

Community Power and Renewable Energy Storage in Denmark and in the EU

Community power og vedvarende energi lagring i Danmark og i EU

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The future Role and Challenges of Energy Storage in the EU

Fremtidige rolle og udfordringer for energilagring i EU

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The future Role and Challenges of Energy Storage in the EU

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European Union and Energy

Energy - a shared competence between Union and its Member States

Both MS and Union may legislate. Remember Subsidiarity

MS may legislate, as long as non-discriminatory

Interdependence between MS calls for Union solutions

European Commission's right to initiative



European Union and Energy = Energy union

Pool resources, connect networks and unite the EU's power when negotiating with non EU countries

Diversify energy sources – so Europe can quickly switch to other supply channels if the financial or political cost of importing becomes too high

Help EU countries become less dependent on energy imports

Reduce Europe's energy use by 27 or greater by 2030 – 30 %

Build on the EU's target of emitting at least 40% less greenhouse gases by 2030

Make the EU the world number one in renewable energy and lead the fight against global warming

Energy consumption scenario for the EU

Use of non-renewables energy sources (coal, oil) will decrease considerably as called for through COP21(Paris), to be replaced by biofuels and not at least electricity - based on renewables sources. Gas? Nuclear

Overall electricity consumption will increase (notwithstanding for example through energy efficiency measures on housing)

Due to increased use of digital home appliances and increased use of electricity-based transport solutions. However, this consumption increase will be covered by through renewable sources, in many cases private generating devices such as solar panels. Smart consumption !

Hence, need for an electricity upgrade in the EU!



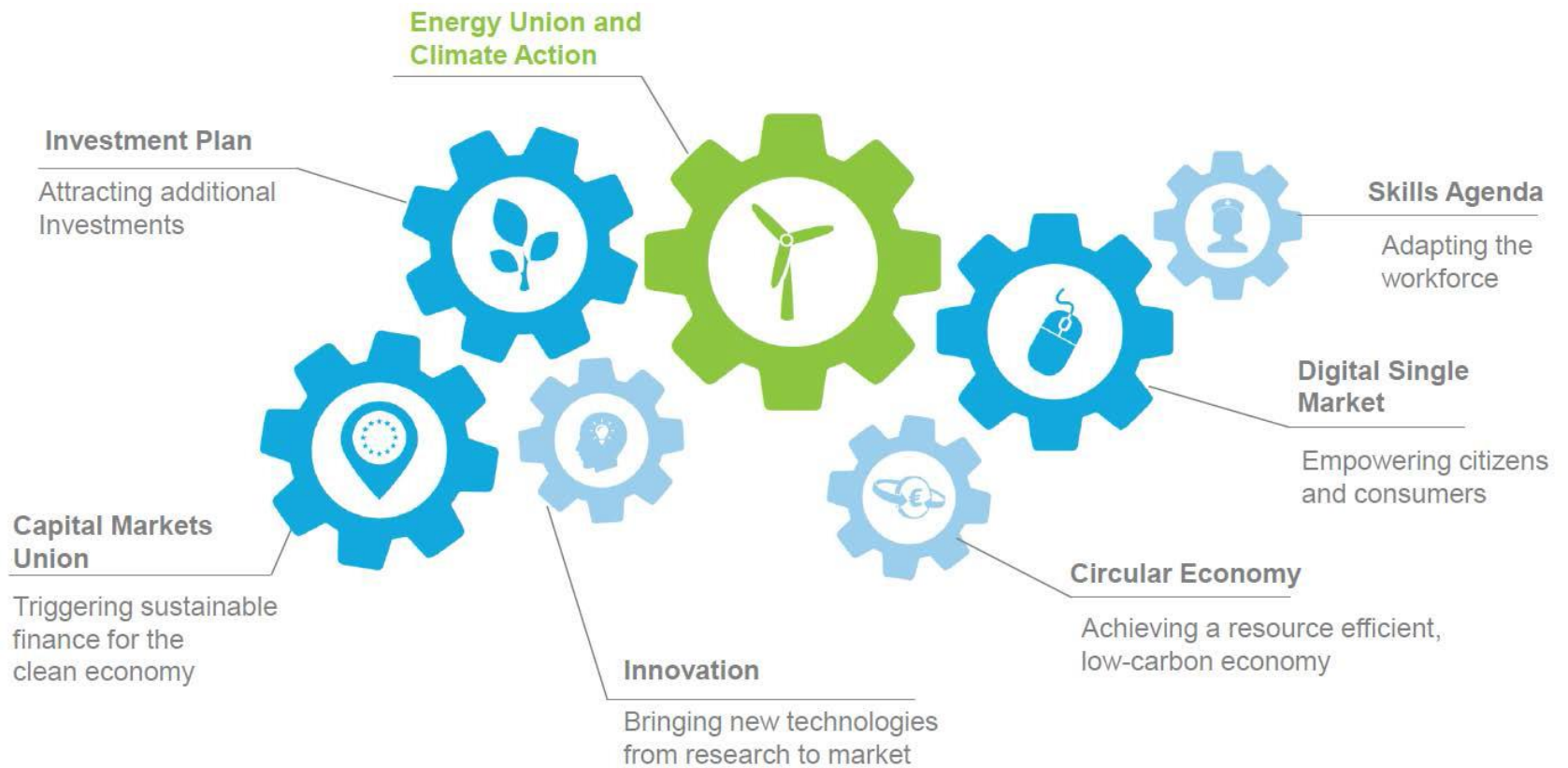
Winter package on electricity as of 30 November

Putting energy efficiency first! Energy efficiency in buildings as a source of energy savings

Achieving global leadership in renewable energies (27 % of energy from Renewables by 2030). Wind mills ! Solar panels ?

Providing a fair deal for consumers. Smart consumption, putting the consumer in electricity management position. Stimulating own electricity generation.

Investments (some € 379 Billion annually 2020- 2030). Long-term predictability to attract investments !



Energy storage

Energy Storage vs. Electricity Storage

As long as not turned into electricity, energy resources can be store indefinitely (gas and oil fields, dams...)

When energy turned into electricity, it needs to be consumed - unless...

Energy storage

Energy storage vs Renewable Energy

Renewable energy generates electricity, not other types of energy (except biofuels).

Renewable energy will generate electricity if natural conditions are right (sunny, windy)

Renewable electricity needs to be connected to a grid!



Energy storage

Energy storage vs Renewable Energy

Electricity directive definition:

“Energy storage means, in the electricity system, deferring an amount of the electricity that was generated to the moment of use, either as final energy or converted into another energy carrier. “

Consumers and business not willing to adapt consumption to the periods when renewables can generate electricity.

Hence, we need considerable ”bridging” solutions.

Leave the technical solutions to speakers after me...

What about COM's role in energy storage ?

Research: **finance research** (Horizon 2020), carry out certain research projects (Joint Research centres)

Any necessary **regulatory work** to the extent needed to ease use and stimulate a joint effort.

Investment Plan for Europe