



Fortum's energy market review
Keilaniemi 18.11.2008

Lotta Forssell

Vice President, Communications
Fortum Portfolio
Management and Trading

Timo Liiri

Customer Manager
Fortum Markets

Background of the Energy Market Review

- The goal of Fortum's energy market review is to give information about the Nordic electricity market and factors behind price development
- Information in this review is based on data from Nord Pool, Nordel, SMHI, Reuters and Fortum's own data
- Similar review is held 2-4 times a year both in Finland and Sweden

- **EU energy policy news from Brussels**
- **Price development since spring 2008**
- **Financial market crisis effect to energy markets**
 - fuel price development
- **Development of the fundamentals**
 - hydro reservoirs
 - CO₂ emission allowance price development
 - electricity production
- **Nordic and European wholesale price development**
 - spot prices and forward prices
 - Nord Pool annual product quotations
- **Consumer price development for different contracts**

EU's role in energy policy making increases...

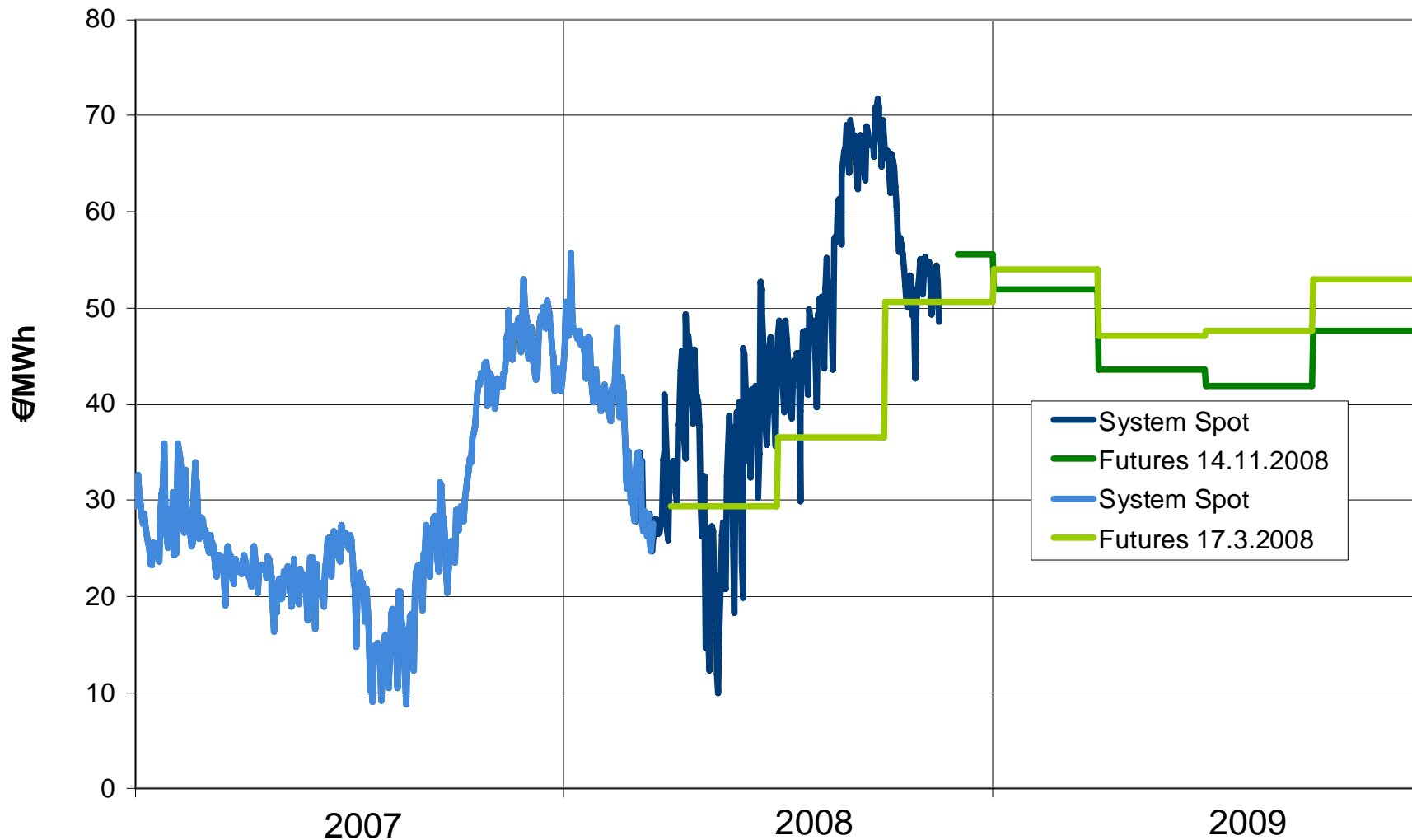
- Third energy market liberalisation package
 - agreement among the Member States (10/10/2008)
 - final approval expected Q2 2009
- Climate package: renewable energy sources, emissions trading, burden sharing outside the ETS sectors, carbon capture and storage
 - financial crisis has created disagreements between the Member States - European Council nevertheless kept the basis of the package unchanged (14/10/2008)
 - disagreements also within the Parliament
 - pressure to approve the package before the EU elections in June 2009 in order to be ready for Copenhagen in Nov - Dec 2009
- Strategic Energy Review (13/11/2008) concentrates on security of energy supply
 - finalisation of the internal energy market number one target also for security of supply - interconnecting the Baltic States into EU electricity market one priority
 - when internal market becomes a reality, energy policies must be harmonised
 - EU ready to take a bigger role in energy policy making in order to ensure necessary harmonisation

...which should be visible in national policy making

- Finnish government's climate and energy strategy
 - aims to ensure competitiveness of energy intensive industries also in the future
 - encourages investments in non-emitting energy production; renewables and nuclear
 - lifts energy efficiency as one of the primary targets
- Tools to be used are purely national
 - demand and supply is considered as a domestic issues despite the internal electricity market
 - national feed-in tariff to promote investments in renewable electricity production; makes exposure to subsidy competition a real threat
 - joint support scheme with other countries is considered problematic because it would direct the investments to the lowest cost regions...
- Better energy efficiency via electric vehicles and heat pumps
 - when used cleverly, electricity promotes energy efficiency
 - electric vehicles using renewable electricity help to achieve the renewables targets of transportation in an environmentally sound and cost-efficient manner

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Development of prices since last March - Prices on 14 November 2008



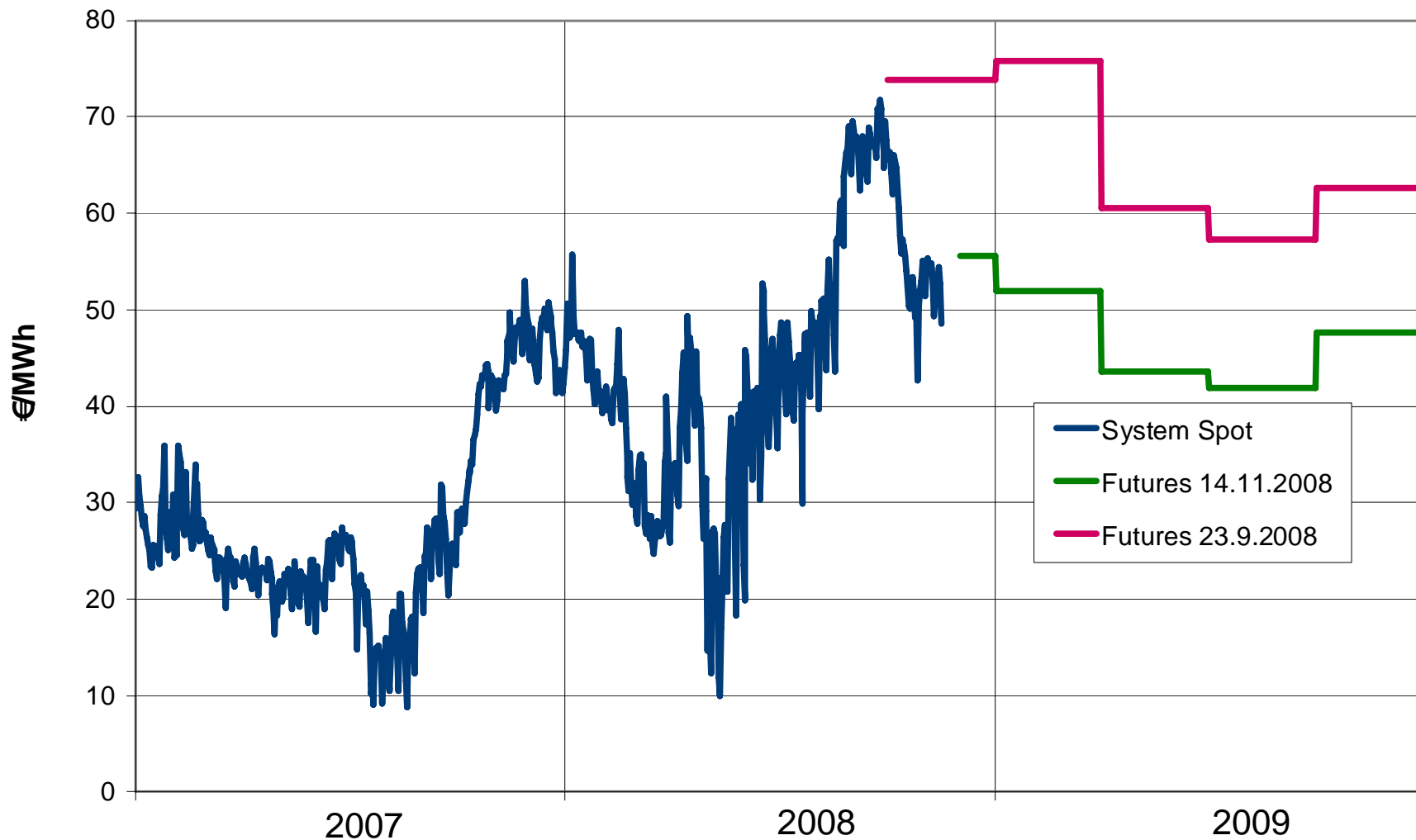
Source: Nord Pool

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Development of prices since last March - Prices on 14 November 2008 and 23 September 2008



Source: Nord Pool

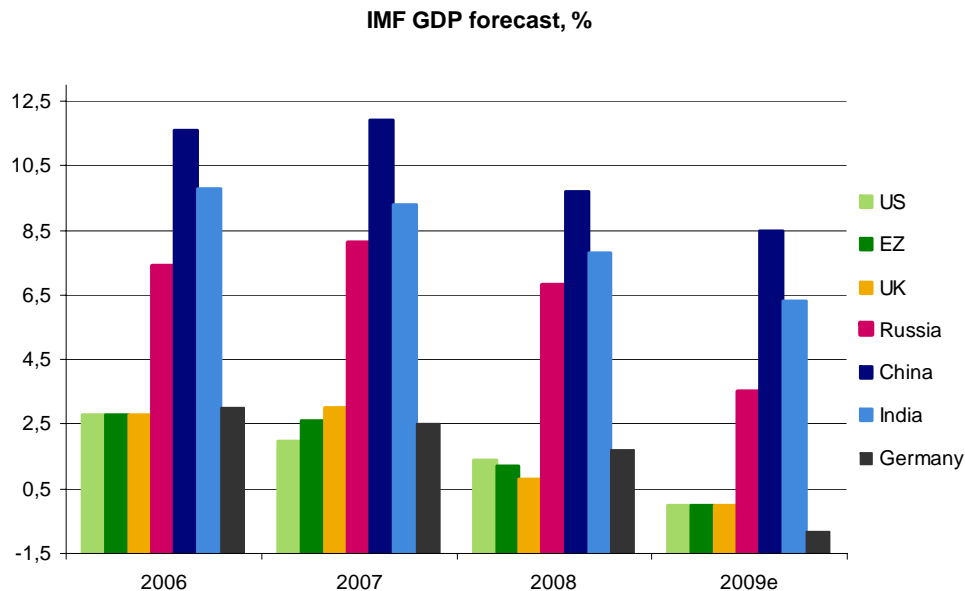
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The global economic slow-down and monetary indicators



Source: IMF

- Higher volatility than a year ago in global stock markets
- Lowered GDP 2009 forecasts for the largest countries
- US, European and Asian financial rescue packages are improving capital market conditions
- Weak global outlook for 2009
- Central banks are proactive and cutting benchmark interest rates boosting the global economy
- Activities are made to support consumer spending
- Strengthened USD vs. EUR
- Commodity prices have plunged in H2 2008 in line with monetary indicators
- Credit spreads show how the price of risk has increased heavily during H2 2008

Fuel price development

Crude oil price (Brent)



Coal price (API2)



Gas price (NBP)

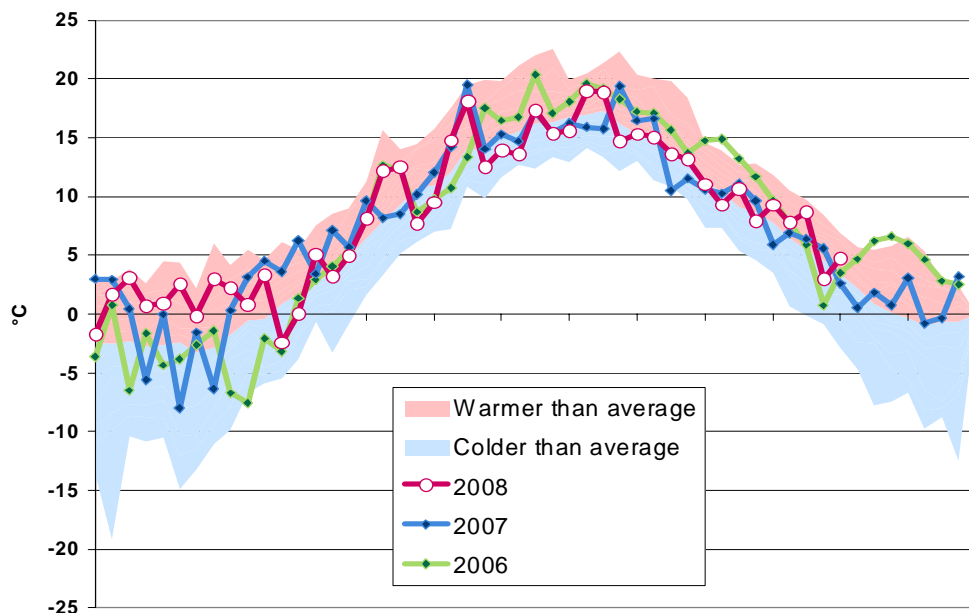


Source: [REUTERS](#) ; market prices November 2008; 2008-2009 future quotations

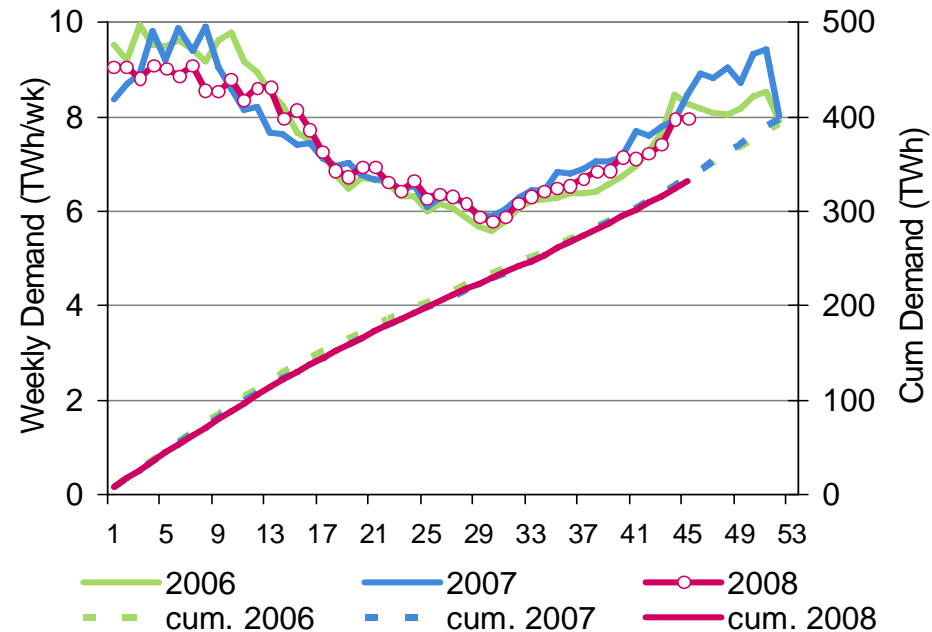
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Temperature and consumption in the Nordic

Nordic average temperatures and historical averages



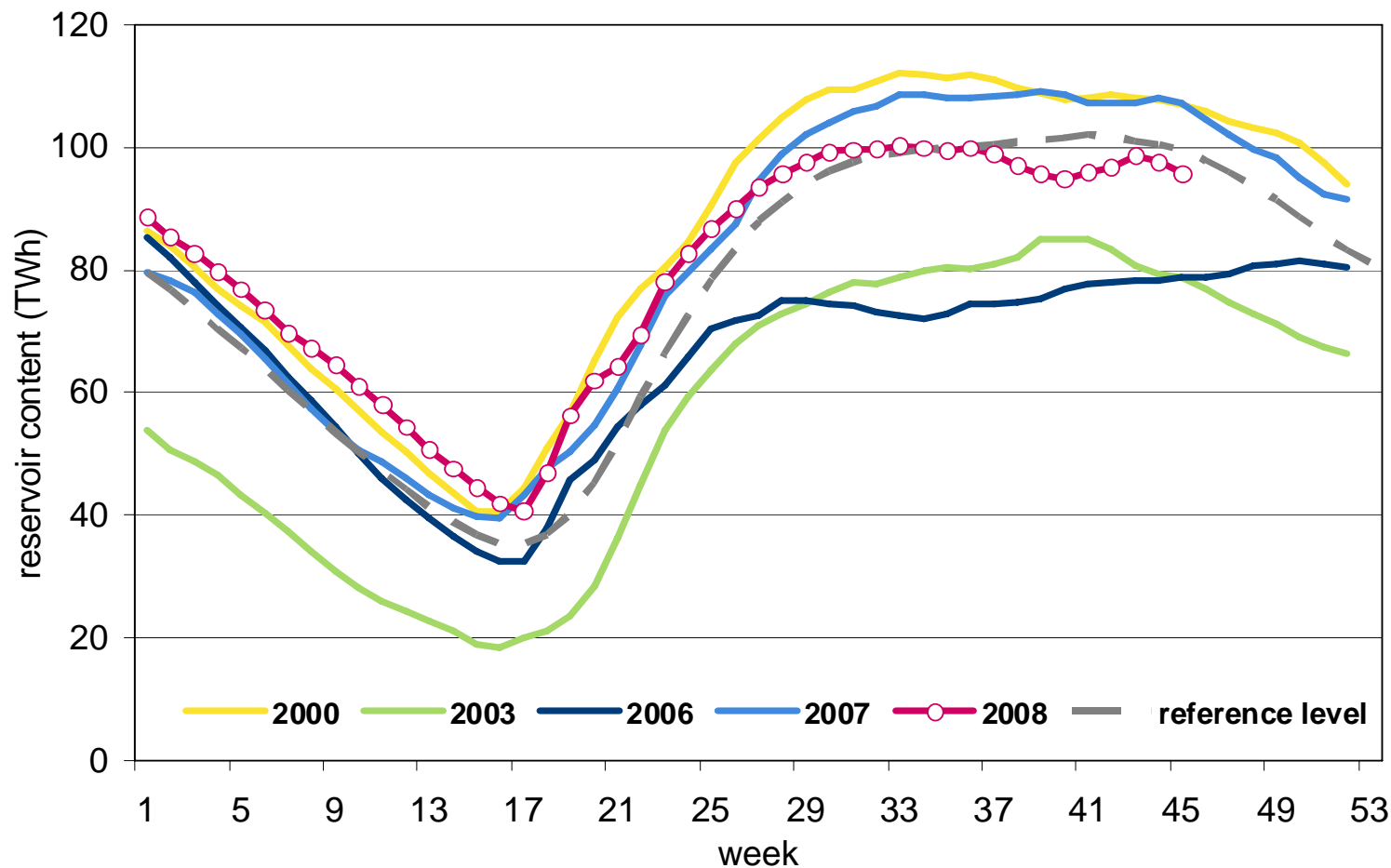
Nordic electricity consumption



- Fairly normal temperatures after a warm winter
- Precipitation slightly lower than in 2007

Nordic hydro reservoirs slightly below average

- temperature and snow development are key factors

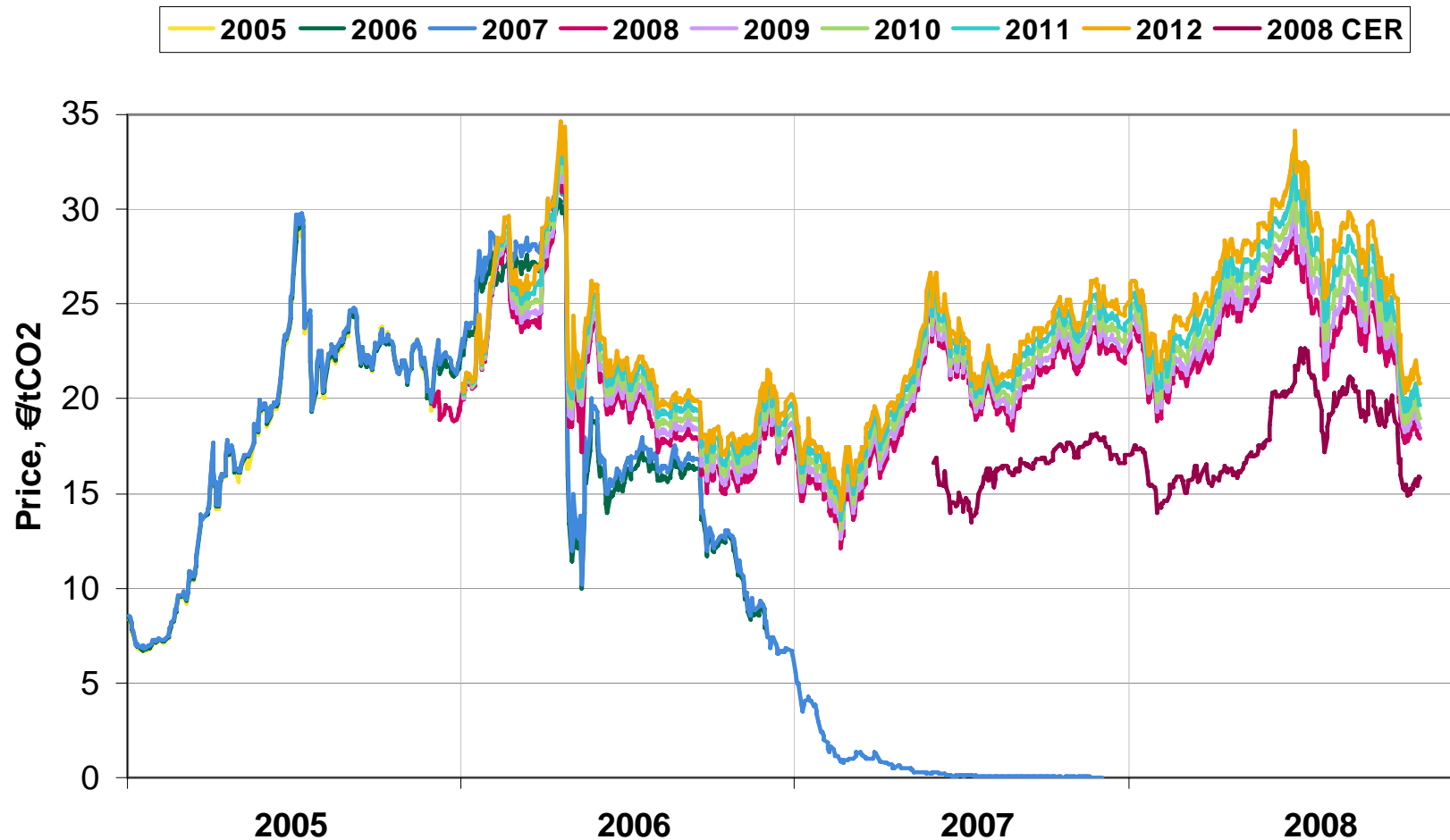


Source: Nord Pool

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Price development for emission allowances



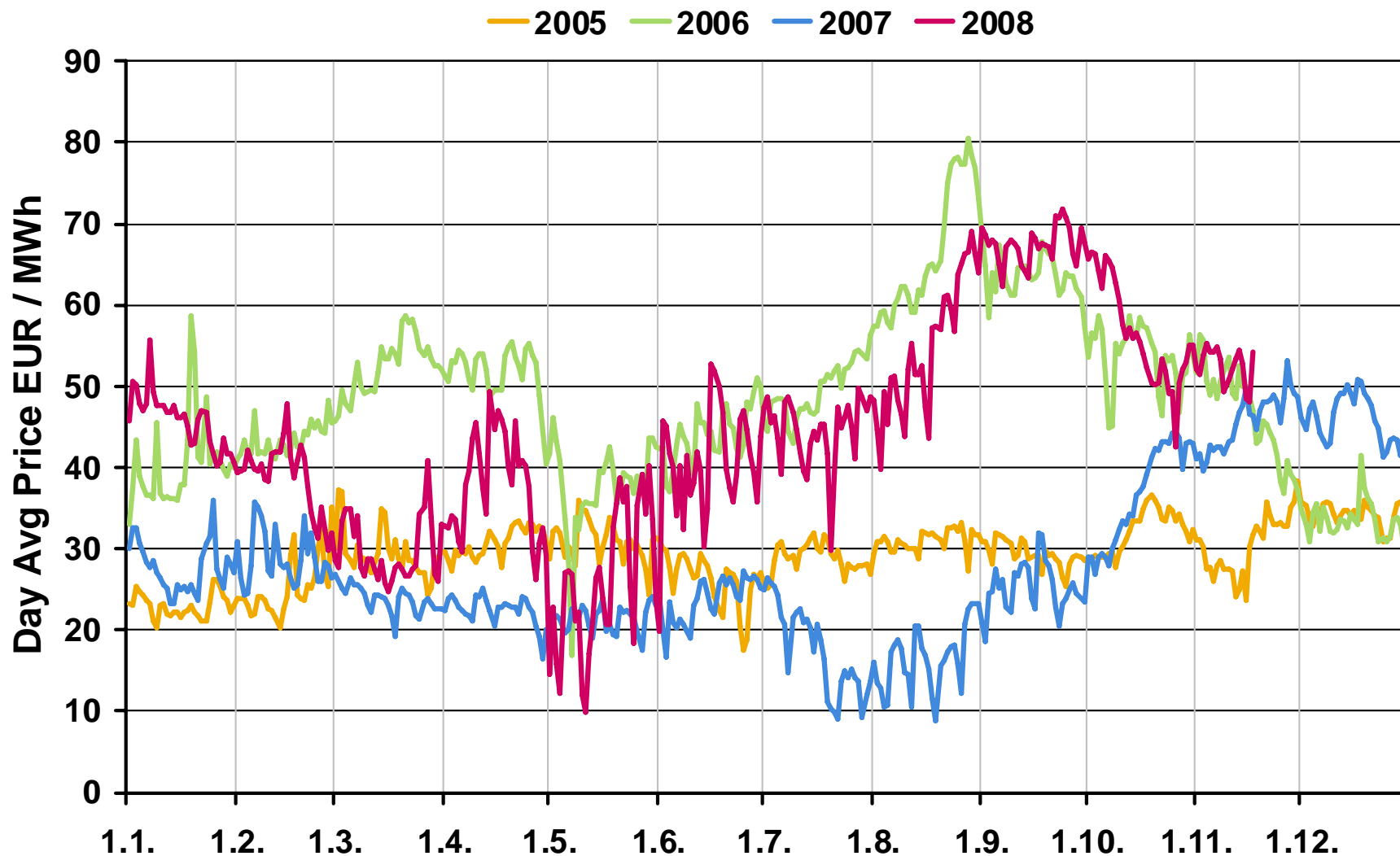
Source Nord Pool

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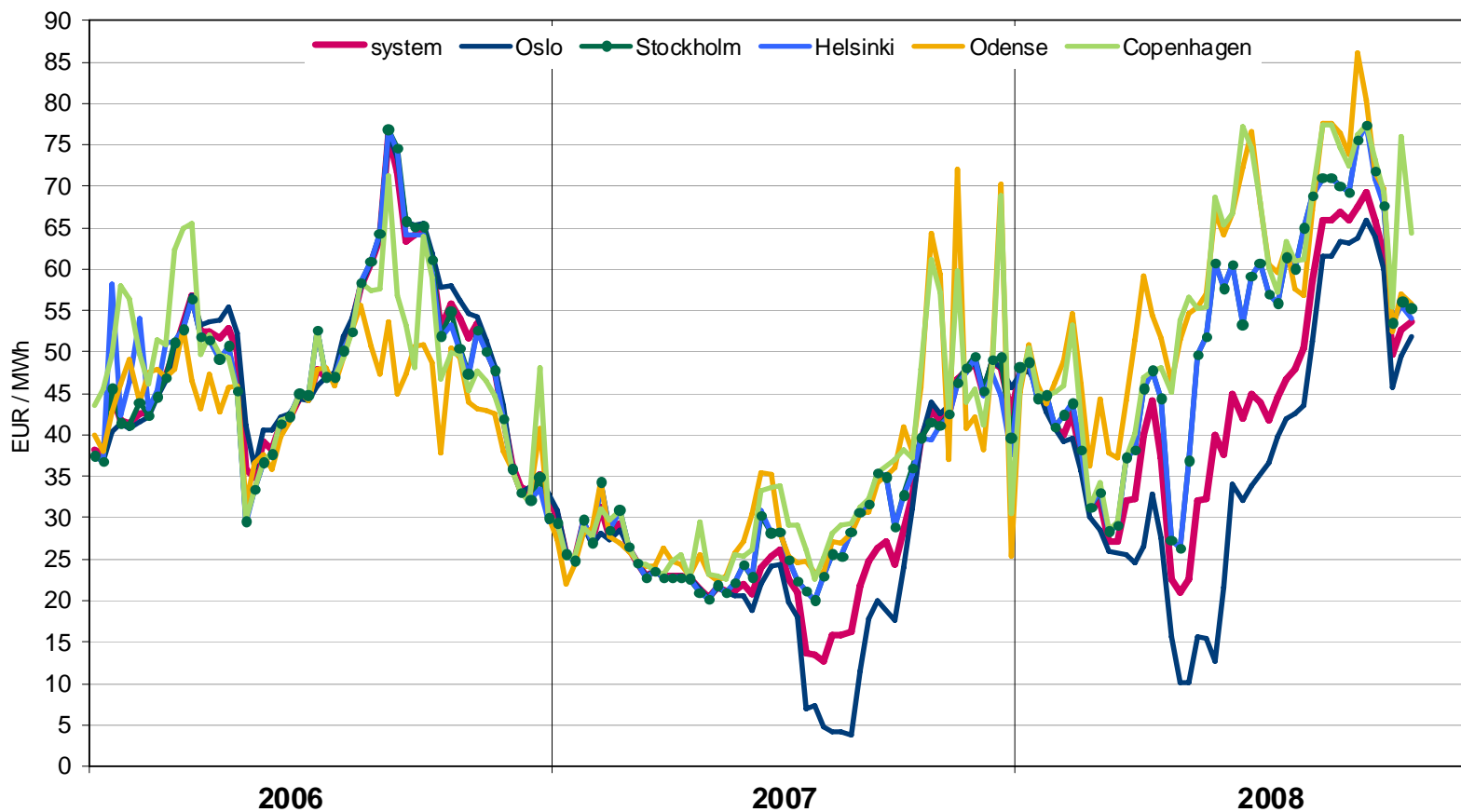
Nordic system spot-price development



Source: Nord Pool

Large area price differences during 2008

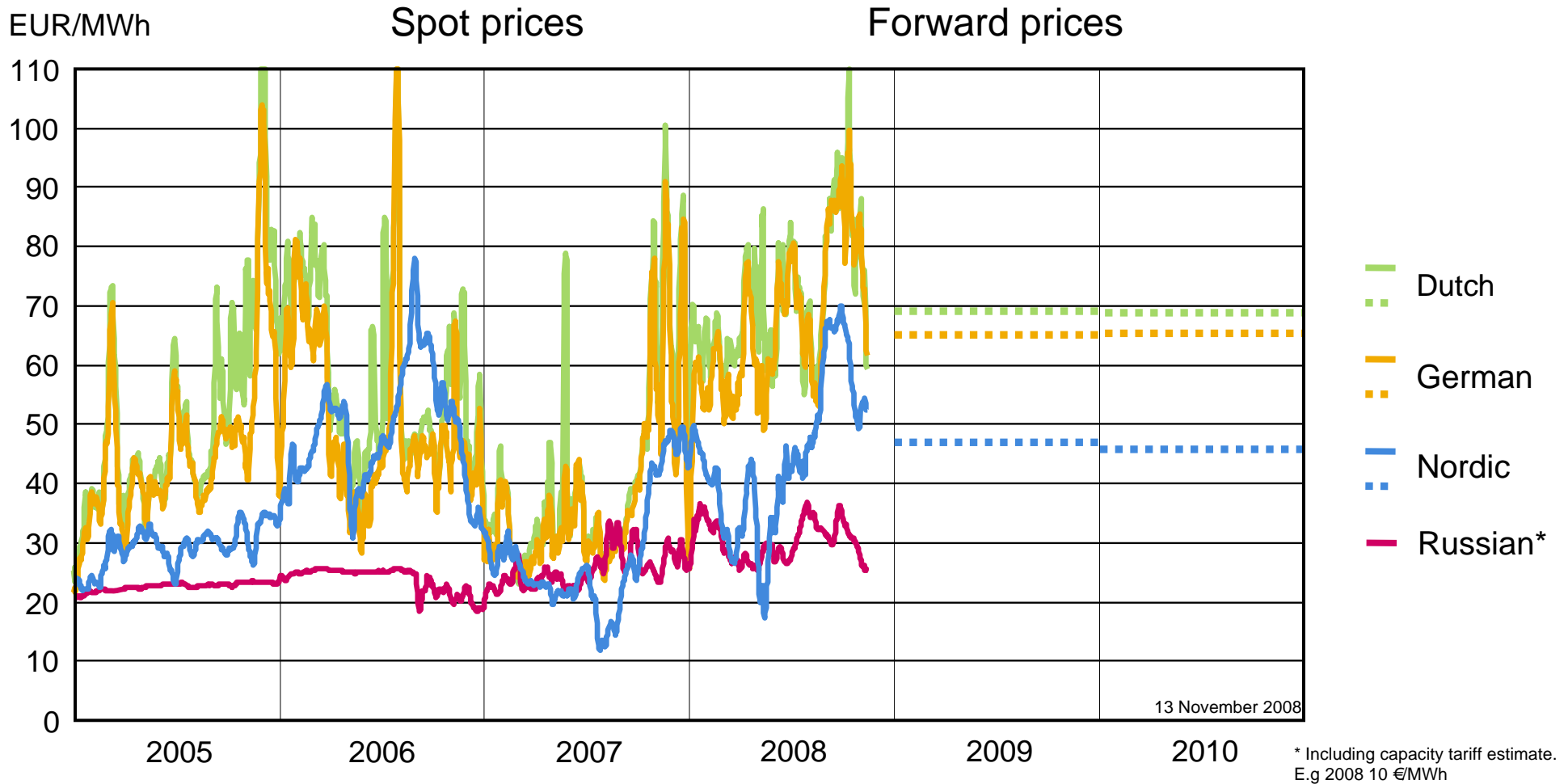
System and area price development in the Nordic market



- Differences due to malfunctions in transmission connections
 - connection between Southern Norway and Sweden will be fully functional earliest spring 2009

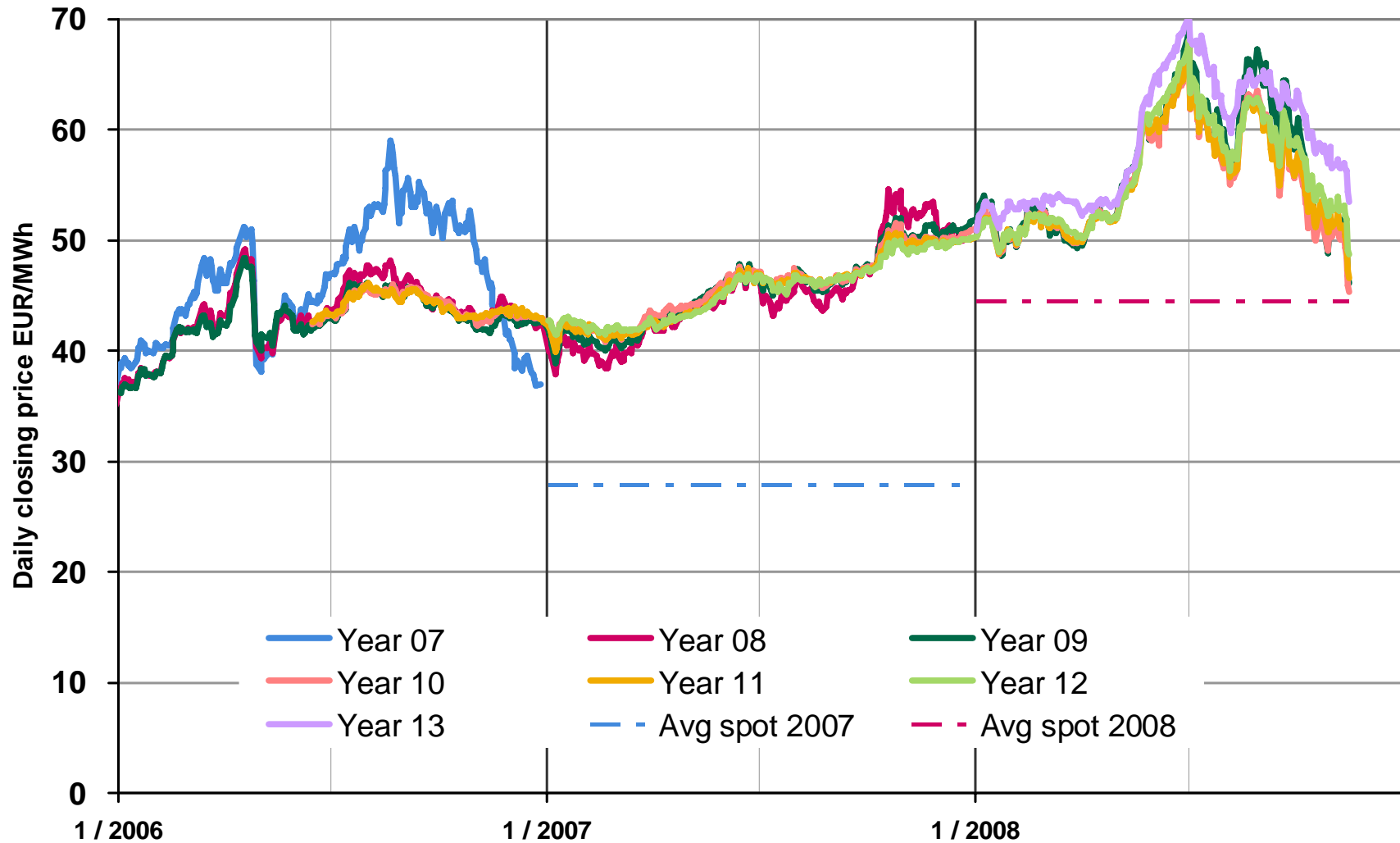
Source: Nord Pool

Continental wholesale prices for electricity currently clearly above the Nordic prices



Source: [REUTERS](#)

Nord Pool forward prices and historical spot average



Forward prices 14 November 2008

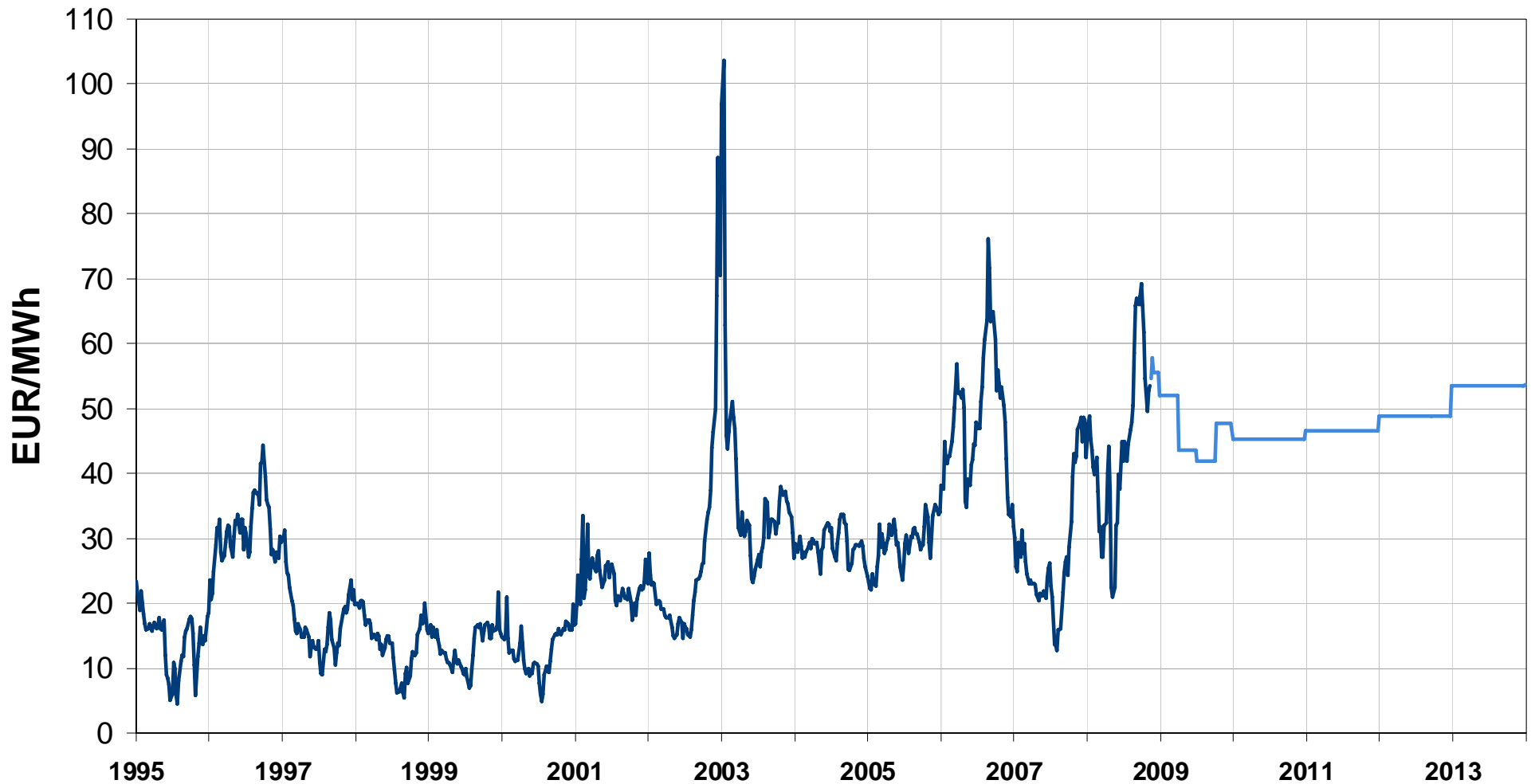
Source Nord Pool

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Nordic price history and future quotations until 2013



Source: Nord Pool, Forward prices 14 November 2008

Nord Pool has launched indexed forward price for 1 year

ASA - NordPool - Microsoft Internet Explorer
 Address: http://www.nordpool.com/asa

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Urgent market messages [RSS Feed](#)

Last: (Today 10:11) New planned outage (maintenance): Karlshamn G3
Status: 8 messages today, 0 within last hour. [View list](#)

Spot price and nearest quarter forward price
 Last 30 days

● System price ● Nearest forward quarter

[Click to see data](#)

NPN 365: Indexed forward price for 1 year
 Historical index values for Nordic market last 365 days

● Average forward price for 1 year: EUR 51.7

[Click to see data](#)

Launching NASDAQ OMX Commodities
[See more information...](#)

MARKET DATA
Gross turnover to date in TWh:

| | 2008 | 2007 |
|-------------------|------|------|
| Spot market | 247 | 239 |
| Financial market | 1256 | 885 |
| Clearing services | 972 | 1084 |
| Total | 2475 | 2208 |

System price 06 Nov 2008

| € | NOK | SEK | DKK |
|-------|--------|--------|--------|
| 54.20 | 470.11 | 539.14 | 403.41 |

Financial market

- [Price derivatives Nordic](#)
- [Price derivatives German](#)
- [Price derivatives Dutch](#)
- [Price emissions](#)

Non-exchange trades

- [OTC trades Nordic](#)
- [OTC trades German](#)
- [OTC trades Dutch](#)

Exchange information [RSS Feed](#) **News**

Power system data

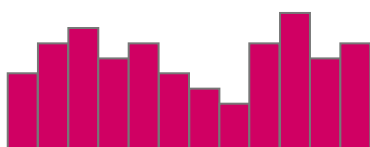
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Contract prices are based on different periods



Fortum Tarkka
Always up to date

1 month price periods

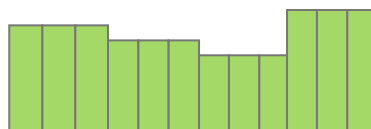


Price updated every month



Fortum Kesto
Easy and flexible

3 month price periods

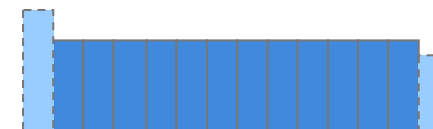


Price updated every calendar quarter



Fortum Takuu
Stable and secure

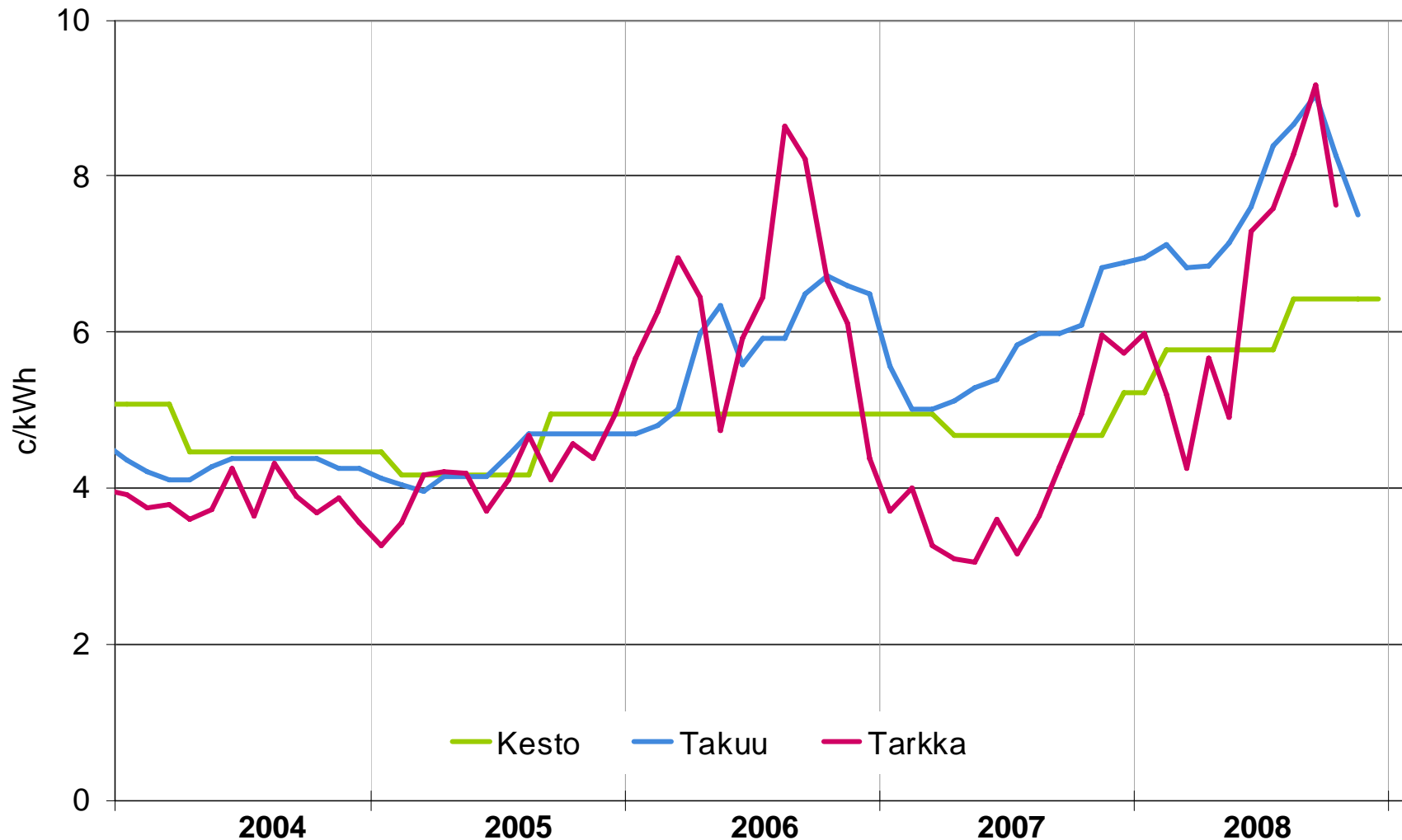
1-2 year price periods



Price guarantee for the whole contract period (1 or 2 years)



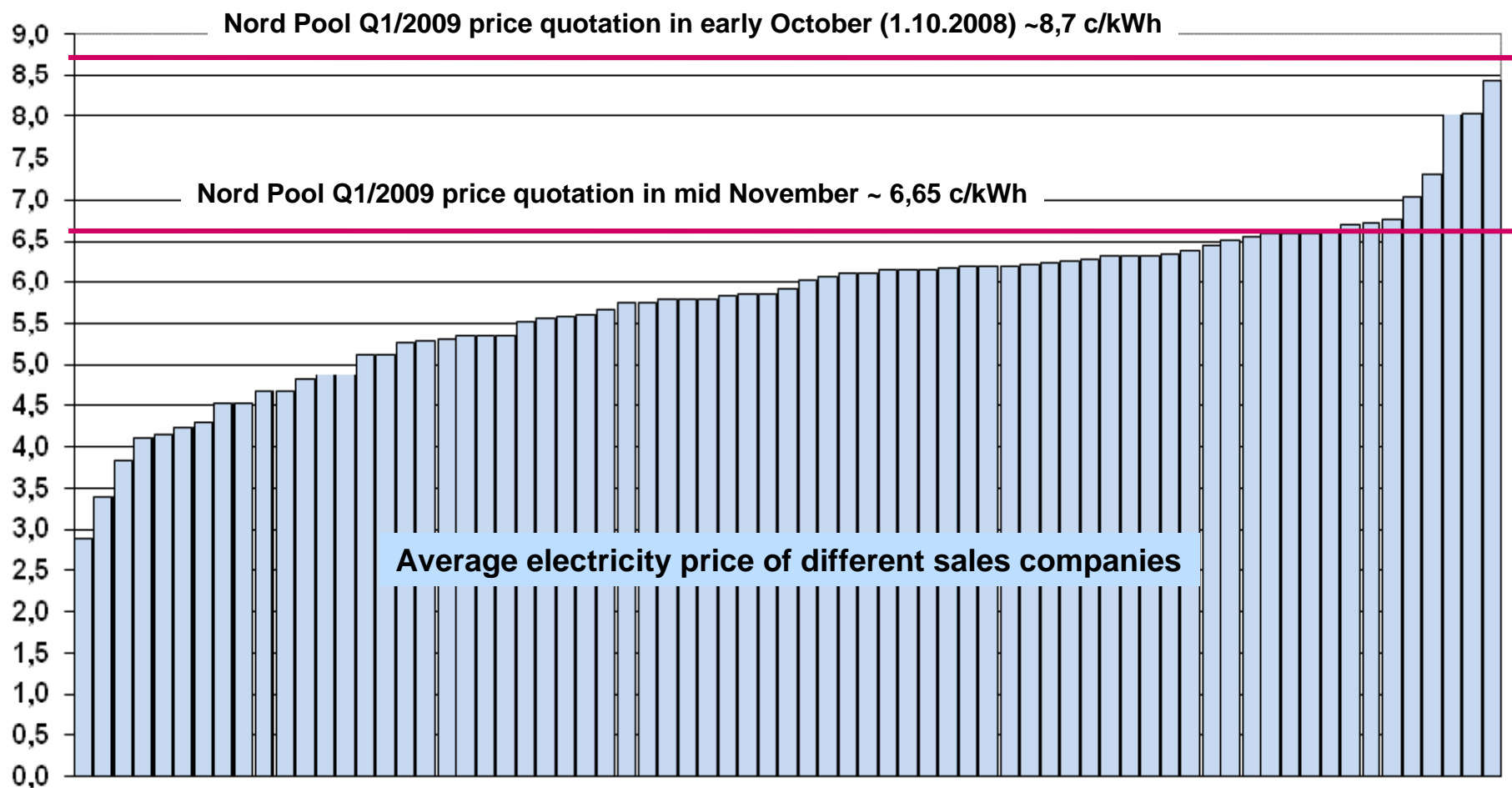
Price development for different consumer contract types in Finland since 2004



Average price for a consumer type L1, house with 18 000 kWh/a.
Prices VAT 22%.

Market quotations compared to sales prices

- public electricity prices of sales companies for a customer with 18 000 kWh/a consumption and Nord Pool Q1 2009 quotations in Finland including 22 % VAT



Energy Market Review, 18 November 2008

Fortum publishes a current energy market review two to four times a year. Topics covered in the review include fuel price development, electricity price development on the Nordic power market and factors influencing the development.

Summary:

- The global economic slow-down has had an impact on the fuel and electricity prices and Fortum's way of analysing the energy situation. The economic slow-down will also have an impact on the global energy demand – at least on a short term.
- Fuel prices increased during 2007 and the increase continued even more dramatically the first half of 2008. Since mid July the fuel prices have decreased dramatically but are still above the price level of early 2007.
- After a steep increase Nordic wholesale electricity prices have decreased during the past two months. The future price quotations are now on the same level as before summer being around 50 €/MWh for the next year.
- The Nordic water reservoirs are slightly below the long term average, and there is less snow compared to historical levels.
- Higher continental prices and increased transmission connections have resulted in increased exports from Nordic to Continental Europe where the prices are 15-25 €/MWh higher compared to Nordic.
- Consumer prices in Finland have not fully reflected to wholesale price increase and therefore the consumer price levels are in general below the wholesale prices.

Further information:

Lotta Forssell, +358 50 45 36128, lotta.forssell@fortum.com

Timo Liiri, +358 50 45 36461, timo.liiri@fortum.com

