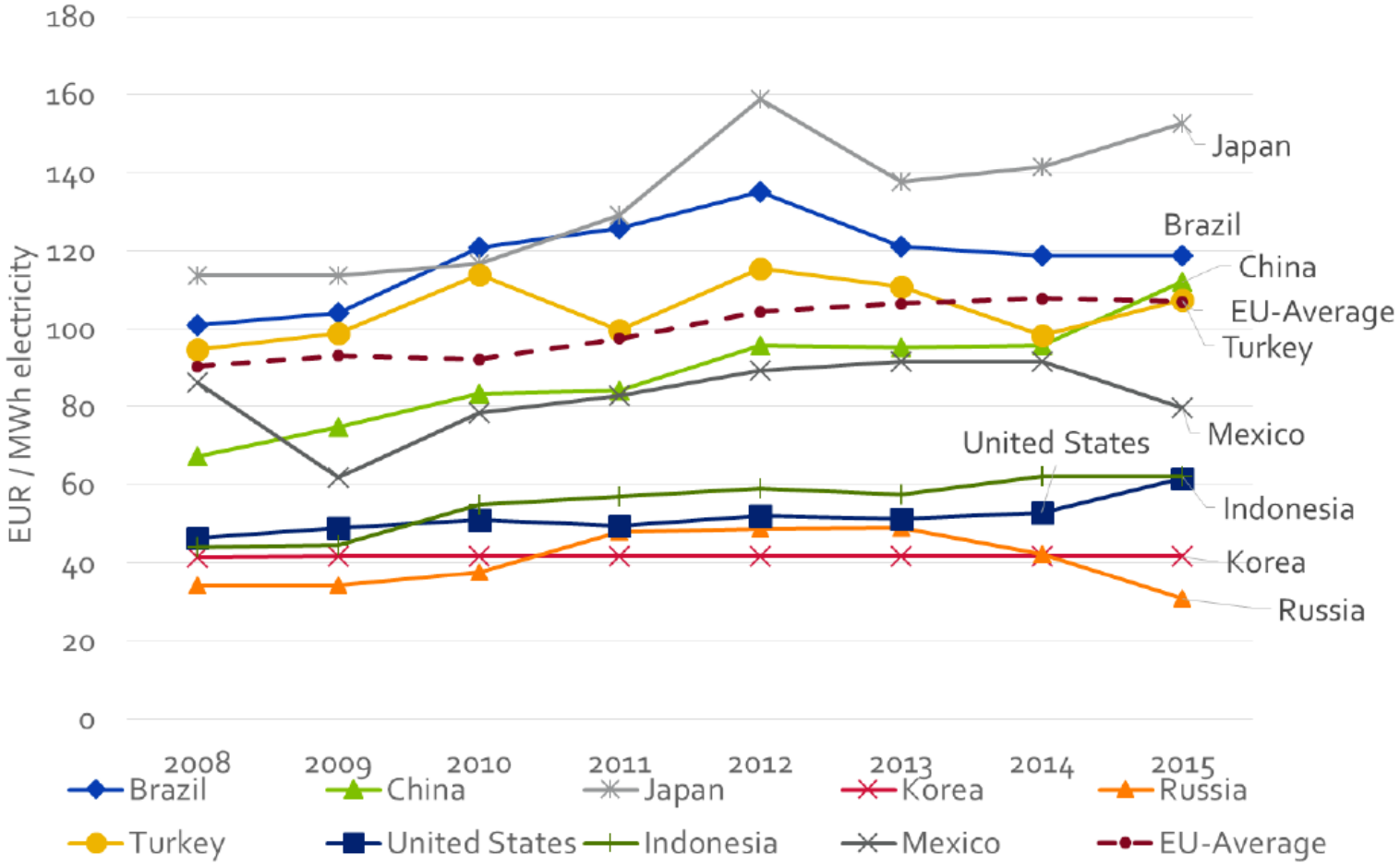
Vision and practice in Europe's evolving electricity markets

Peter Claes, Chair WP Electricity

IFIEC Energy Forum – 16/5/2018

Global electricity prices

Figure 8: Average industry electricity prices in the EU and major trading partners



Source: Brazilian Ministry of Mining and Energy, Chinese Price Monitoring Centre, NDRC, Indonesian State Electricity Company, Russian Federal State Statistics Service; EIA data for Turkey, S Korea, Japan, USA and Mexico.

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Clean Energy Package – Electricity Market Design

IFIEC strongly supports the concept of an Energy-only Market (EOM)

- Market distortions need to be eliminated (priority access, subsidies, price caps, …)
- Avoid need for separate remuneration of generation capacity or flexibility

Market design is not a goal as such but a means for coming to a "balanced" electricity system (security of supply – climate & environment – competitive prices)

Mitigation of market distortions

Too many distortions prohibit the EOM from functioning correctly and from assuring Security of Supply, e.g.

- Subsidies
- Priority access – balancing responsibilities
- Permitting policy (generation + transmission/distribution)
- Inefficient cross-border capacity calculation and allocation
- Diverging national energy policies
- …

All existing market distortions in the current energy-only market must be completely eliminated as quickly as possible ("there are no necessary market distortions").

The phasing-out of these distortions needs to be done in a balanced way, in order to avoid that existing disadvantages for some market parties are consolidated and new ones are introduced.

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A Framework for Demand Response

Demand Response can bring more flexibility to the electricity system at a lower cost than building additional generation capacity. It can therefore bring down system cost to the benefit of all consumers.

Demand Response can, however, not guarantee security of supply in cases of structural shortages.

IFIEC suggestion:
Art. 2. 11. 'dynamic electricity price contract' means an electricity supply contract between a supplier and a final customer that reflects the price at the spot market or at the day ahead market at intervals at least equal to the market settlement frequency and allows the final customer to respond to price signals;

Better use of interconnector capacities for the market

Configuration of bidding zones must be designed in such a way as to maximise economic efficiency and cross-border trading opportunities while maintaining security of supply.

Member states must eliminate structural congestions as soon as possible.

Changes in the configuration of bidding zones should take into account market players' reasonable transition costs.

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Integration of renewables in the market

IFIEC supports the proposals of the Commission on the integration of renewables in the market.

IFIEC insists on

- **Full elimination of priority access to the grid for all technologies**
- **No technology-specific exceptions to balancing responsibilities**
- **Provisions in REDII interfering with the market functioning should be avoided by addressing the concerned topics in the legislation dedicated to New Market Design. Examples include :**
  - ITRE-amendments in REDII allowing for exemptions for small-scale installations (<500kW) to integrate (Art. 4, 2) undermine the condition to integrate electricity from renewable sources in the electricity market because this represents a large part of the decentralised production park.
  - Changes to improve market functioning in the NMD will be undermined by REDII provisions because no changes that effects renewables will be allowed (Art. 6): "…ensure that regulatory changes do not have a negative impact…" "Compensation for any regulatory or grid operation change impacting negatively the economics…"

Integration of renewables in the market

IFIEC supports the Commission objective of integrating renewables in the market.

IFIEC insists that integration support must be

- Time limited
- Cost-competitive (auctioned)
- Technology neutral
- Consistent between Member States
- Supporting only immature technologies

Electricity balancing

IFIEC insists that balancing mechanisms :

- are transparent and easily accessible for all market actors
- minimize system costs
- are as simple as possible.

Harmonization of balancing mechanisms needs to be supported to the extent that it leads to lower system costs.

- Rules for procurement of balancing capacity and cross-zonal trade of balancing services should be aligned with the corresponding provisions in the recently developed Electricity Balancing Guideline (EB GL).
- (New) regulatory regime must not result in increased procurement costs (causing higher network tariffs), and must not jeopardise demand-side participation in balancing markets.

Closed Distribution Systems

CDSs cannot be treated in the same way as DSOs

- Industrial sites often operate closed distribution systems (CDSs) supplying underlying industrial consumers on the same site. CDS's should be relieved from unnecessary burden as they are in the first place (and contrarily to DSOs), grid users / final customers, and have only as a secondary task the distribution of electricity on their grids.

- IFIEC recommends to make a clear distinction between the obligations for public DSOs (including public service obligations) and those for CDSs (supplier choice, grid stability and extension, metering data, market access, …)

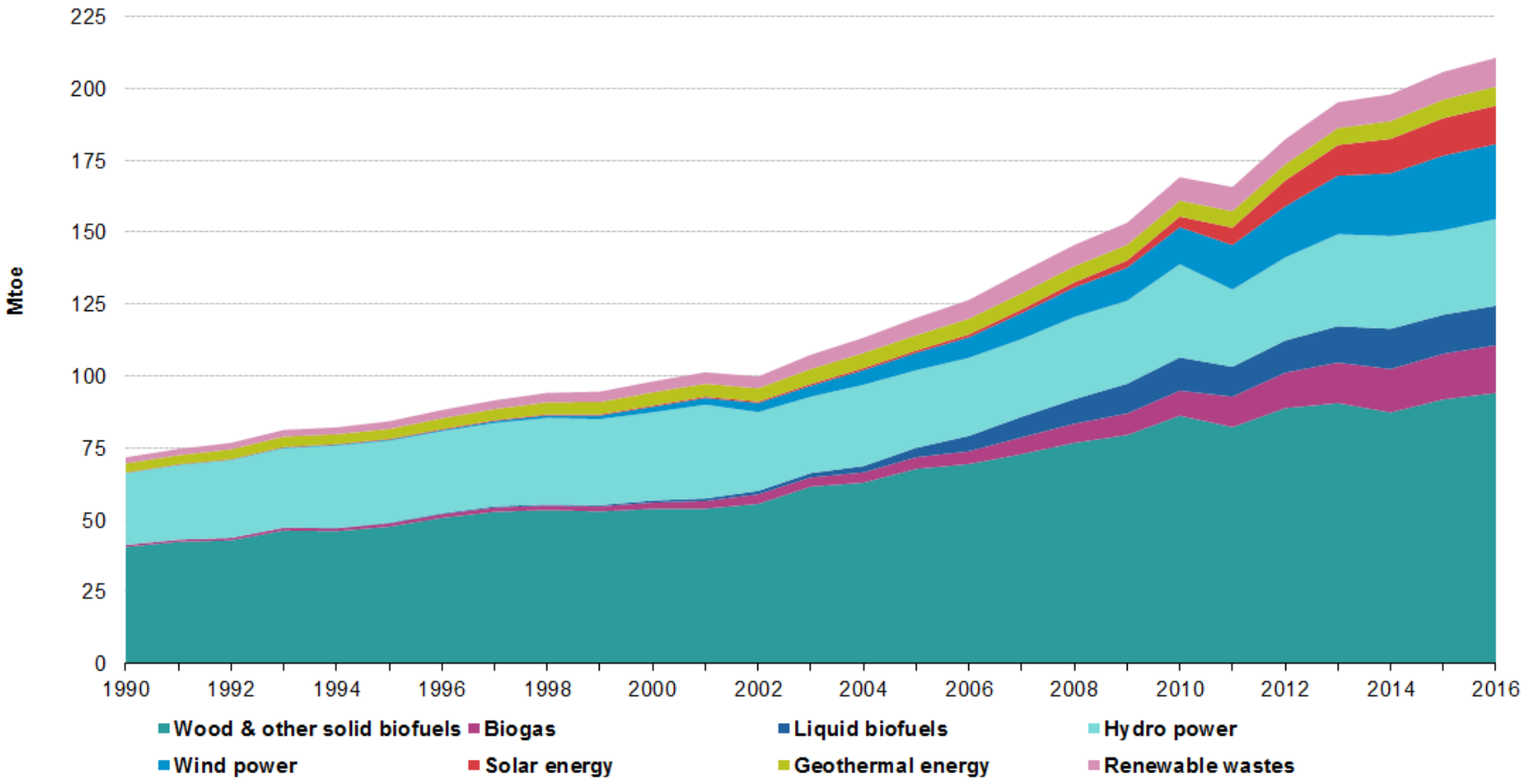
- CDSs must be allowed to own and operate storage facilities !

Capacity Mechanisms as a “last resort” solution only

IFIEC shares the Commission’s reluctance to introduce capacity mechanisms

- A well-functioning, non-distorted EOM should provide
  - a competitive price for consumers,
  - a fair remuneration for generators AND
  - investment signals for security of supply
- Overcapacities should not be subsidised; demand response can provide system flexibility at a much lower cost
- Capacity mechanisms must only be introduced as a last resort solution, and should be time-limited
- Capacity mechanisms are not compatible with the “Value of Lost Load” approach for price caps
- Capacity mechanisms must not increase regulatory costs for industries competing globally

Rush for Renewables



Primary production of energy from renewable sources, EU-28, 1990-2016 (Mtoe)
Source: Eurostat

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(Why) are renewables better ?

- Are they cleaner ?
- Are they cheaper ?
- Are they more reliable / predictable / dispatchable ?
- Are they reducing our import dependency ?
- Are they fit for industrial applications ?

Are renewables cleaner ?

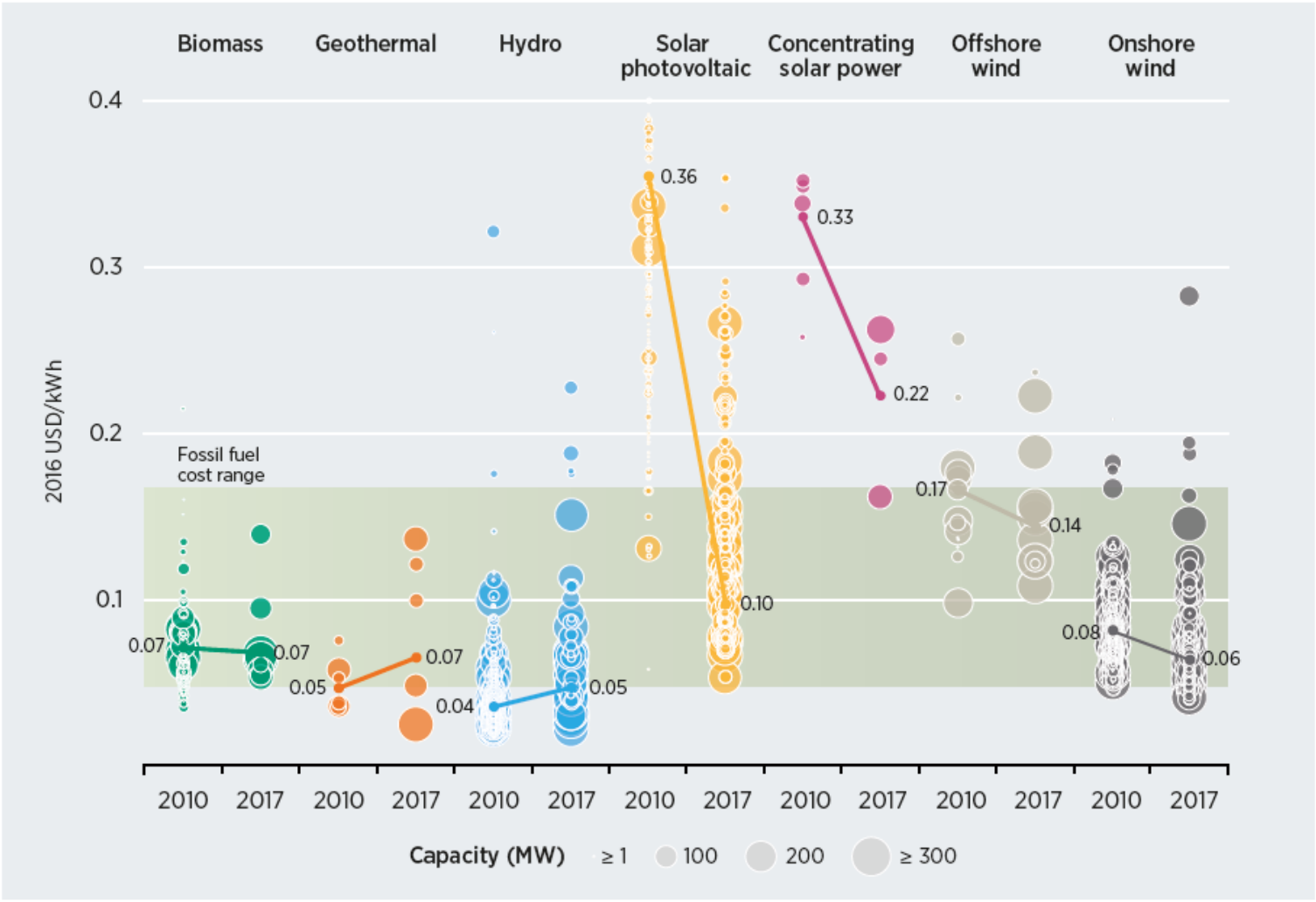
- No GHG emissions when producing energy (biomass : carbon recycling)

- But:
  - Lifecycle analysis ?
  - Which technology do they replace (nuclear? coal?) ?
  - How is back-up / balancing organised (fossil fuels generation ? storage ? load flexibility ?)

- Balance unclear…

Are renewables cheaper ?

Figure ES.1 Global levelised cost of electricity from utility-scale renewable power generation technologies, 2010-2017



Source: IRENA Renewable Cost Database.

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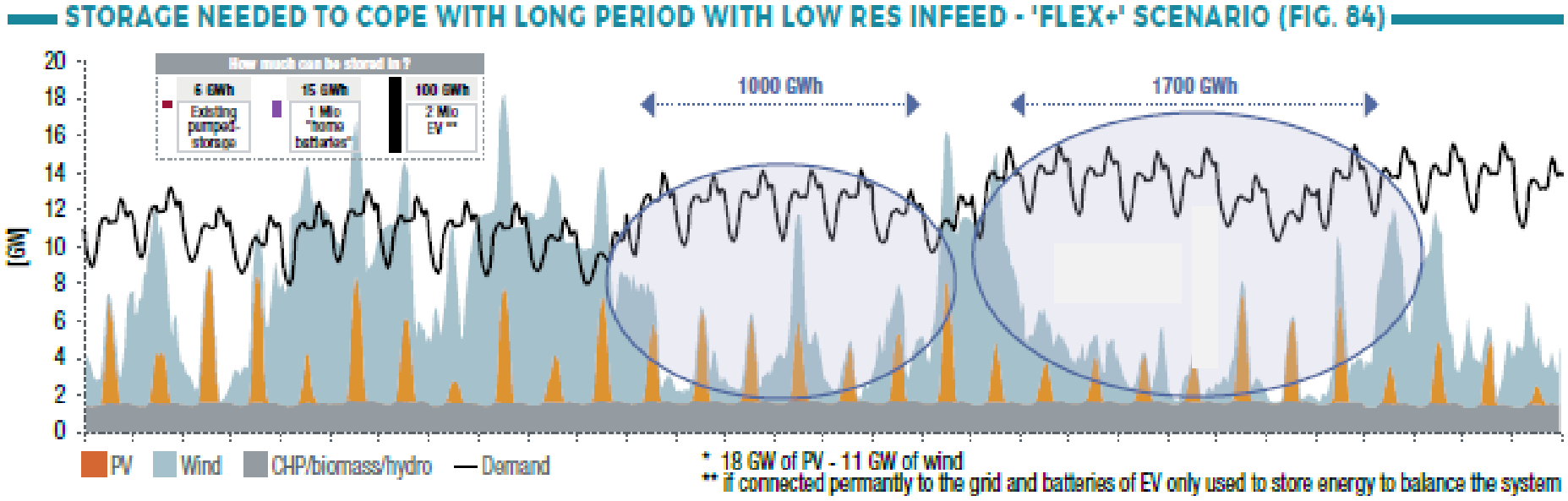
Are renewables cheaper ?

- Yes, most renewable energy sources ARE getting cheaper
- But :
  - Not yet at grid parity
    (grid costs ? grid tariffs ? surcharges and taxes ?)
  - For intermittent technologies: back-up/balancing costs
  - Cost of subsidies remains for many years
- Impact on market prices
  - Lower spot prices if RES is marginal technology
  - Impact on forward prices ???

Are renewables more reliable ?



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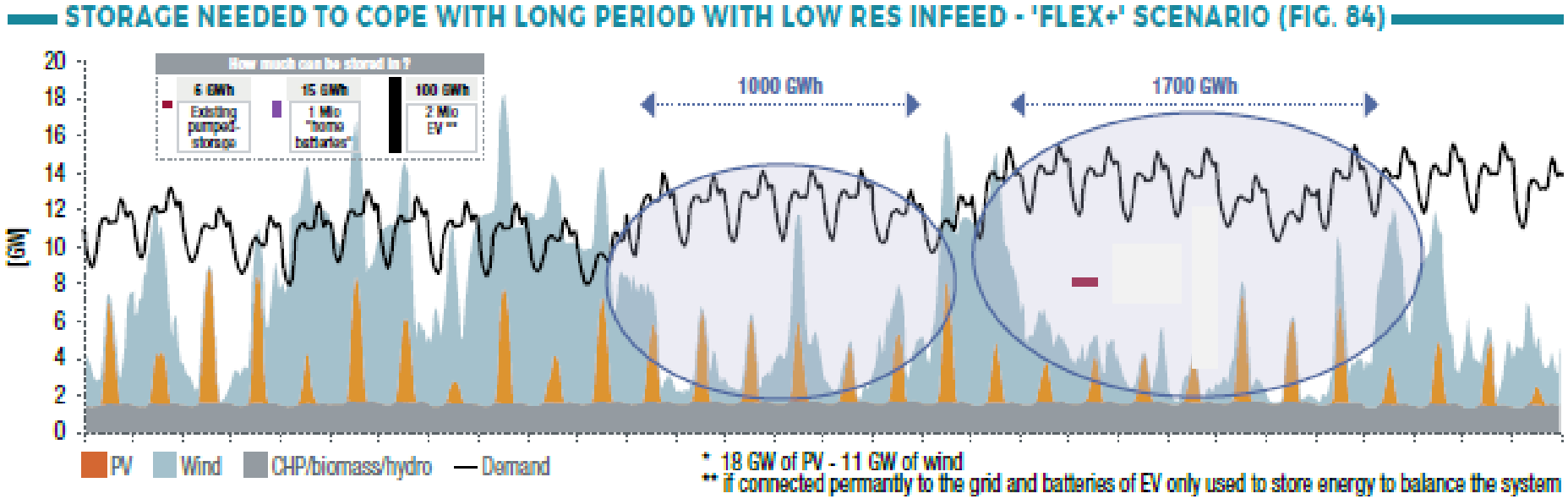

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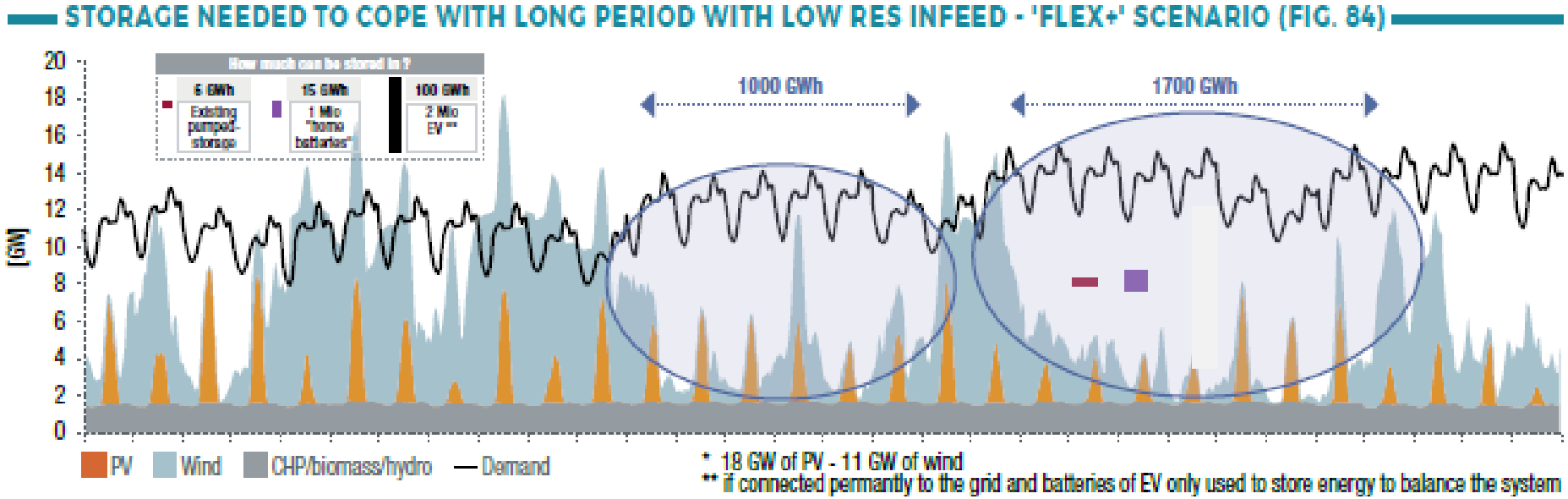

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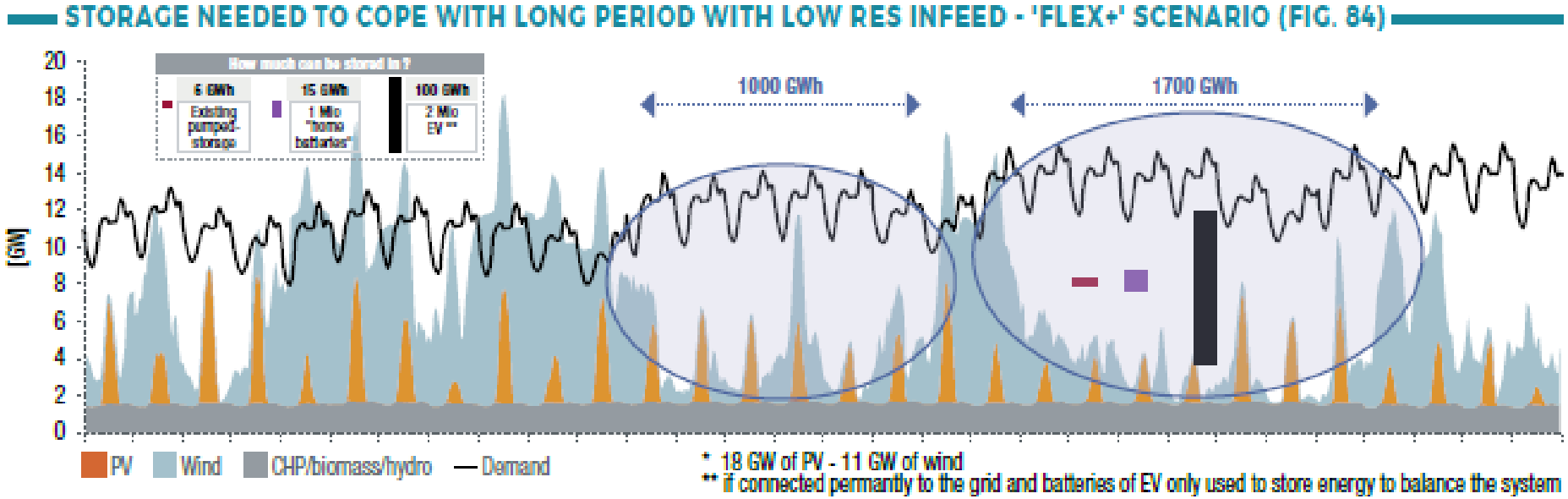

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Are renewables better ?

- Are renewables reducing our import dependency ?
  - Yes of course,
  - But
    - Cross-border exchanges ?
    - Imports of PV/wind mills
- Are renewables fit for industrial applications ?

Conclusions

- RES impact on climate / environmental policy depends on indirect effects (lifecycle, profiling)
- (Intermittent) RES is getting cheaper, but still comes with higher system costs
- Intermittent RES requires huge (and expensive !) back-up / balancing solutions (dispatchable generation capacity – storage – load flexibility)
- Import dependency ?
- Fit for industry: how flexible can we get ??