



# Market access: The Electricity Perspective

BERN, OCTOBER 26TH 2018

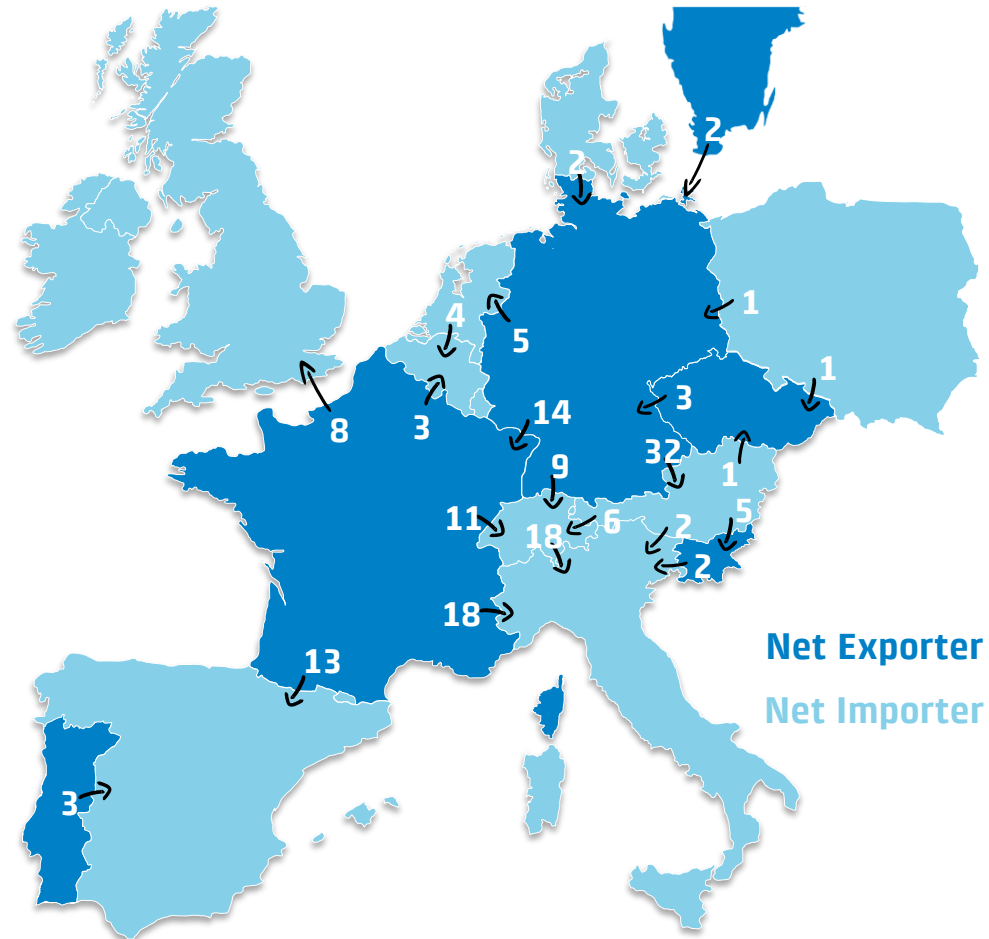


# Agenda

- Electricity cross-border trade
- Price as a result of market integration – today and outlook
- Regulation and externalities
- Final remarks

# Electricity cross-border trade – Europe

## Commercial Exchanges<sup>1</sup> 2017 [TWh]



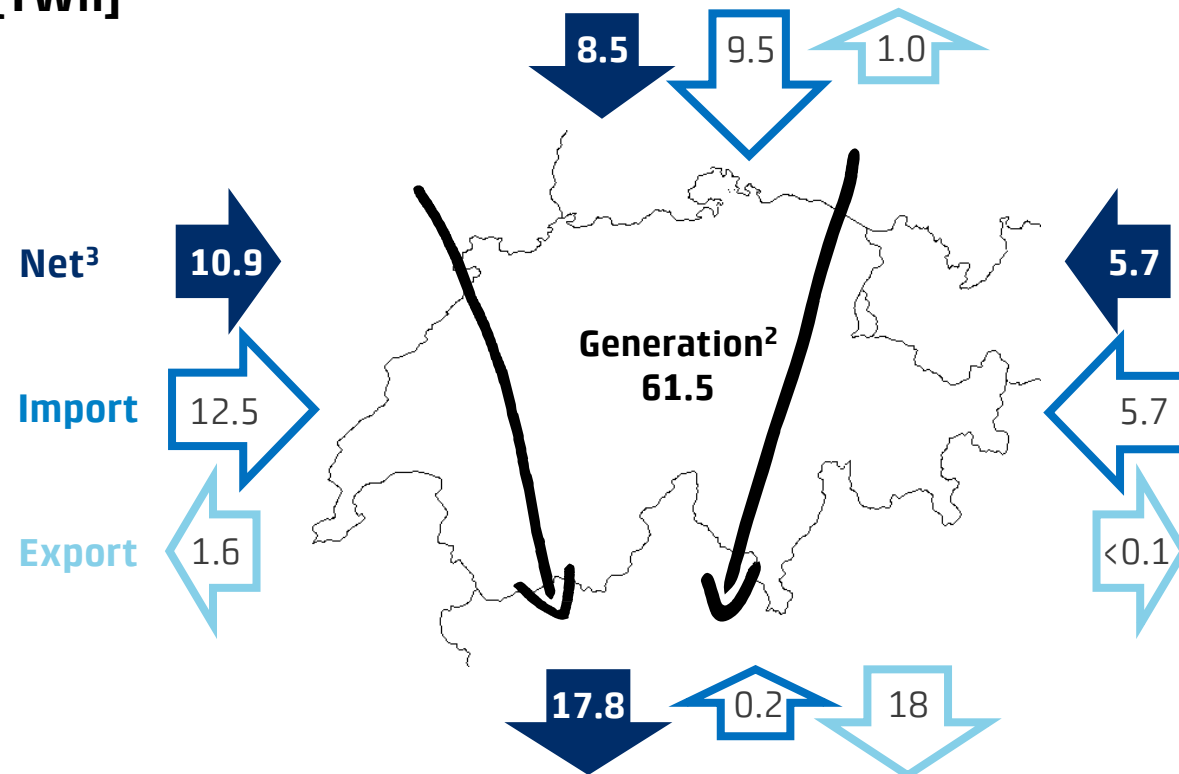
### Gains from trade

- *Commercial advantages:* Economies of Scale, Location economies
- *Energy security:* Trade as a back up
- **Switzerland as a special case: import, export and transit**

[1] Exchanges may differ significantly from to actual physical flow

# Electricity cross-border trade – Switzerland (I)

## Commercial Exchanges<sup>1</sup> 2017 [TWh]



### Electricity hub

- France and Germany: net exporter
- Italy: net importer
- Switzerland: transit

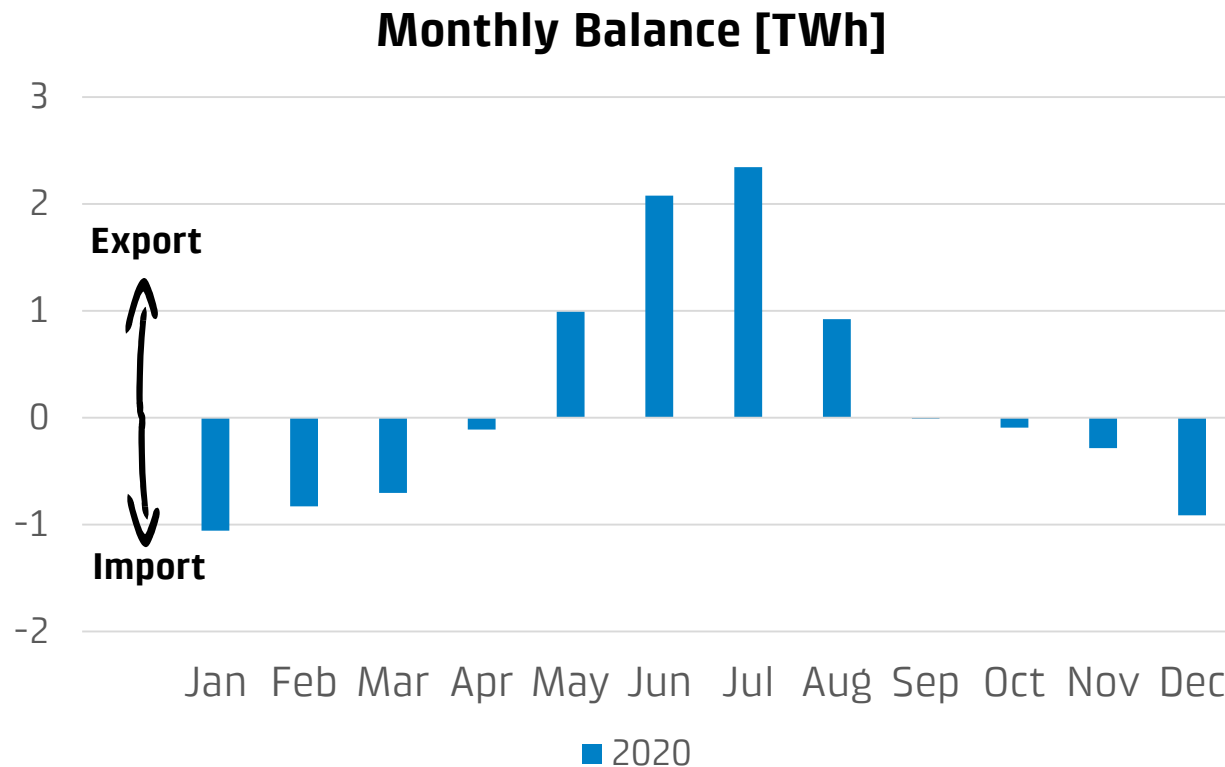
➤ **Almost one-third of domestic generation as transit**

[1] Exchanges may differ significantly from to actual physical flow

[2] Total generation incl. pump storage hydro

[3] Arrow sizes are indicative and not linear to actual exchanges

# Electricity cross-border trade – Switzerland (II)



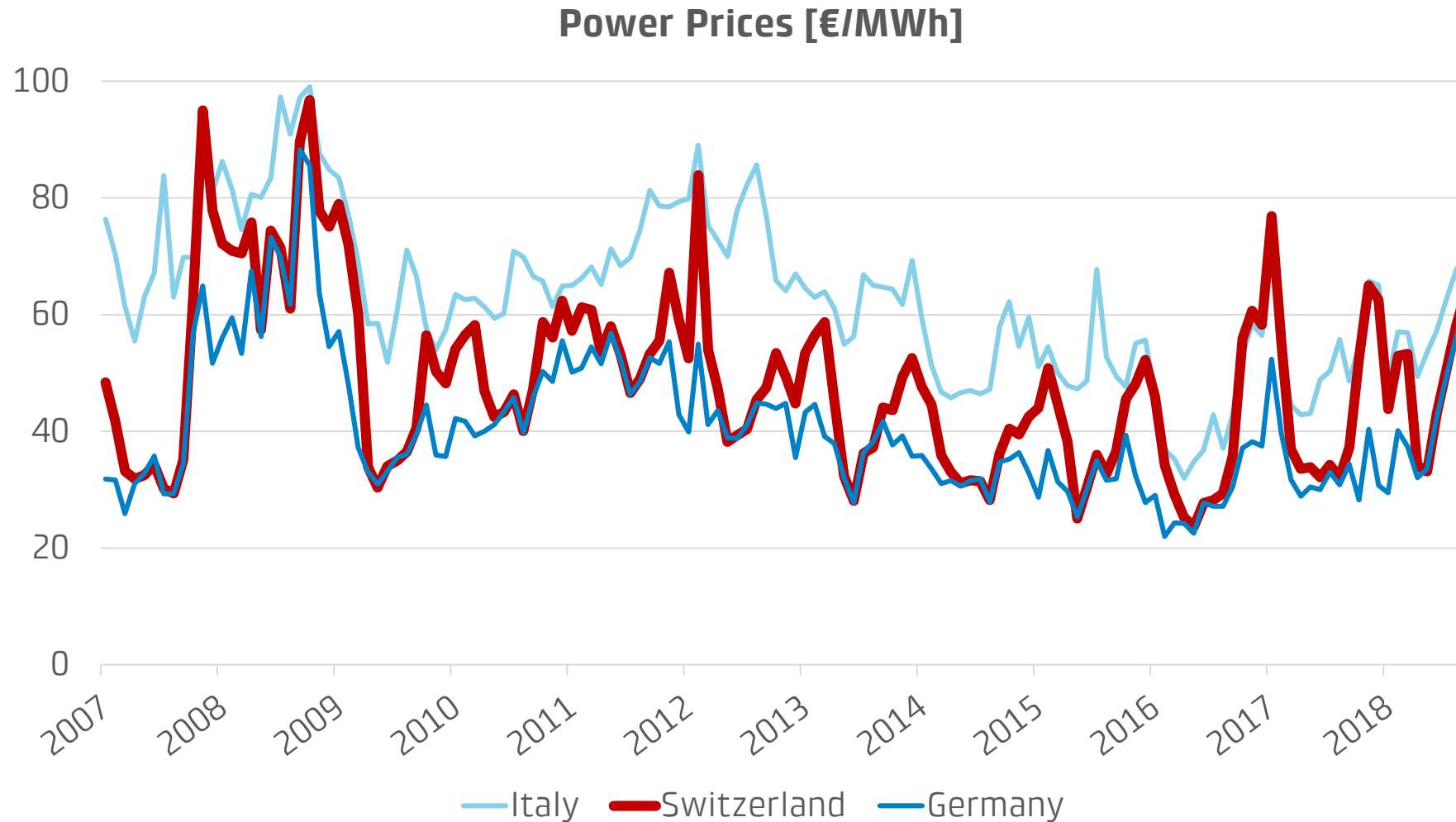
## Effect of hydro seasonality

- Higher demand during winter
- Lower hydro generation (run of river) during winter

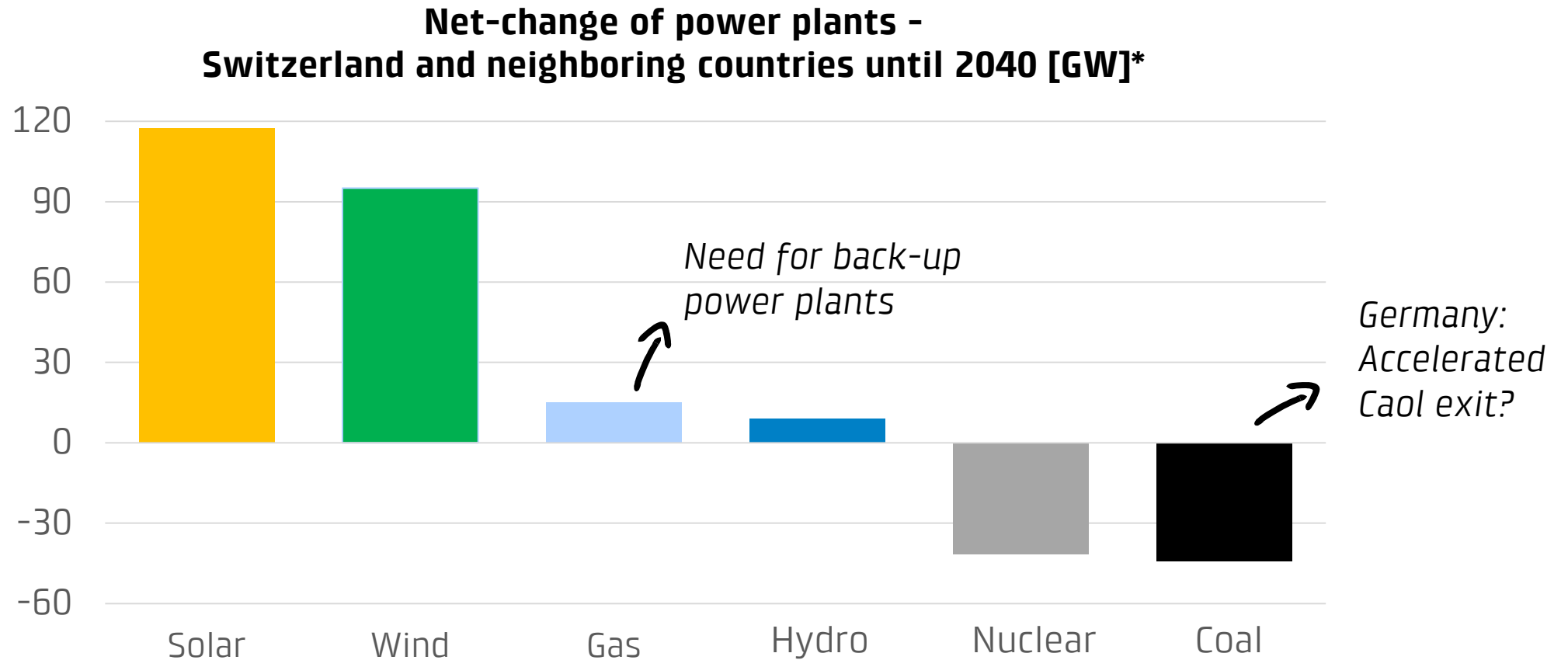
- **Net importer during winter**
- **Net exporter during summer**

[1] Simulation for 2020

# Price as a result of market integration

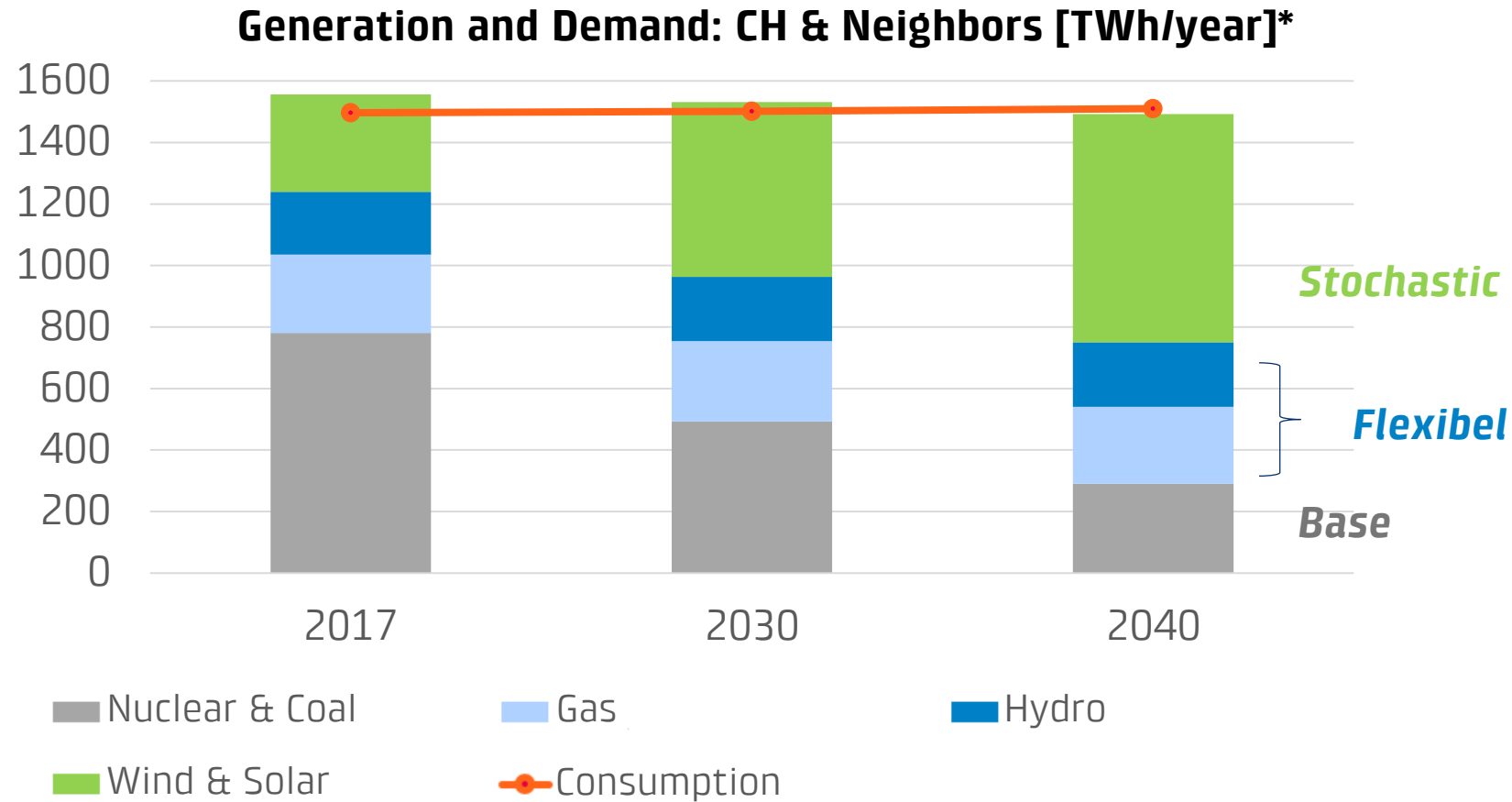


# Outlook: Change in power plant structure



\*Based on TSO's and Regulators projections

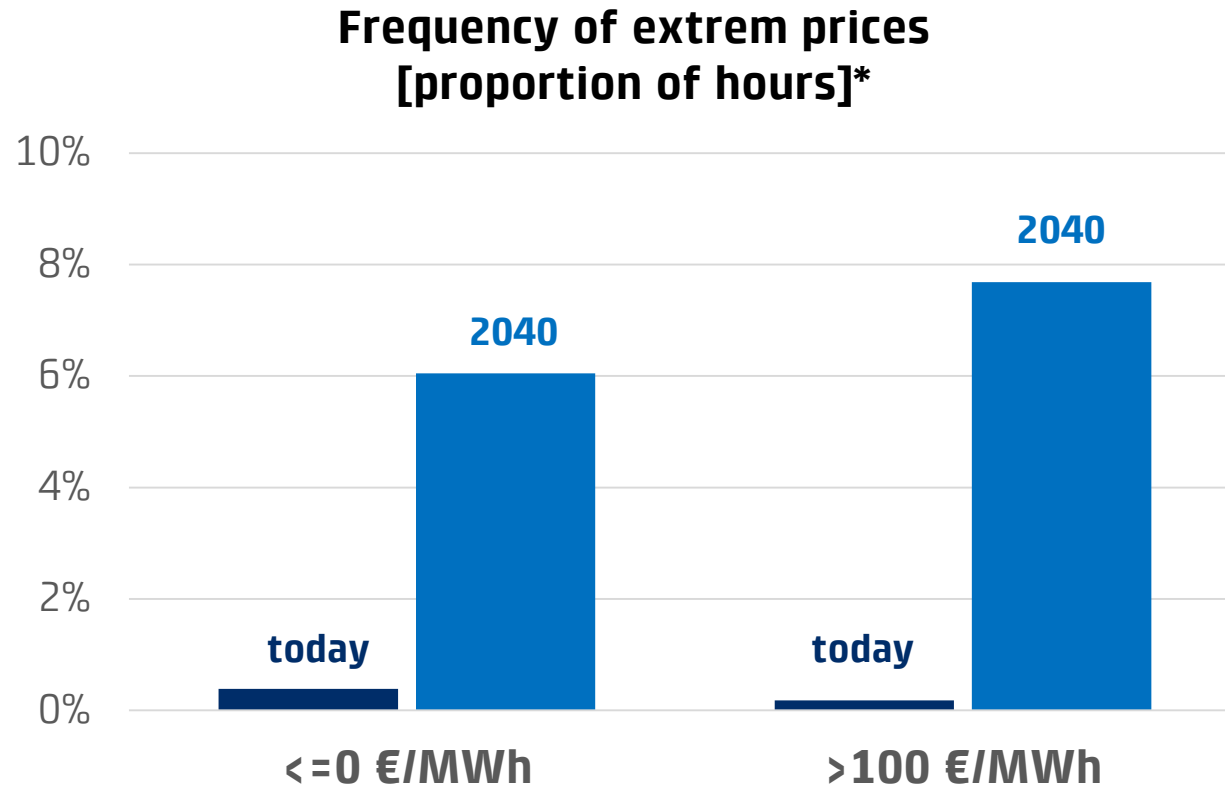
# Outlook: More stochastic generation



\*Based on TSO's and Regulators and own projections



# Outlook: Increased price volatility

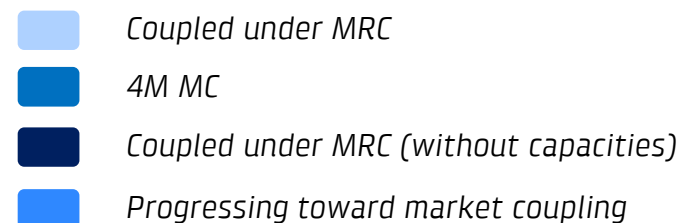


\*Own price projections

## More price spikes

- Very low / very high prices
- Flexibility value
- **Relevance of short run markets**
- **Advantages for (pumped) storage**

# Regulation and externalities: Market coupling



## More efficient cross-border trade

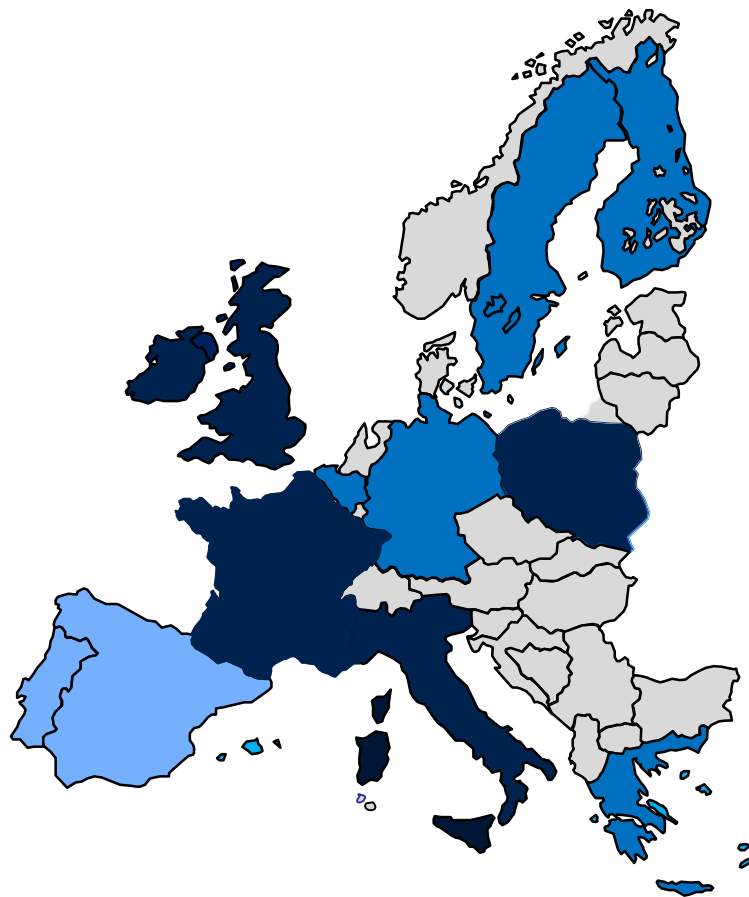
- Energy and (scarce) cross-border transmission capacities are traded simultaneously
- More efficient use of transmission capacities<sup>1</sup>

### ➤ Opportunities for flexible hydro power, but...

- *Switzerland in the market coupling?*
- *Loop flow issues without market coupling*

[1] Lower transaction costs; higher use of existing capacities; more liquidity in short run markets




# Regulation and externalities: Capacity markets



## Market design for energy security

- Capacity mechanisms as a complementary instrument
  - beside spot market earnings
- Incentives to (re-) invest into power plants

➤ ***Mechanisms limit spot prices – also in Switzerland***

-  Capacity payment
-  Strategic reserve
-  Capacity market

# Final remarks

## More renewable energy in Europe

- **Location economies** makes trade even more relevant
- **Security of supply** needs to be addressed in a more regional context
- **Flexible power plant capacity** as an asset – for trade and security of supply

## Swiss specificities

- Historical role as an **electricity hub**
- Trade as a pillar for **business and security of supply** – today and in the future
- Trade as an instrument to **market the (growing) value of flexible hydro power**

Questions?



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