

Vattenfall Capital Markets Day 2009

Presentation by:

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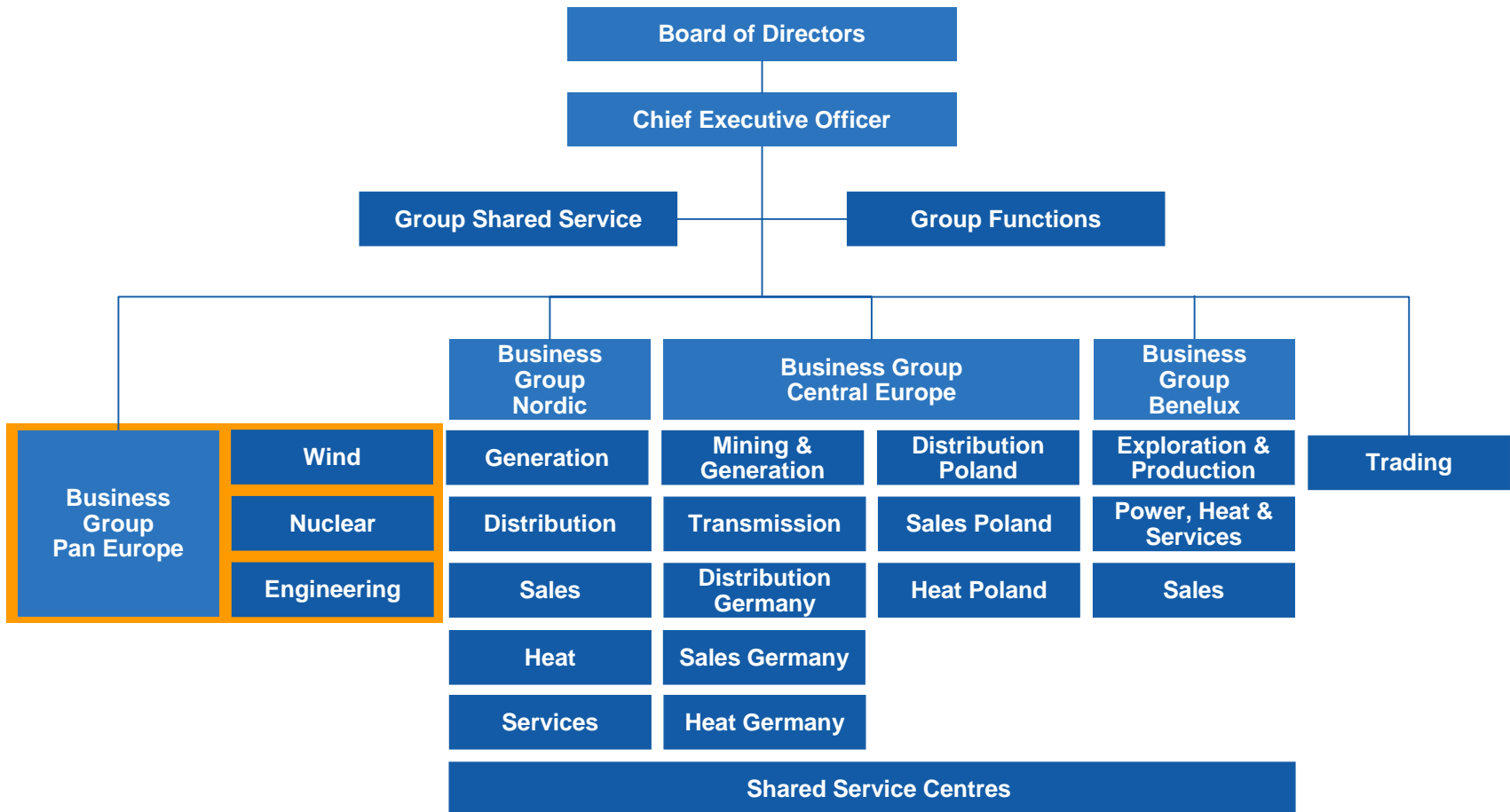
Head of Business Group Pan Europe

Amsterdam, 23 September 2009

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Overview Business Group Pan Europe



Overview Business Group Pan Europe

Business Group Pan Europe comprises **three Group-wide business units**: Wind, Nuclear and Engineering. The Business Group is also responsible for Vattenfall's European Business development unit, focusing on efficient use of energy and biomass.

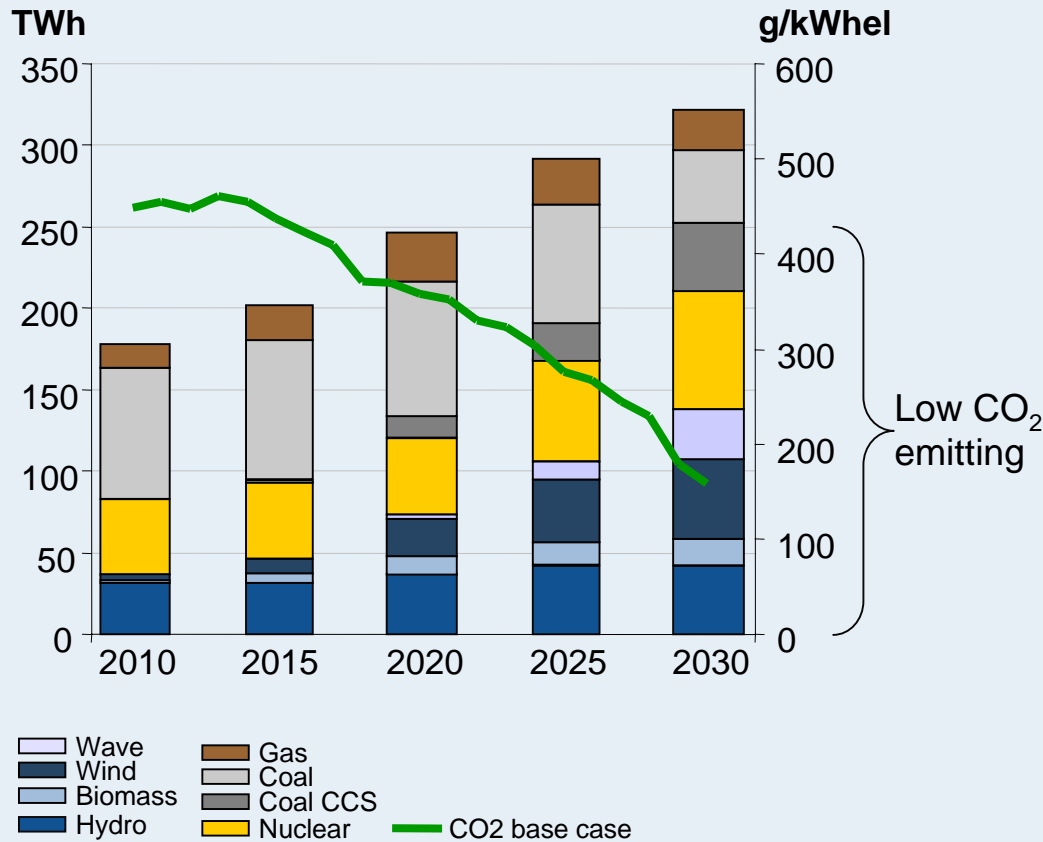
	2008
Operating profit (EBIT), MSEK	3,567
Electricity generation, TWh	47.7
- of which, nuclear power	46.2
- of which, wind power	1.6
Employees	5,007
Customers	0

Wind power Benelux is not included in 2008 figures



Making Electricity Clean – BG Pan Europe

Vattenfall Group Electr. Generation Road Map



Low CO₂ emitting

BG Pan Europe is responsible for two important energy sources – nuclear and wind

Recent key events nuclear power

Nuclear power plants (NPPs):

- Restart of German Krümmel NPP on 21 June. Reactor scram due to short circuit in a transformer 4 July
- Extensive modernization projects at Swedish Ringhals NPP
- Swedish Radiation Safety Authority (SSM) is subjecting Ringhals NPP to special conditions for operation
- The SSM lifted the special supervision at Forsmark NPP



World-class safety and operations

Priority 1:
Strong safety management

Priority 2:
Maximize Availability, Reliability and Lifetime

Priority 3:
Cost Optimization



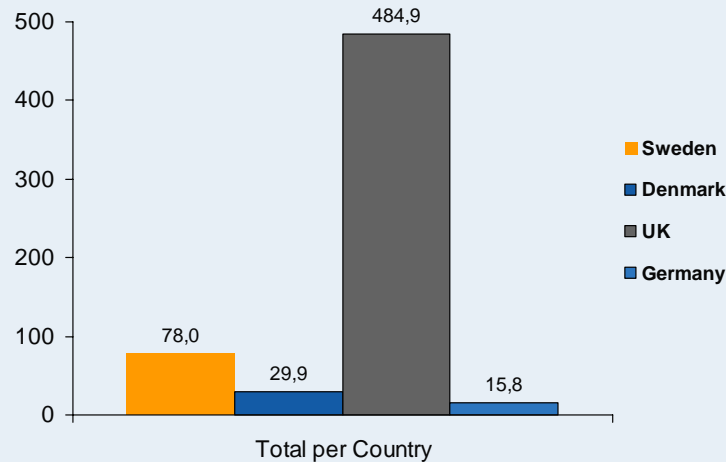
Making electricity clean – Wind power

- Vattenfall is the number one wind operator in Nordic, the sixth largest in Europe and the largest wind operator of offshore wind in the world.
- Vattenfall is active within wind power in Sweden, Denmark, United Kingdom, Germany, Poland and Benelux.
- The generation capacity will be doubled within two years due to ongoing projects under construction.
- UK is currently seen as the most profitable market due to the huge market potential and its subsidy system, as well as good wind conditions.

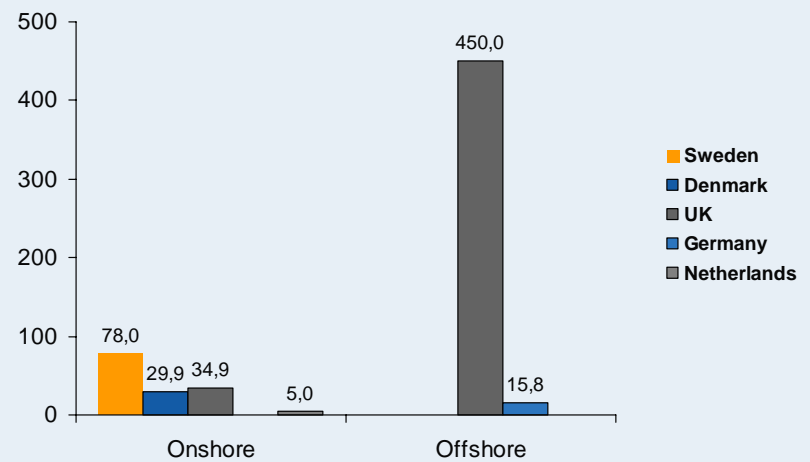


Over 600 MW wind power under construction

Projects under construction per country (MW)



Under construction onshore/offshore (MW)



- Over 600 MW of wind power capacity is currently under construction (in operation H2 2009 – H2 2012). Major projects are Stor-Rotliden and Thanet.
- The expected electricity generation from these projects is more than 2 TWh.
- Close to 80% of the total capacity under construction is located in the UK.
- Approximately 74% of the capacity is offshore.

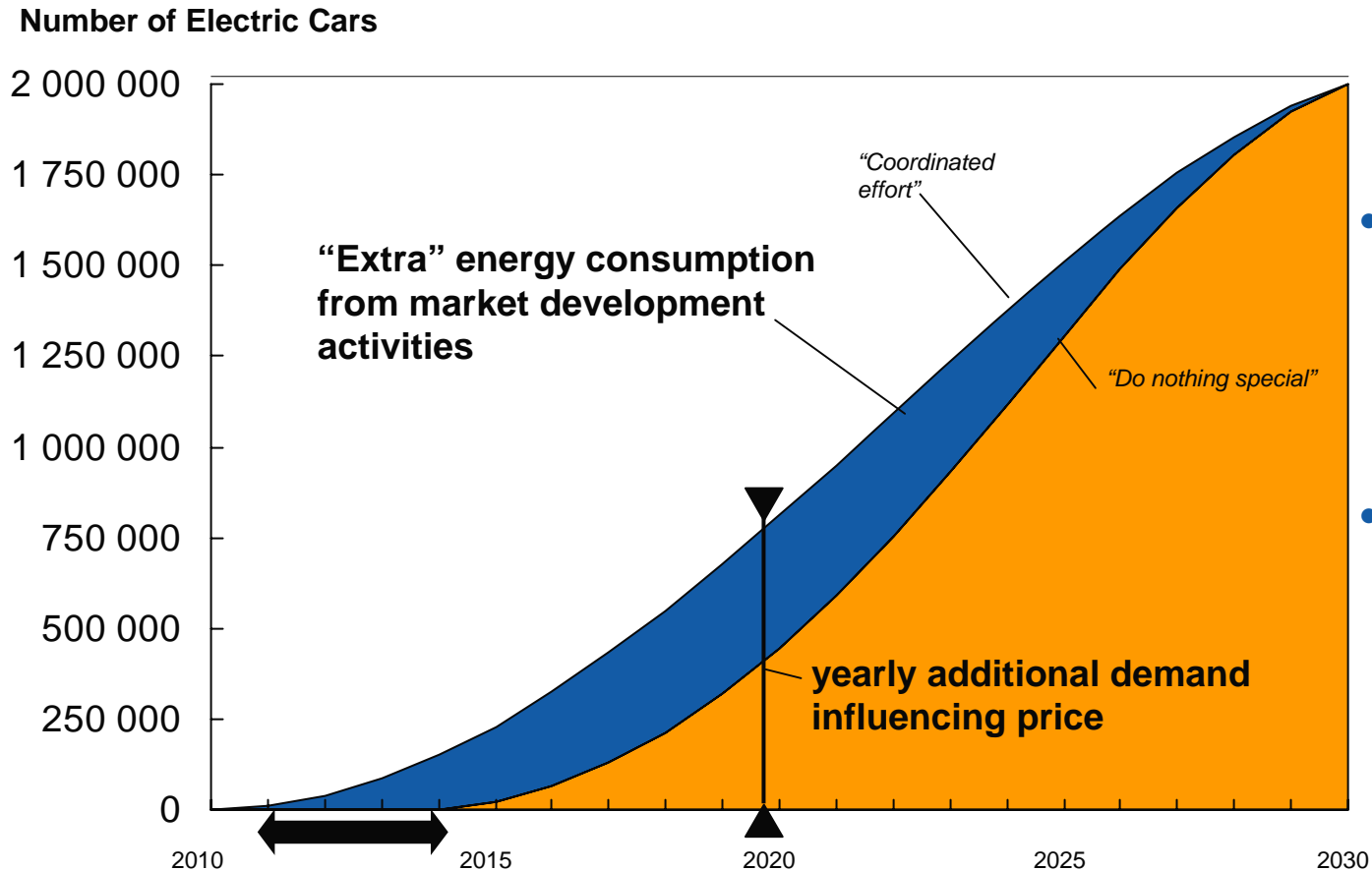
The future is electric

Electrification of road transport...

- provides a new demand sector
 - increased sales volumes and electricity revenues
- offers an additional role for electricity within today's electricity system
- reduces the overall usage of fossil fuel and thus oil dependency



Vattenfall can influence demand increase



- Demo project in Gothenburg with Volvo PHEV
- Mini-E project in Berlin

Based on rough estimates for the Swedish market

The future is electric - E-mobility

E-mobility provides positive effects for Vattenfall:

- Improves public perception of electricity
- Promotes electricity demand
- Provides new business opportunities



Plug-in Electric Hybrid Vehicles

** Potential in core markets by 2030*

Summary and conclusions

- Making electricity clean
 - Nuclear – world class safety and operations
 - Wind – 600 MW under construction
- The future is electric – E-mobility

Back-up

Key data – BG Pan Europe

<i>Amounts in SEK billion</i>	H1 2009	H1 2008	% Change	LTM	FY 2008
Net sales	11.2	10.3	8.5	21.3	20.4
External net sales *	3.9	3.5	13.2	8.1	7.6
EBIT *	2.0	2.6	-23.6	3.0	3.6
Net assets **	125.9	96.7	30.2	--	119.2
Electr. generation, TWh	25.1	26.4	-4.9	46.4	47.7
Heat sales, TWh	0	0	0	0	0
Employees ***	5,469	4,954	10.5	--	5,007

Wind power Benelux is not included in 2008 and 2009 figures

* *Excl. intra group transactions*

** *At the end of the period*

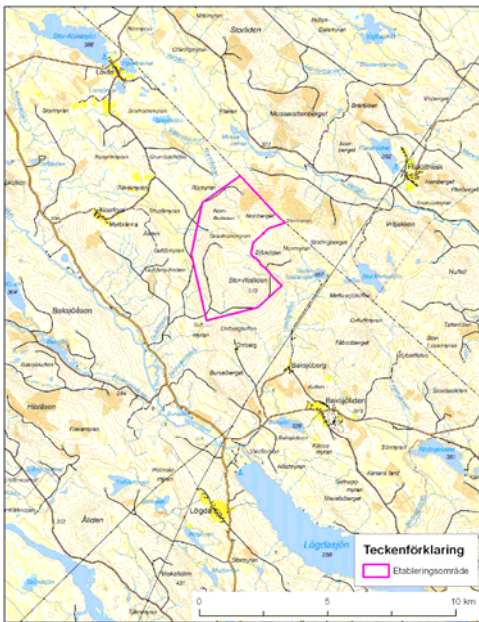
*** *Full time equivalents (FTE)*

Example - Stor-Rotliden, Sweden

Stor-Rotliden - Key Data

Rated power	78MW (29x2MW & 11x1.8MW)
Expected energy generation	229GWh/year
Investment	SEK ~1,400 million

Location – Åsele kommun, Västerbottens län



Approximately 100 km west of Umeå

Project Background and Progress

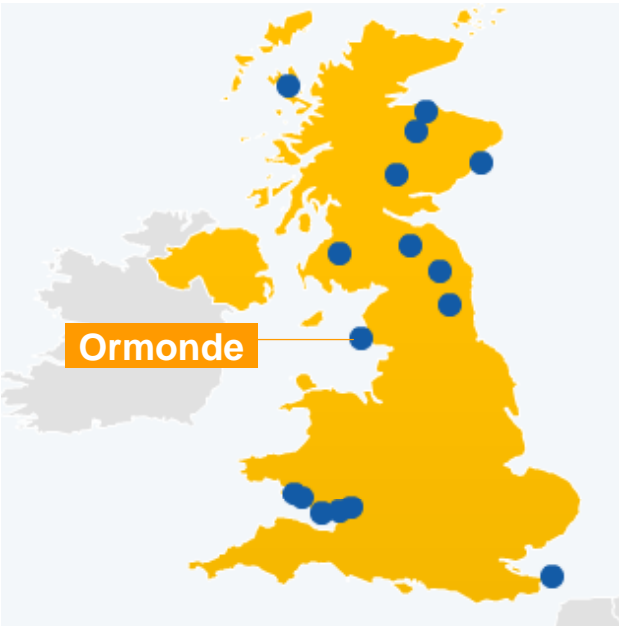
- Project developed by o2 Vindkompaniet
- Acquired in Q1 2009 for 60 MSEK (fully consented)
- The first project under construction within the investment programme – Onshore Wind 1 (200MW)
- Civil works (roads) started 10th of June 2009 (TG3 decision taken 3rd of June 2009) and commissioning is expected in late November 2010.
- Key suppliers (multi-contract)
 - Vestas V90 (from framework agreement 100MW): 29 rated 2MW and 11 rated 1.8MW
 - PEAB: civil works
 - Siemens: Transformer and substations
 - Ericsson: Electric and optic cables
 - Grid connection: Vattenfall Eldistribution (130kV substation Tuggen)

Example – Ormonde, UK

Ormonde - Key Data

Rated power	150MW (30x5MW)
Expected energy generation	508GWh/year
Investment	£ ~450 million

Ormonde – offshore UK



The Ormonde project is located offshore Barrow Irish Sea

Project Background and Progress

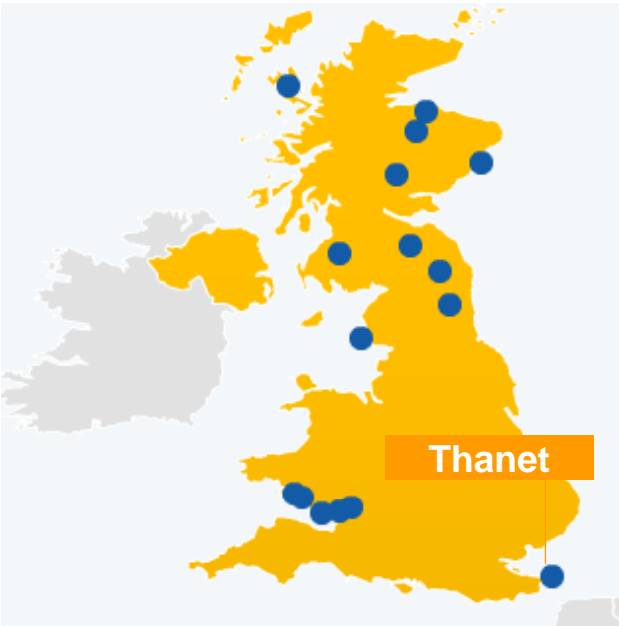
- Project developed by Eclipse Energy UK Plc (Acquired by Vattenfall)
- A UK Round 1 site in the Irish Sea
- 95% of all contracts have been signed in July 2009
- Commissioning of the entire farm is expected at end of 2011
- Key suppliers:
 - REpower Systems: 30 x 5MW turbines
 - BiFab: Design and manufacture foundations
 - Areva: Electrical works

Example – Thanet, UK

Thanet - Key Data

Rated power	300MW (100x3MW)
Expected energy generation	1,000GWh/year
Investment	£ ~900 million

Location – offshore UK



The Thanet project is located approx. 12 km off Foreness Point, the most eastern part of Kent.

Project Background and Progress

- Thanet offshore wind farm will be the largest operational wind farm in the world.
- The project is currently under construction and more than half of the monopile foundations have been installed. The implementation is in accordance with the planned time schedule.
- Turbines are planned for commission in March until September 2010.
- Key supplier
 - Vestas V90: 100 turbines á 3MW
 - Many contracts of different size

Volvo - Vattenfall PHEV Development

- a commercially based industrial investment

- Joint development of a Volvo Plug-in hybrid vehicle
 - first model to be launched end of 2011
 - further models to be added consecutively
- Technical set up:
 - combination of diesel engine and electric motor
 - battery enables 50km pure electric drive rechargeable from a standard socket
- Additional benefits:
 - joint communication activities
 - investigation of further business opportunities and battery technology
- Both owners invest in form of in-kind and monetary resources
 - in total SEK 2.4 billion
 - investment period up until 2012
- Pay-back based on
 - licence fee paid on each PHEV car sold
 - agreement valid up until 2020, when JV is dissolved
- Investment return
 - 10% IRR
 - based on 175,000 PHEV sold

Market build up with Vattenfall in the lead

Market development

Phase 1 (Demo phase) from today to ~2010

Focus on demonstrating electric vehicles and charging technologies , increasing awareness and appetite among likely early adopter segments

- Germany: Mini-E project in Berlin
- Sweden: Demo project in Gothenburg with Volvo PHEV

Phase 2 (Mobilization phase) in 2010-2013/2014

Would engage selection of early adopters, especially fleet operators

- Germany: Model region Hamburg & Berlin as development platform for E-mobility roll-out, supported by German 'Konjunkturpaket II'
- Sweden: Industrial mobilization on national level with the ambition to stimulate demand