

# Asset Optimisation and Trading

Harald von Heyden

Head of Business Division Asset Optimisation and Trading

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# Today's focus

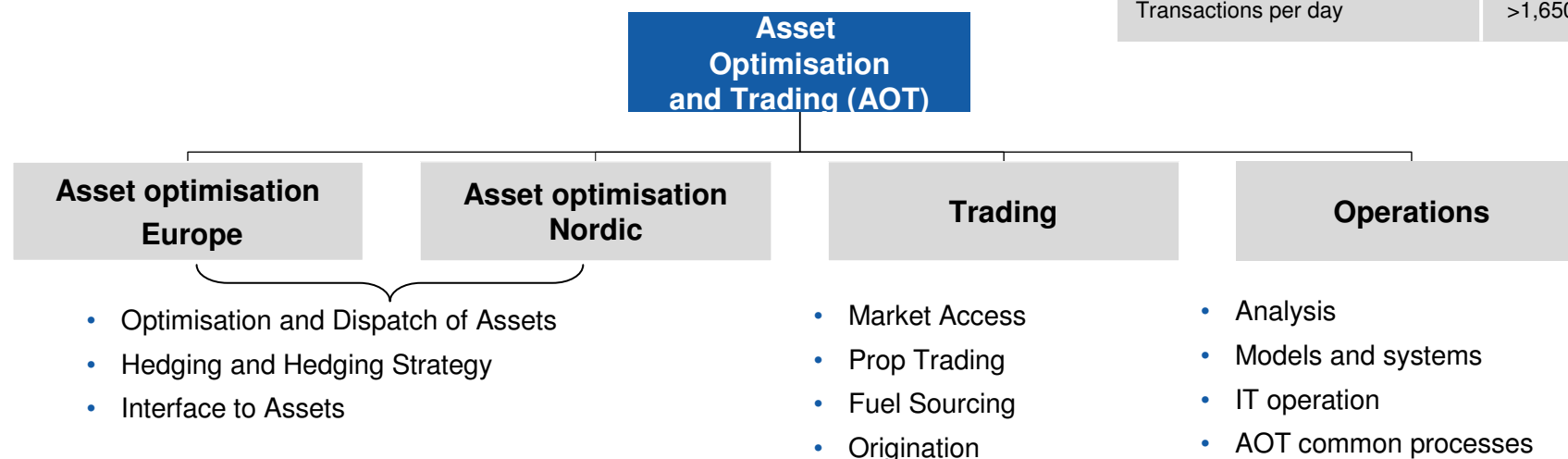
- Organisation and key figures
- AOT comprises four business activities
- AOT's role within Vattenfall
- Hedge strategy process
- Hedge position
- Market development and outlook

# Organisation and key figures

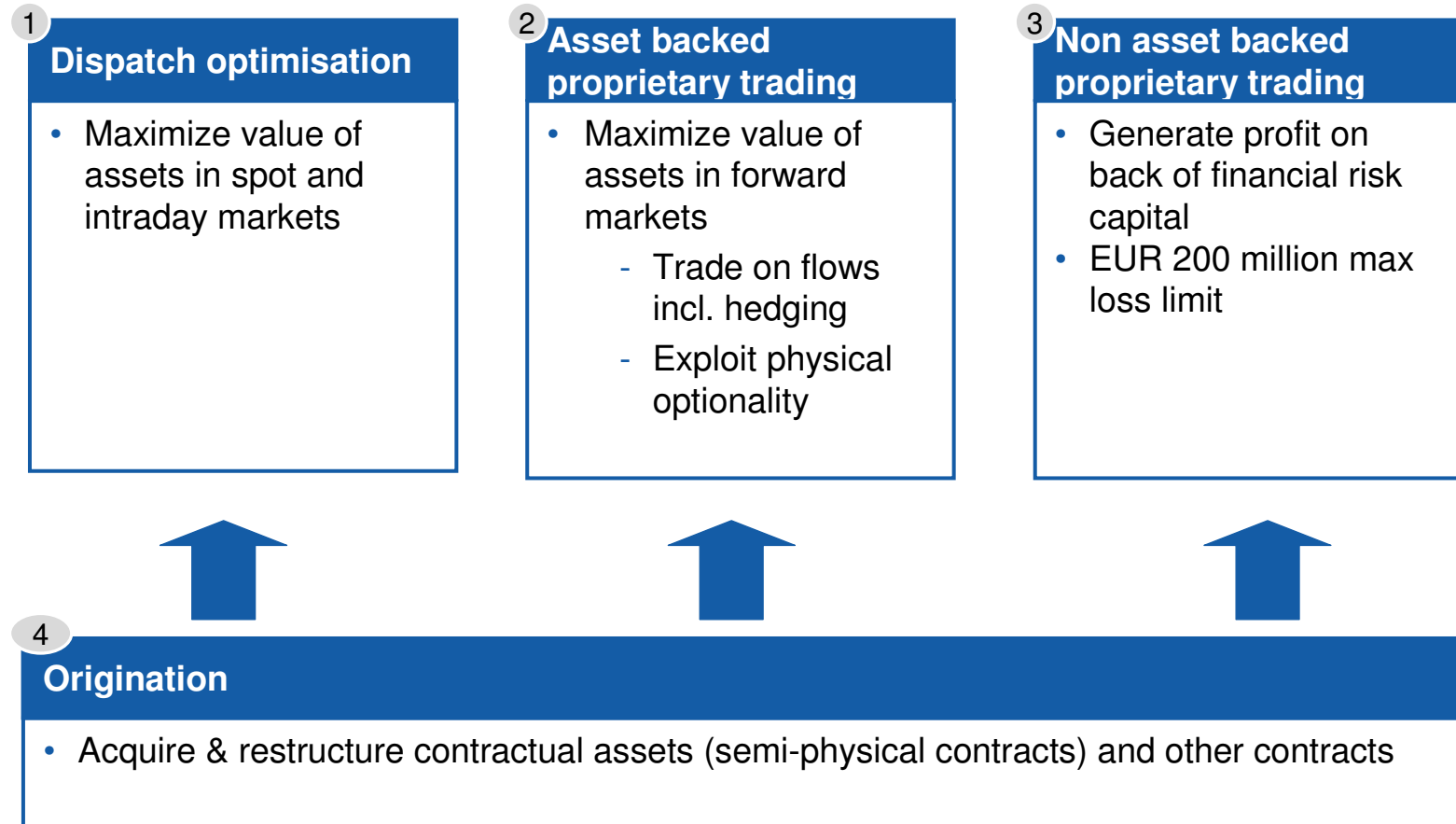
## Key figures:

- EBITDA (2010): SEK 6,035 million (10% of Group Total)
- FTE: 650
- Nationalities: 24+

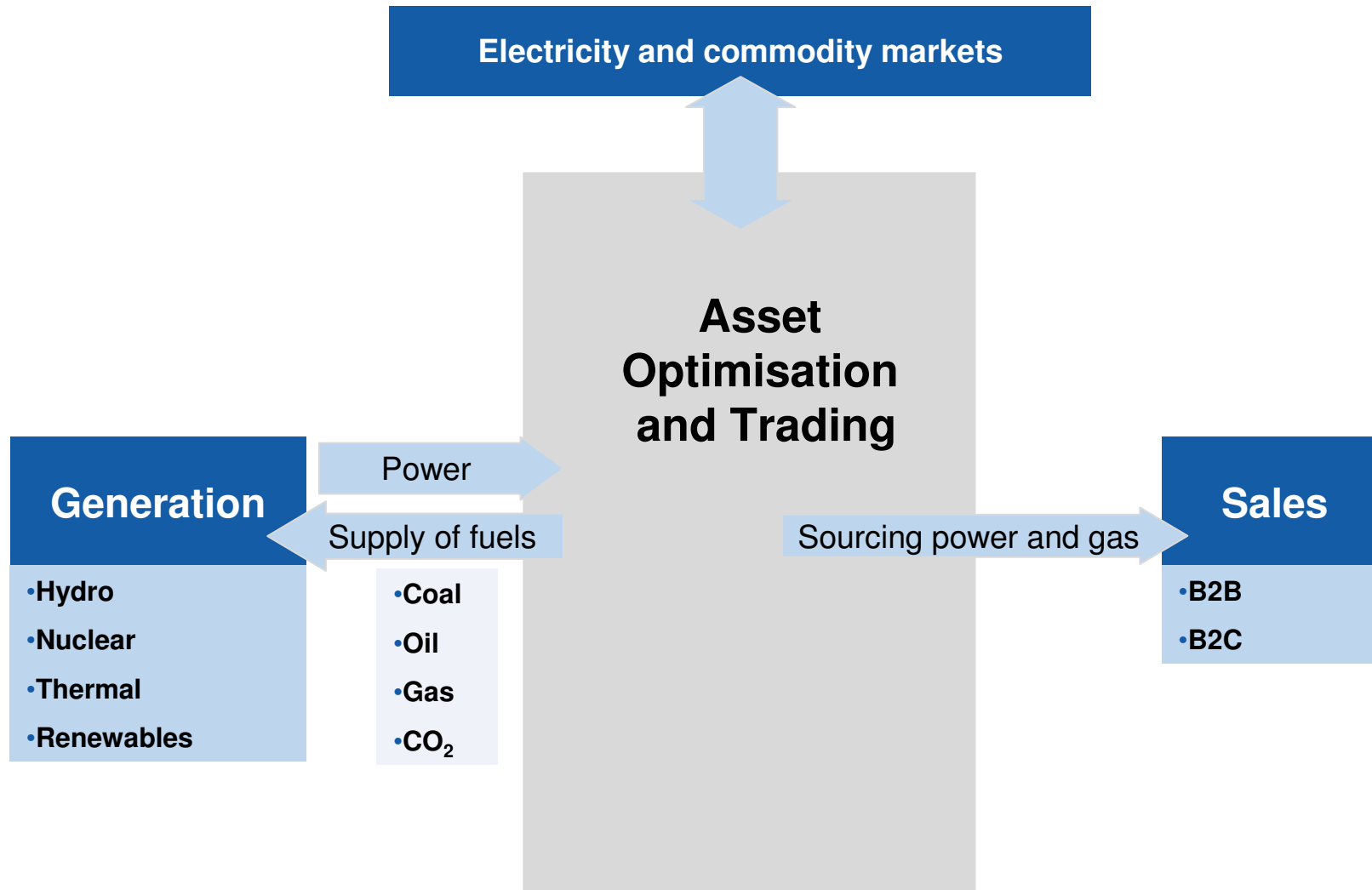
Trading Volume (External) 2010	
Electricity in TWh	1,900
CO <sub>2</sub> (EUA and CER) in mt	430
Gas in TWh	925
Counterparts	~550
Transactions per day	>1,650



# AOT comprises four main business activities



# AOT's role within Vattenfall



# Introducing new hedge strategy

## Old hedge reference environment

- primary focus on production plans and how the volumes should be hedged from a Business Unit perspective
- financial aspects only implicitly represented



## New hedge strategy process

- financial aspects explicitly incorporated when deciding the hedge strategy
- focus is derived from an overall Group perspective whilst taking national level requirements into account

Identify hedge objectives

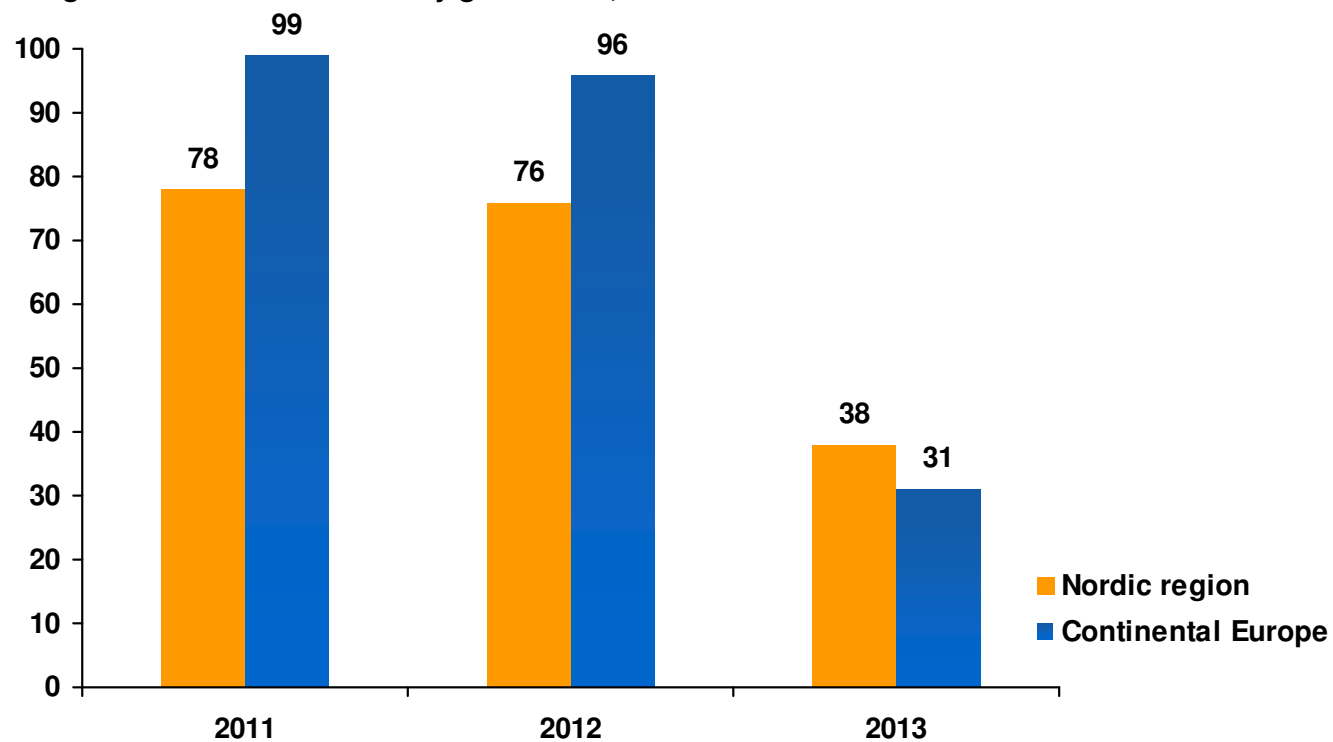
Set guiding thresholds

Analyse/decide hedge strategy

Implement and review

# Hedge ratios

% hedged of forecasted electricity generation, 30 June 2011



EUR/MWh	2011	2012	2013
Nordic region	45	44	45
Continental Europe	56	55	59

# Market development and outlook

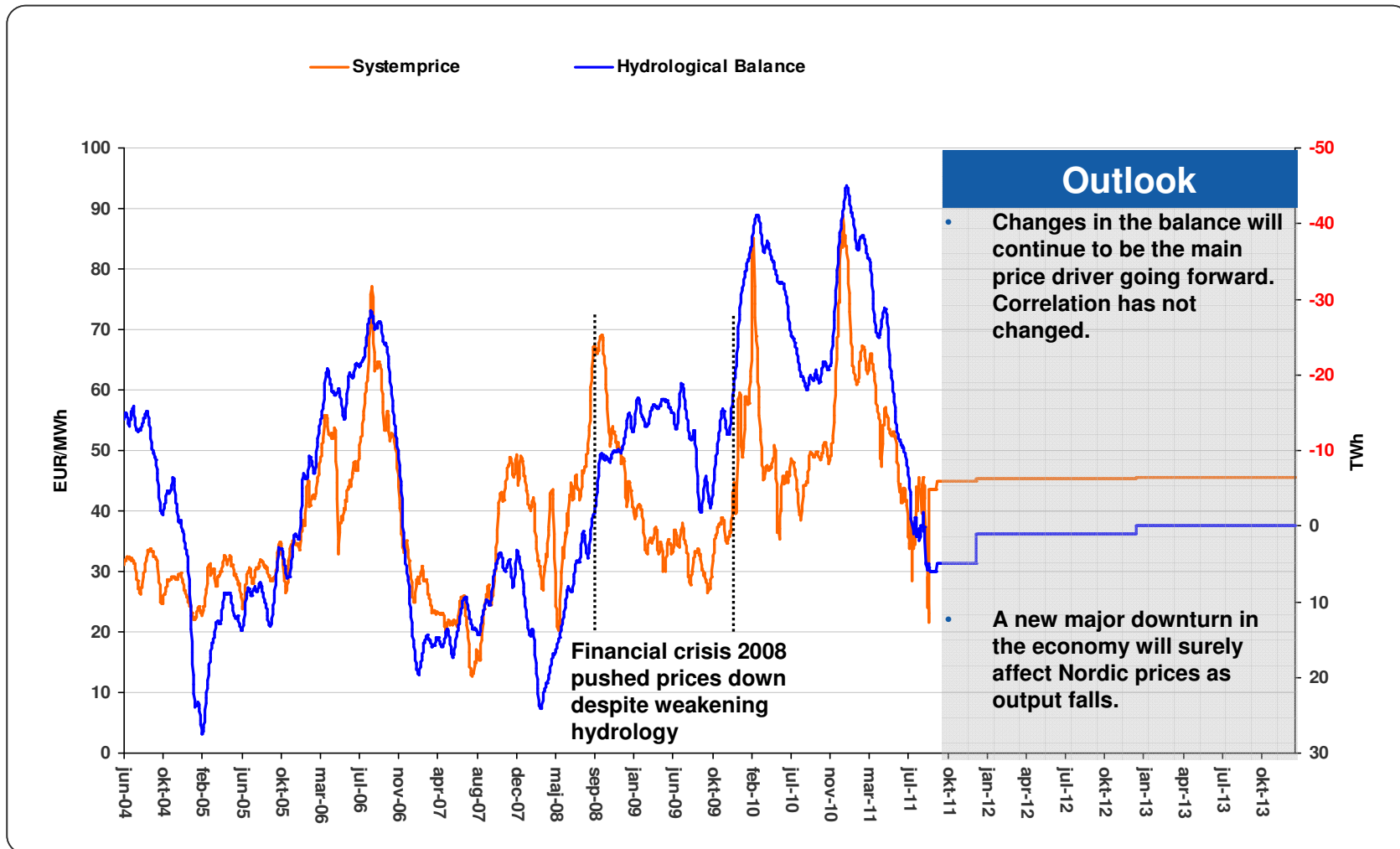
- Oversupply situation in Northern Europe
- Risk of market splitting and lower liquidity
  - E.g. the Swedish market will be split into 4 price areas 1 November 2011
  - Liquidity constraints on some local power and gas markets e.g. Netherlands, UK and Spain
- Post-Fukushima changes in German and Swiss physical market
  - Will Germany become a net importer?
  - Grid constrains
- Increased and changed regulation
  - Proposed financial regulation by the EU on e.g. transparency, market integrity, capital requirements, MiFID and mandatory clearing



# Appendix

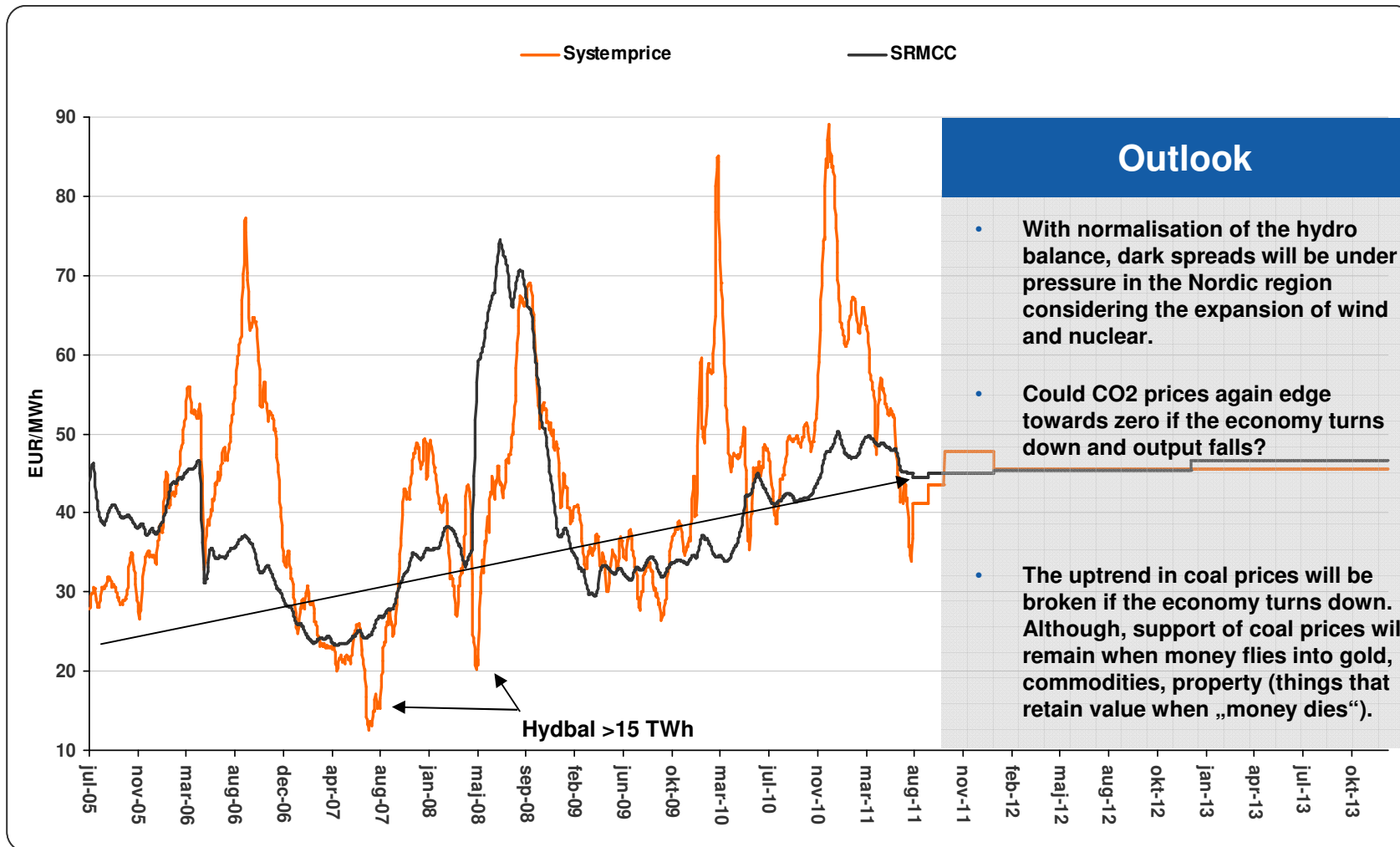
# Changes in the Nordic system price are highly correlated with changes in hydrological balance

## System price and hydrological balance



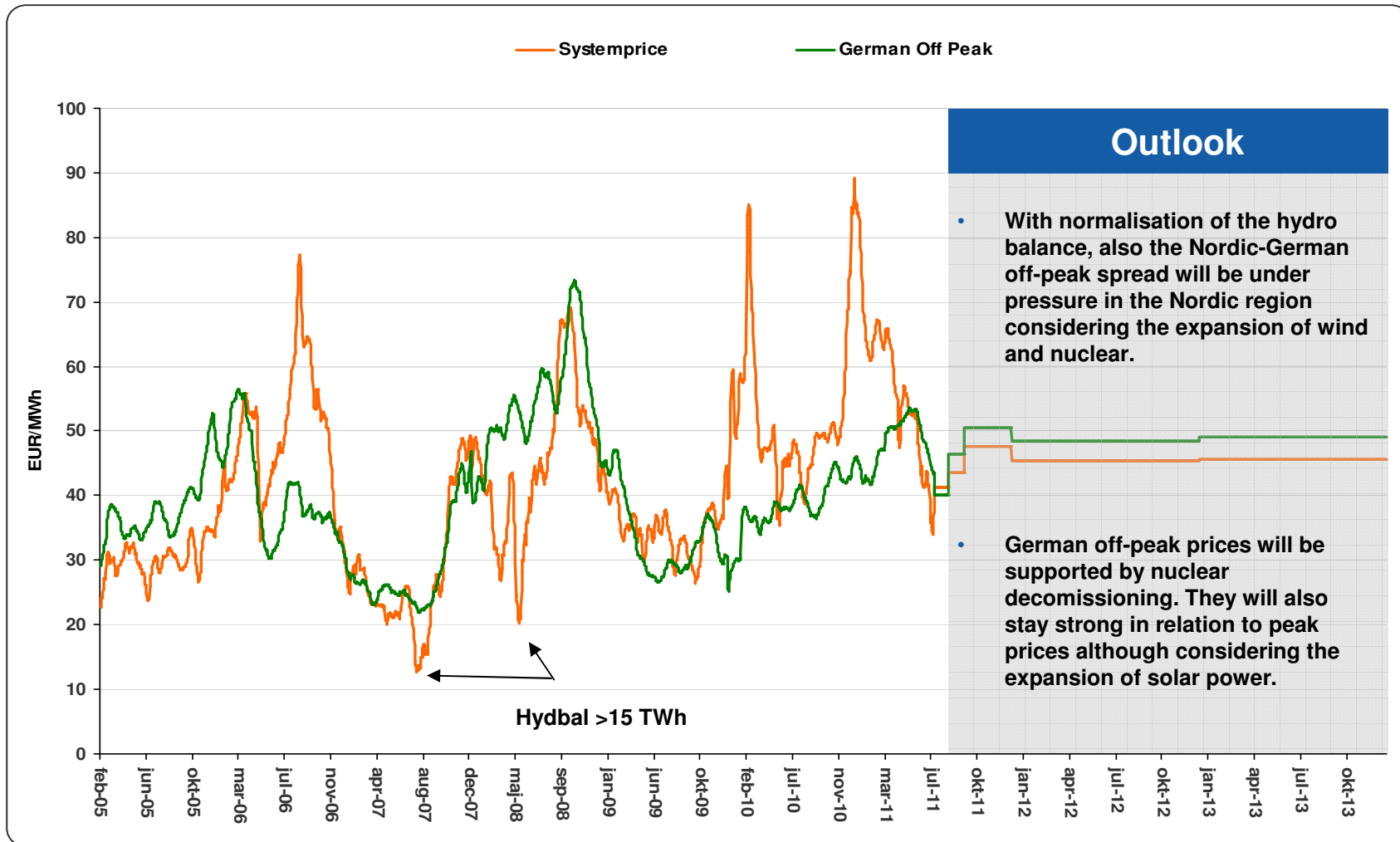
# Marginal cost of coal acts as support to the Nordic system price - except hydrological balance is very positive

## System price and marginal cost of coal



# German off-peak prices provide additional support - except hydrological balance is very positive

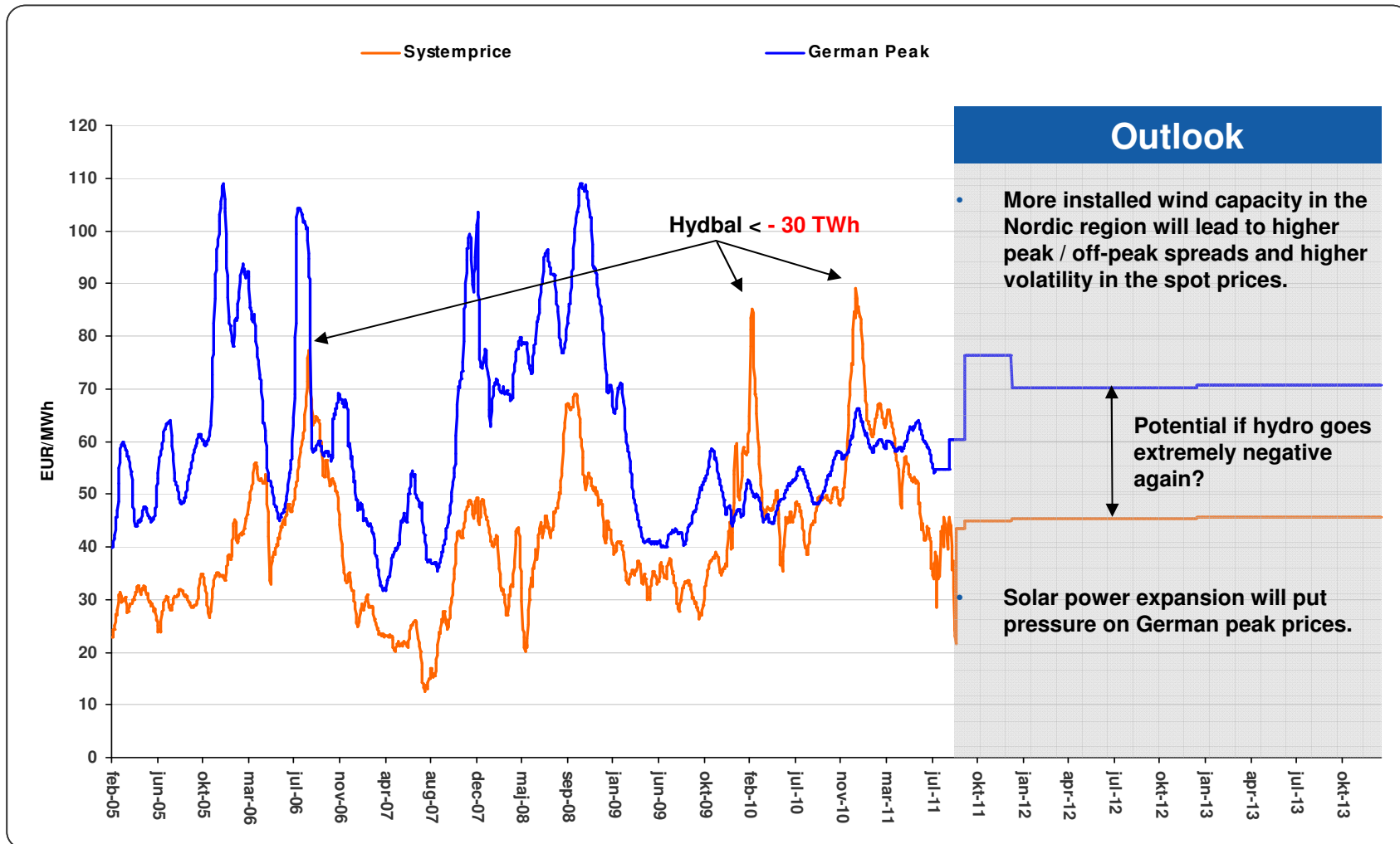
## System price and German off-peak



# The Nordic system price is most of the time below the German peak - except hydro balance is extremely strained in winter\*

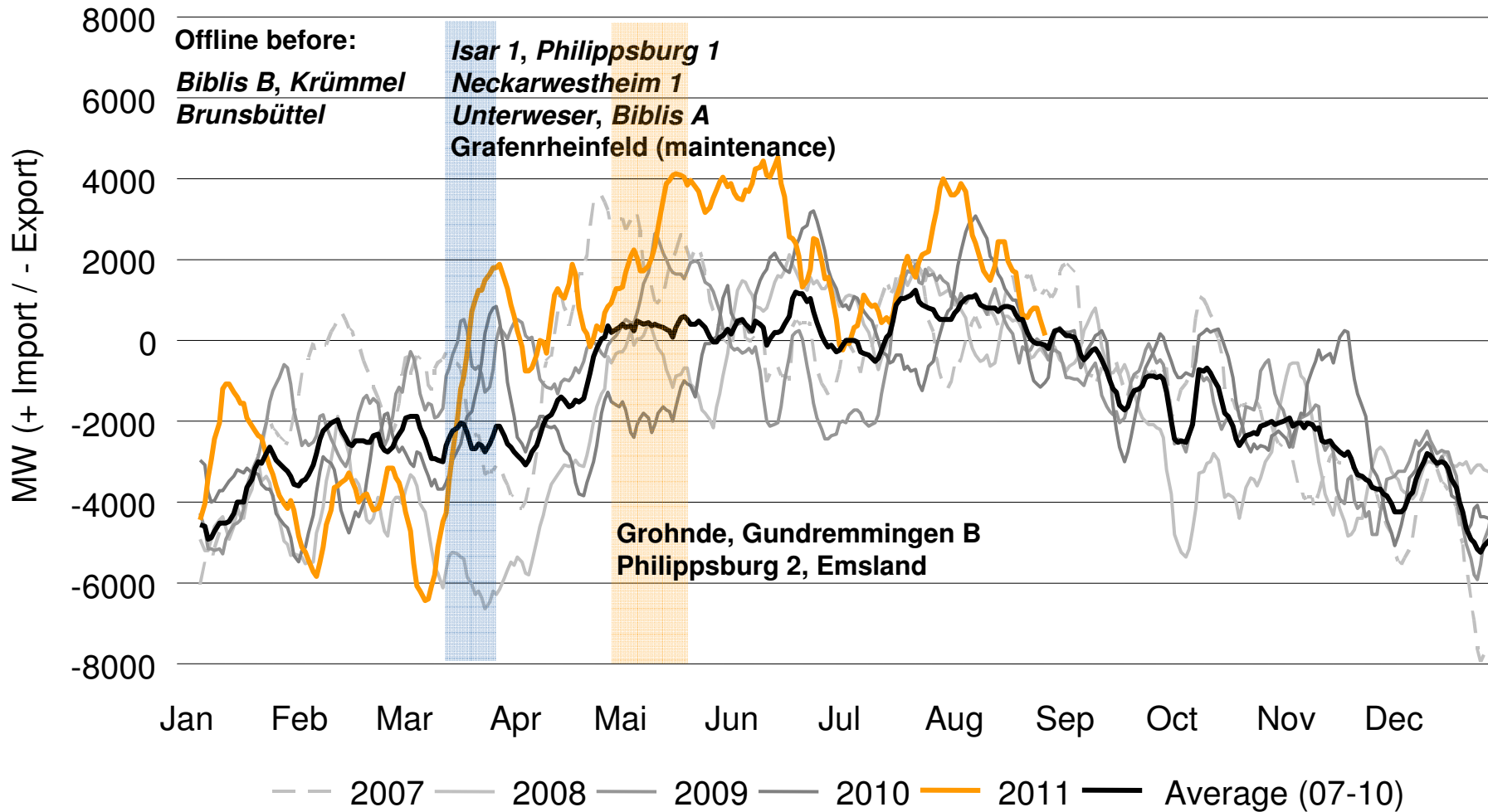
\*in combination with low nuclear availability, low temperature and precipitation.

## System price and German peak



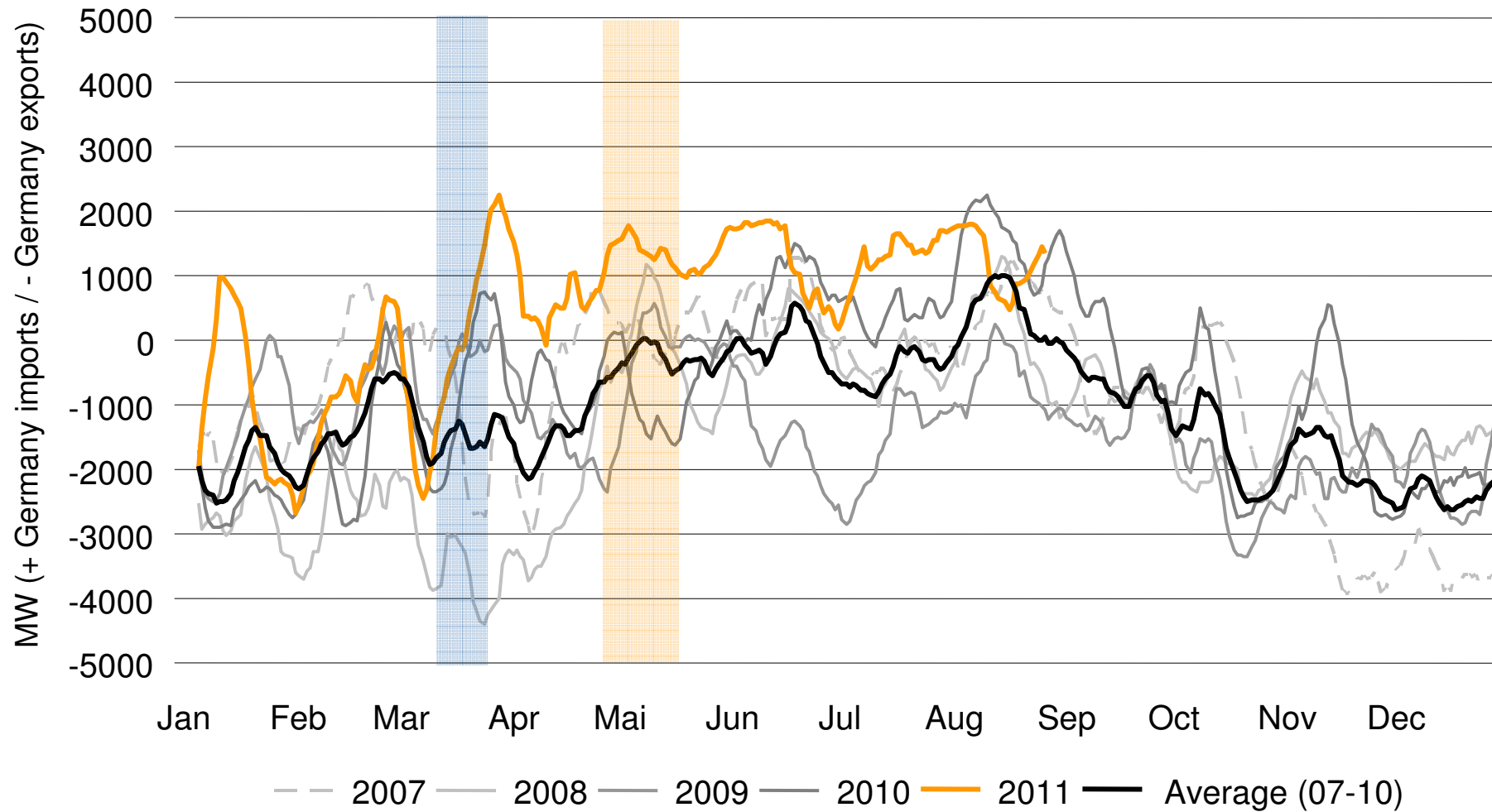
# The German moratorium triggered a big trade balance swing

Import/Export Balance Germany (7day moving average)



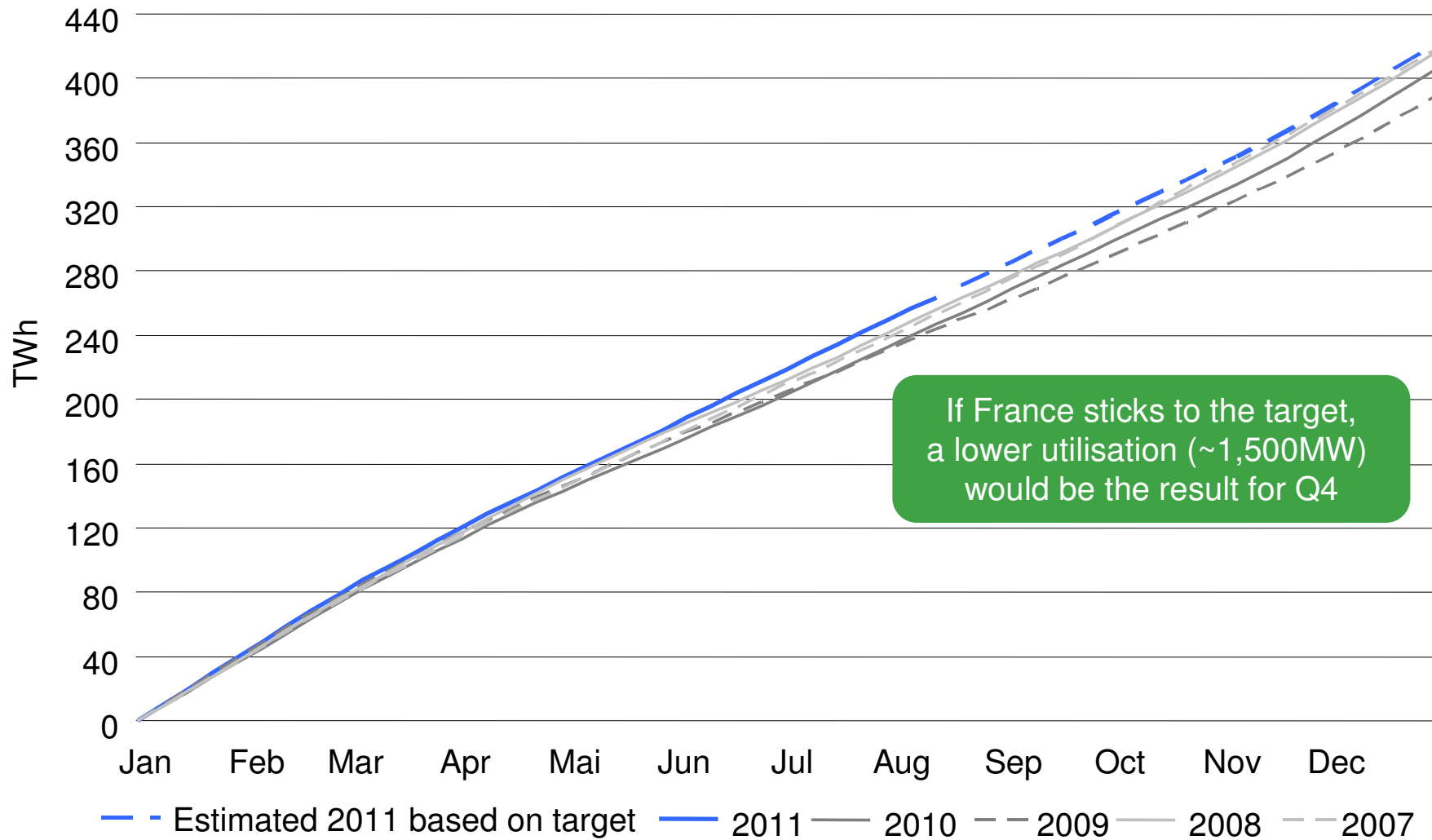
# France contributed the most with a shift of >4,000 MW

## Import/Export Balance Germany-France (7day moving average)



# Highest nuclear production in France since years facilitates high exports

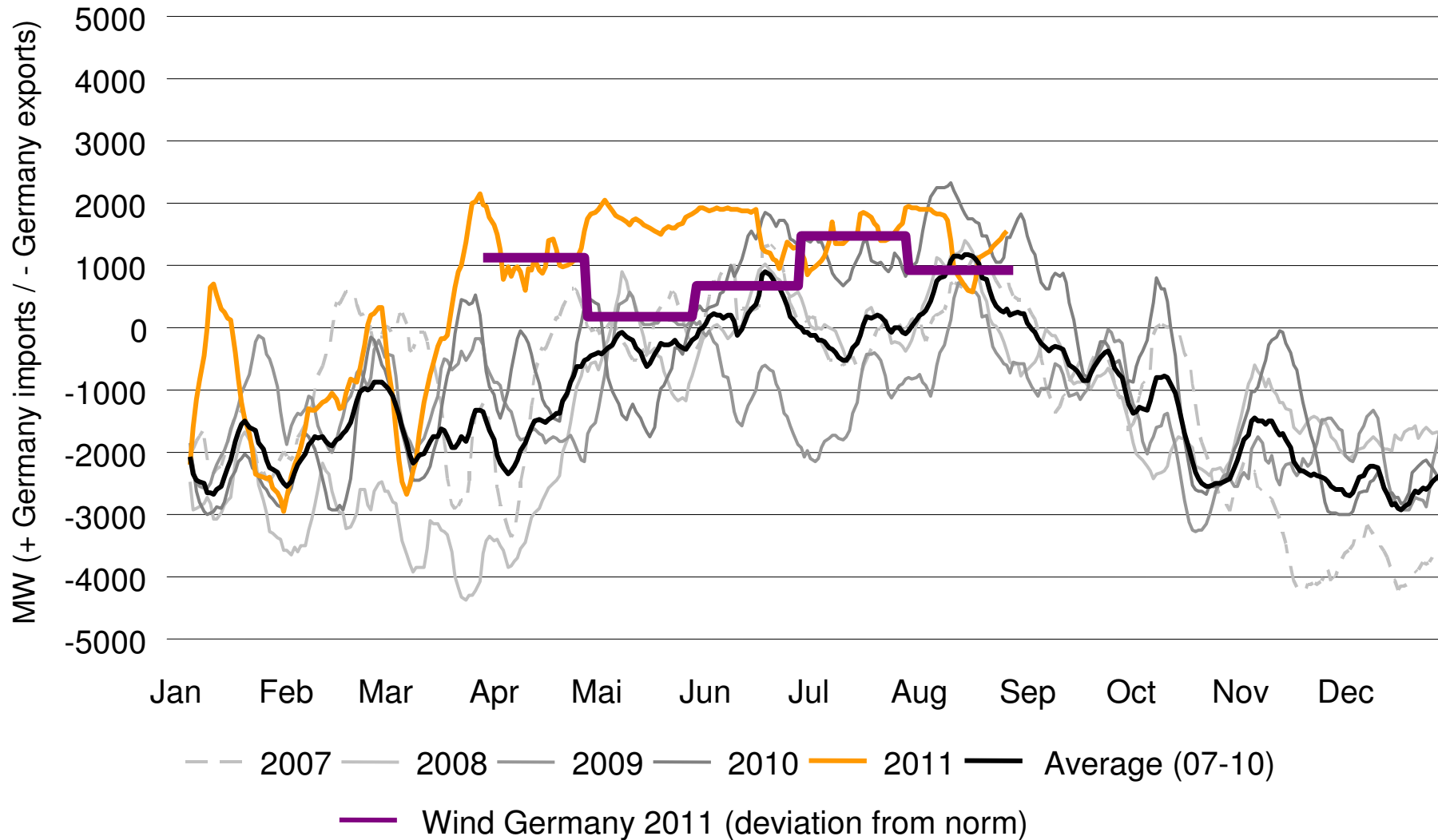
## Nuclear Production France





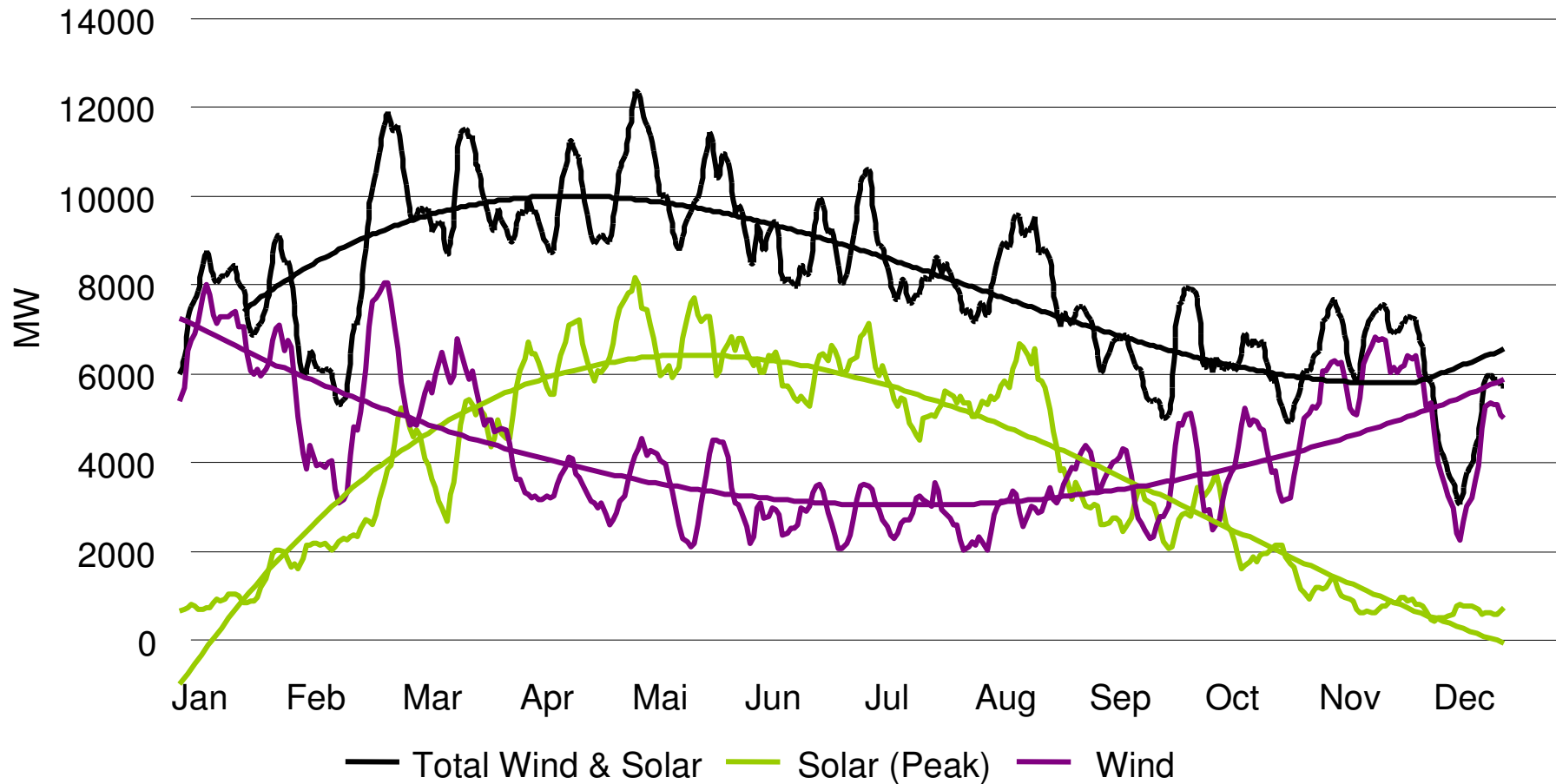
# Higher wind production in Germany gives relief to imports

Offpeak Import/Export Balance DE-FR (7day moving average)



# Wind and solar complement one another in the peak

## Typical Wind & PV production pattern in Germany



# Definitions

Asset backed Trading	Trades with an underlying natural exposure from a trading asset
Proprietary Trading	Trades with no underlying natural exposure
Origination	Trading of highly non-standardised contracts, often with multi-commodity components. Origination also incorporates Portfolio Management services, mainly executing more or less standardised transactions