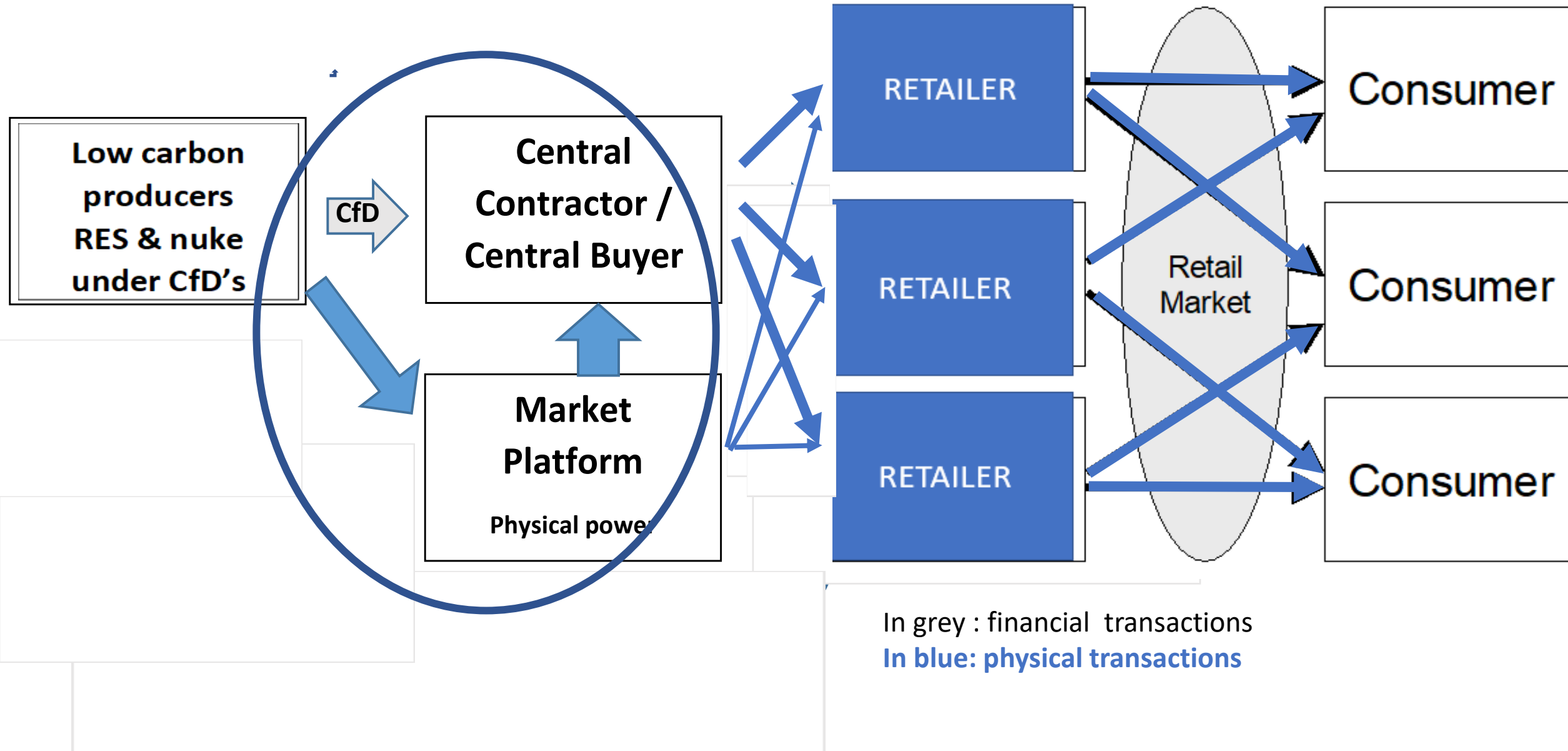
Creation of an Independent public entity to assume four main functions:

- **Sharing market risks with low carbon producers** through CfD contracts for each equipment and through capacity contracts with flexible units (storages, gas turbines, etc.);
- Organising the “long-term market” for the **allocation of these contracts by auctioning** in order to maintain competitive pressure,
- Hedging major part of market risks for the suppliers (and beyond for consumers)
 - for that **public entity acquires on the spot market the whole of MWhs** produced by low carbon equipment covered by the financial contracts
 - Definition of **transfer prices** to suppliers aligned **with long-term costs**, the definition of which is to be specified by the regulator.

The rest of MWhs are those produced by fossil equipment and various storages (peaking units, back up, flexibility)

- Suppliers complement their sourcing on the spot market
- This allows to keep some prices variability to influence consumers’ behaviour during scarcity moments and gas price spikes

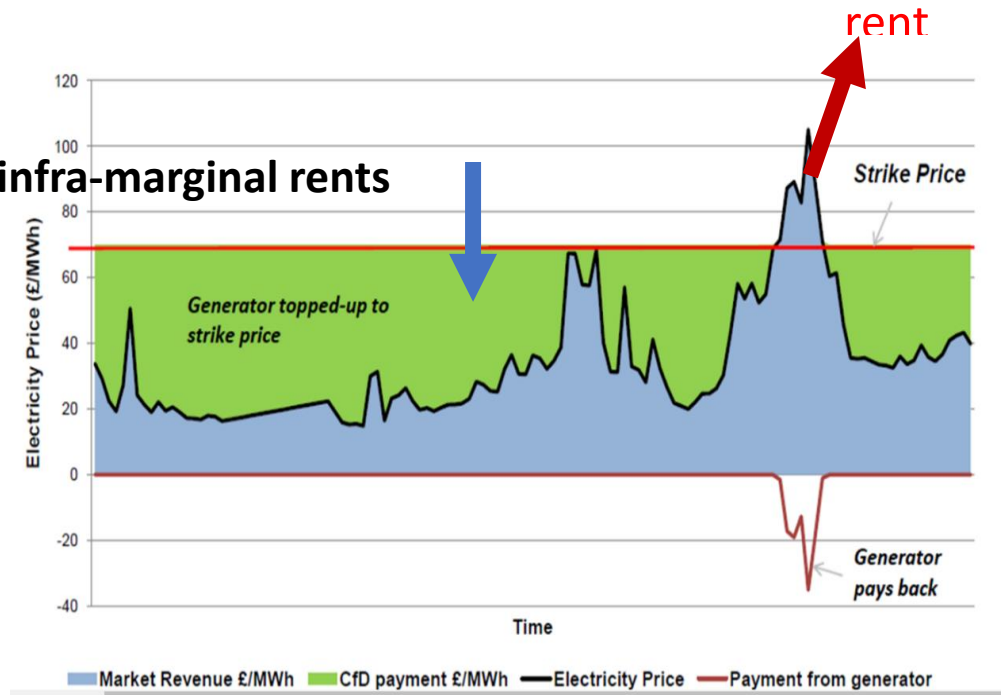
1. Central trader and central purchasing agency



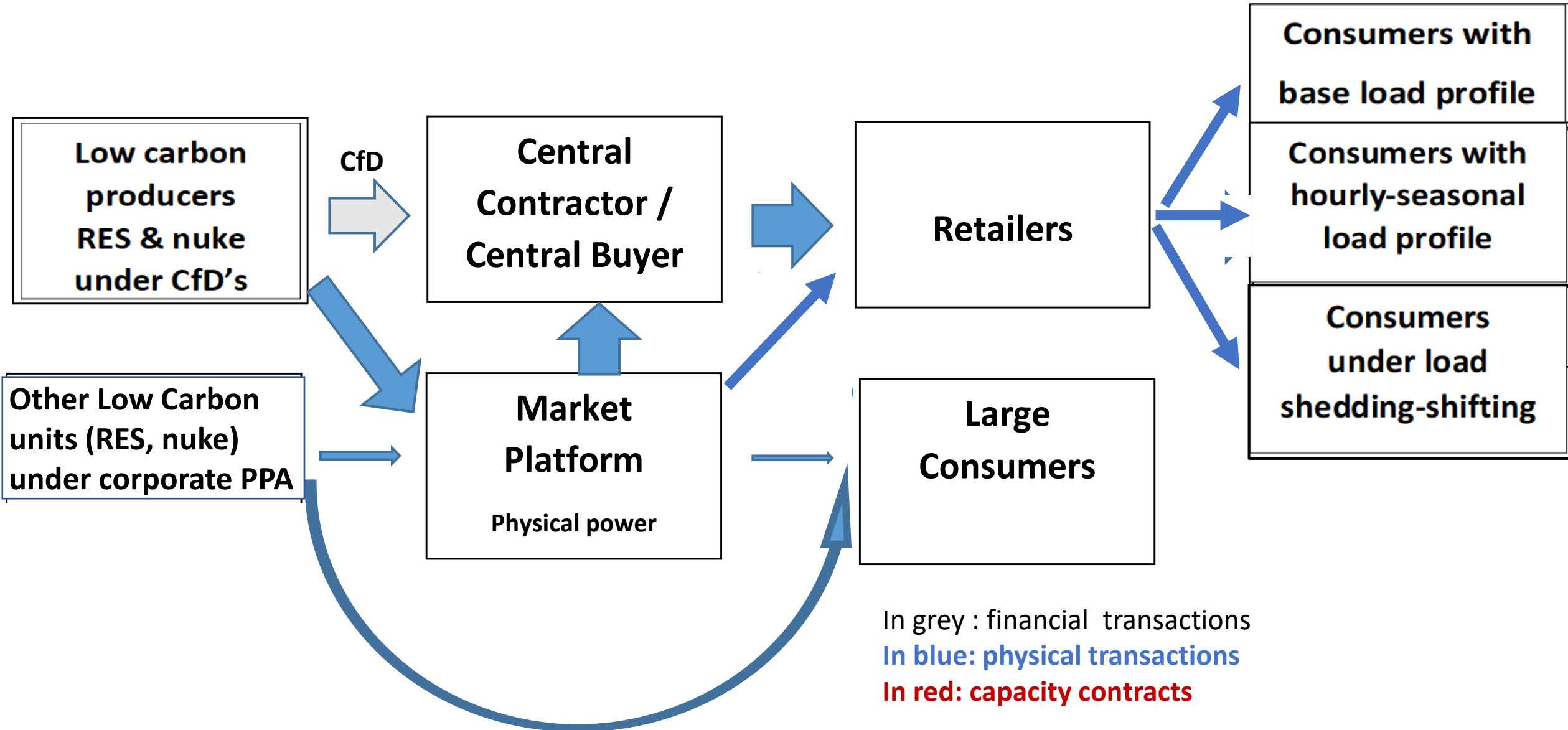
1. A central trading and purchasing agency

The public entity in charge of contracting and auctioning

- Long-term contracts with **new low carbon equipment**, but also with **existing low carbon assets** (RES, Hydro, nuke, etc)
- In order to preserve EU wholesale spot markets, **contract design is financial**
 - “Contract for difference” (CfD)
- Each generator is on the spot
- Auctioning of contracts (strike prices)
 - To notice: CfDs a way to capture **infra-marginal rents**
- Each equipment (low carbon, fossil) sell their production on the spot market
- Public entity is also a **central purchasing agency** of every low carbon MWh
- **Objective: to be able to resell MWh’s at price aligned with long term costs**



2. CfDs and PPAs for Low Carbon Contracting



Freedom of low carbon generators to be outside the hedging umbrella of Central Buyer

No mandatory CfDs on low carbon investors in new RES and nuclear equipment
PPAs between low carbon developers (RES, nuclear) and large buyers
Rules to avoid opportunistic behaviour from developers and buyers committed in PPA

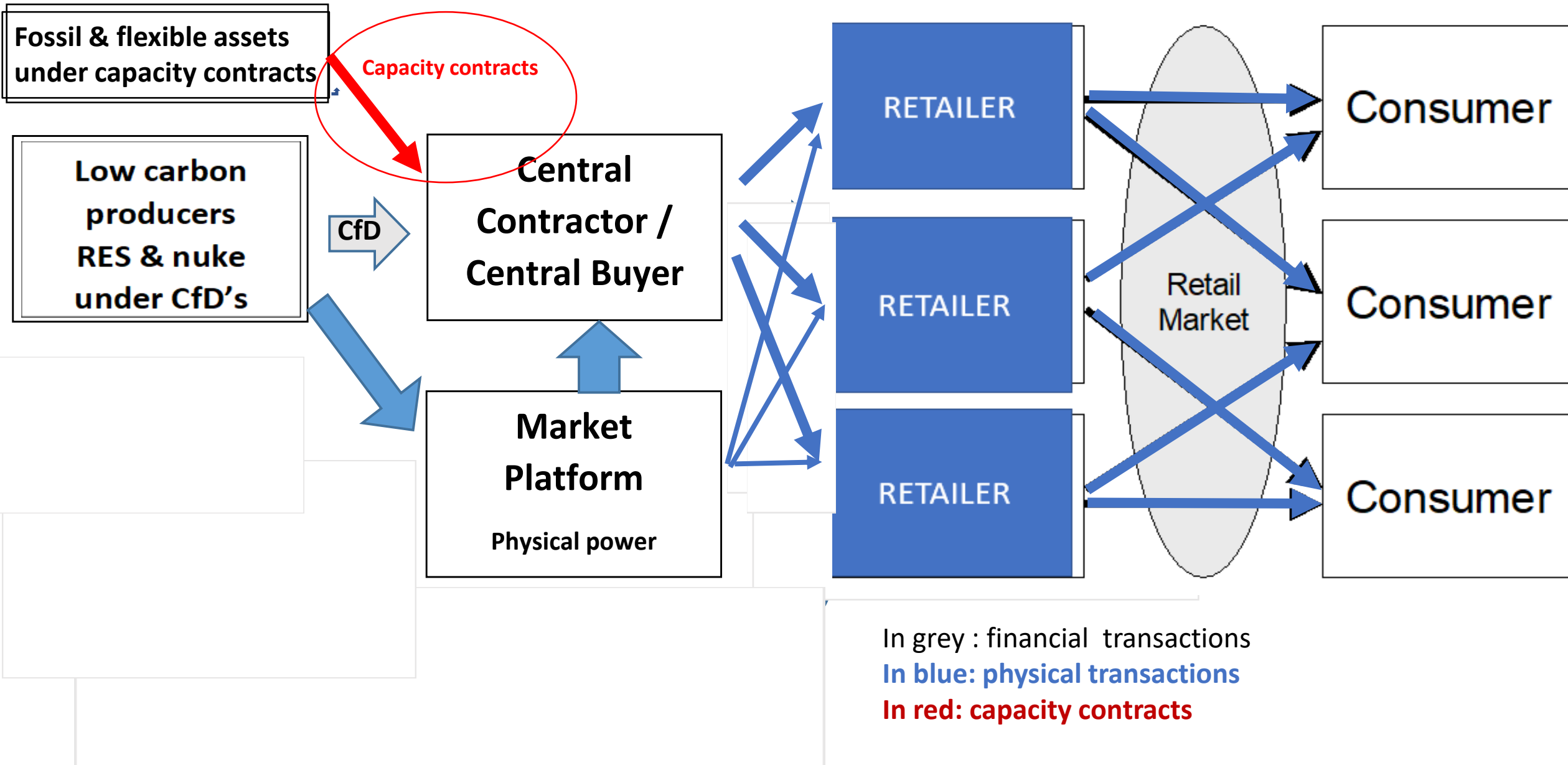
Strong beliefs that it is (or should be) the main arrangements to hedge the investors' risks in low carbon / high CAPEX technologies

- Buyers' motivations :
 - search of stable prices and « green image » in case of RES unit.
 - obligation to contract a share of green sourcing (Spain), subsidies, commitment to CO₂ reductions (USA), etc

But in fact corporate PPA is quite risky for them: need to balance its consumption profile with the VRE 's outputs...

Cannot be the main route for hedging the developers, unless in some member-states, CfDs with public are rejected

3. Capacity contracts with the Central Buyer



Contracting on capacity with fossil equipment (peaking units, back up) and flexibility sources (storage)

Collective goods: Central buyer contracts in view of SoS (capacity adequacy) and system stability (flexibility, etc.)

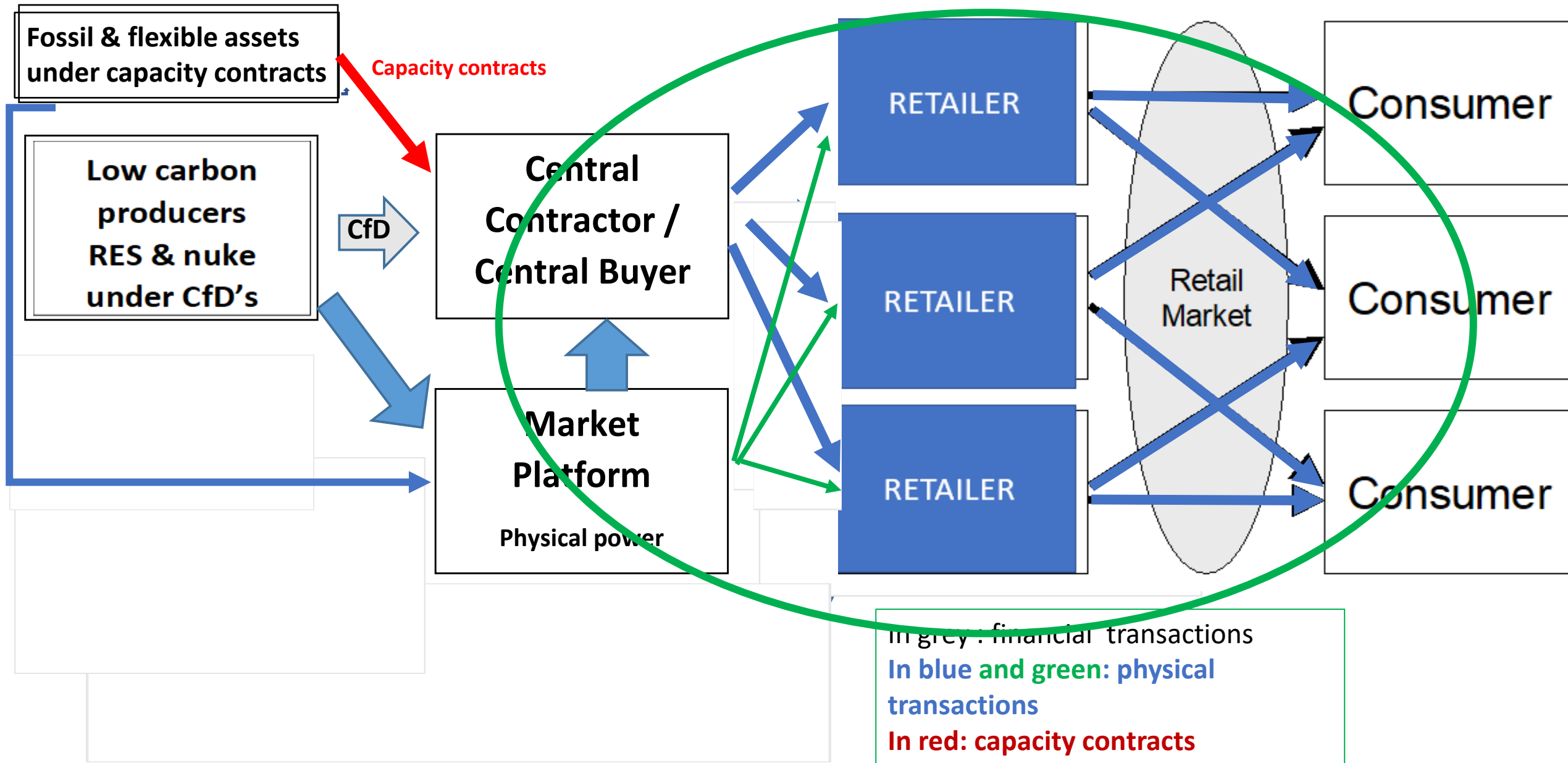
Auctioning of contracts with equipment in relation to flexibility services and guarantees of availability in critical periods

- Energy revenues not relevant to trigger investment decisions in high Capex flexible sources
- Contracts for capacity remuneration (annuity covering the capital cost)
- Different maturity of contracts between new and existing plants

Integration in capacity remuneration mechanism (CRM) in countries with auctioned forward capacity contracts CRM

Extension of the CRM to low carbon technologies

4. Relation between wholesale and retail prices



Relation between wholesale and retail prices

- Central buyer assumes the major part of retailers' sourcing
 - Position to control long term costs of every low carbon unit (RES, nuke)
It pays spot price + cost of CfD (when strike price > spot prices) for each MWh from low carbon units
- Transparent mode of **transfer pricing to suppliers based on long term costs**
 - Regulator's guidelines on the mode of pricing of different energy blocks (posted prices' definition)
 - Possibility of auctioning energy blocks (in open descending auctions with start price > posted price)
- Retailers' Acquisition of complementary sourcing on the spot market
 - (mainly during hourly tensions between supply and demand)
 - Variability of retail price offers during equilibrium tensions on the wholesale market
 - Incentive to develop demand response contracts
- **Competition between retailers (& possible aggregators)**
 - Ability to match their different sourcings with their price and services offers to customers' load profiles

5. Need of a strong governance for long term choices

A blind spot: an issue completely ignored by any proposal of market design reform while market cannot coordinate long term choices

Two motivations

1. Need of **rational planning of investments** in the technology mix **at the national level**
 - Inconsistency of the EU energy climate policy based on “technology” objectives (political criteria)
 - Ignorance of other low carbon technologies
 - No role for carbon price and ignorance of marginal costs of emission reduction
2. Need of a **strict long term coordination**
 - a. between dispatchable low carbon units and variable
 - b. between deployment of variable RES and flexibility sources.
 - c. between investment in generation & transmission & distribution grids
 - d. between centralized and decentralized generation sources

So need of a **special “planning” agency** with large competences in the modelling of complex power systems

- Impartiality in the advice to government who chooses
- Examples of the Brazil and Ontario ‘ hybrid planning & market regime

Conditions

Explicit delegation of long term governance to Member States (Art. 194 (2) TFEU on sovereignty in matter of energy mix)

Should we have a recognition of the pre-eminence of planning upon market for long-term coordination ?

“Such a targeted market design changes can be proposed and implemented quickly”

(Wording of the Non Paper 20 October proposing generalisation of CfDs to every low carbon units as infra-marginal equipment in order to reallocate rents to consumers)

Evident compatibility with EU rules

- Upstream competition on the wholesale market and downstream competition on the retail markets
- Market integration of the systems through spot markets
- RES developers’ freedom to choose between PPAs between private parties and CfDs with the public agency
- Capacity mechanisms now considered as non-temporary

Two adaptations needed

- 1. Disconnection of retail prices from wholesale spot prices : the article 5.2 to be adapted.
- 2. Need of standardisation of contracting with State for every low carbon technology, and not only RES units (State Aid regime to be amended)

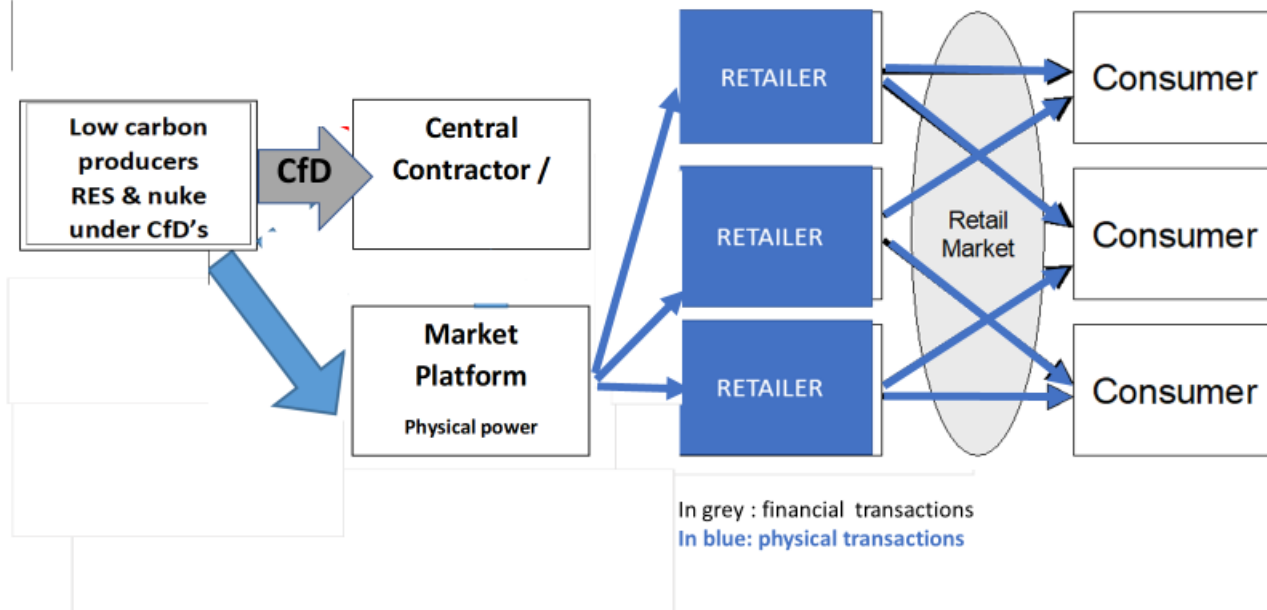
Model does not allow cross contracting between “central buyer” and large external purchasers attracted by eventual lower prices allowed by efficient choices of energy mix

But this falls within the exercise of national sovereignty : Power mix plan is defined for supplying national loads

Notice a recent statement of the non-Paper of 20 October underlining that **consumers in a country which “develops rapidly RES capacities with the help of CfDs’ hedging, would benefit of prices aligned with the lower costs of renewables in line with their share in the electricity mix”**

Back up

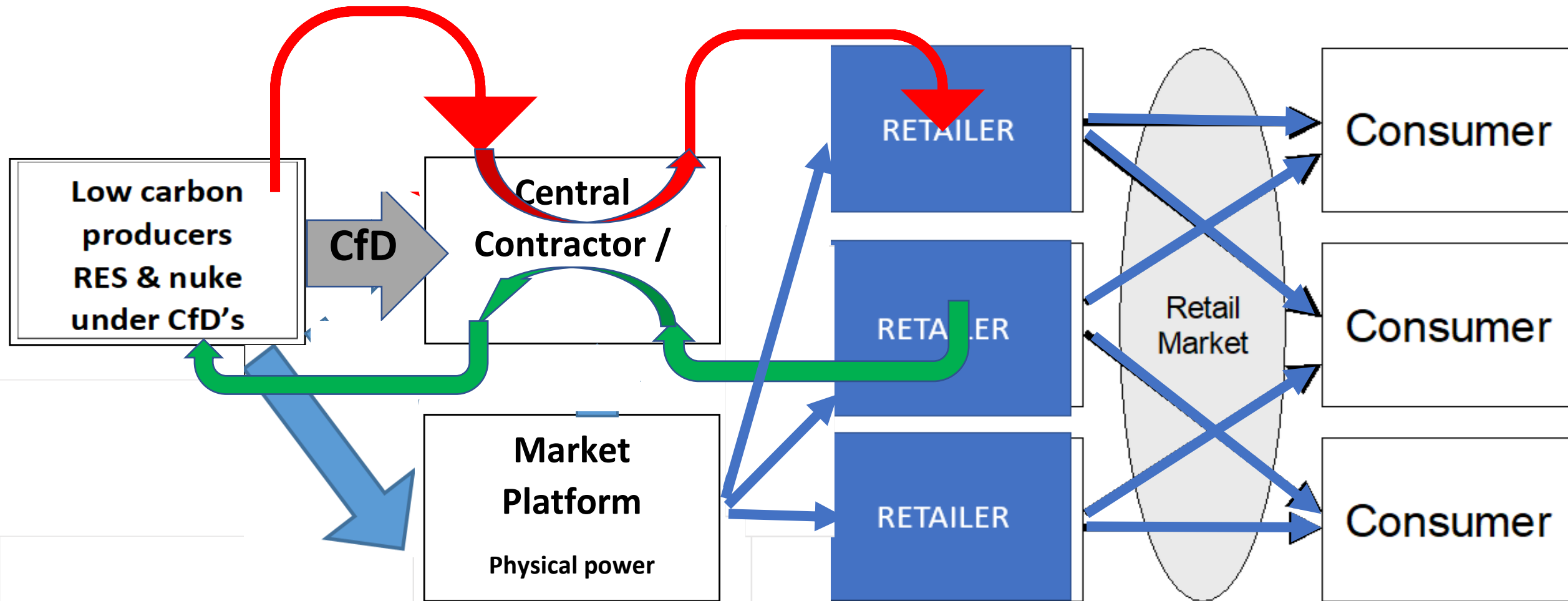
The Model of Central Contractor



- (Recent Commission's non-paper (20 oct.) on non-gas infra-marginal rents)

- Generalisation of CfDs financial contracts to every RES and low carbon units
- Progressive Extension to existing low carbon equipment
- A way to align retail price on low long term cost of RES generators
- Very easy to implement

Financial flows on « differences » of the CfDs



In grey : financial transactions

In blue: physical transactions

In red : payment of « positives differences » to suppliers

In green: payment of « negatives differences » by suppliers.

Comparison of Central buyer model with Dual Market proposal (Greece)

Greece proposal of splitting spot market

RES productions sold at the strike prices of CfDs on one side

fossil generators' MWh sold at marginal prices on the other side

- Artificial breaking of the spot market
 - two steps of each hourly markets
 - Complex rules of calculation (weighted average price each hour)
 - CfDs mean that RES units are also paid at marginal prices ??
- Possibility of rules gaming
 - to belong to the most favourable part of the market, for example VRE unit associated with storage
 - Costly arbitrages at individual level : it raises the system costs
- On the long term, interferences: by reducing RES rents, it discourages investment in RES and so favour gas investment

Central buyer

- It preserves spot market integrity
- Keep efficient coordination by markets (day ahead, intraday, ancillary services, etc.)
- No distortion to invest in different technologies
- Preserve price incentives to adapt consumers' behaviour