



2010 – 2050: on the way to 100% renewables

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Vice-President Green/EFA in the EP
Rapporteur EU renewables directive, 2008
Rapporteur EU electricity market, 2003

We are on track to a full renewables energy society

- Renewables Energy directive
 - Forecast documents positive
 - National action plans in the drafting
- Energy Market directives (3rd package)
 - Mandate for regulators to include renewables
 - New EU bodies (ENTSO-E, ACER)
- Buildings directive
 - Near zero energy as a new concept for buildings

Next big dossiers

- Move EU -30% on GHG (-36% ETS)
- Blue print for the North Sea@Baltic Sea Supergrid
- Next financial perspectives (structural funds, more leverage for EIB&others)
- Quick Start Money under Copenhagen
- EU energy efficiency action plan
- EU 2030/2050 discussion

The 3 biggest actual traps

- EU 2050:
 - manipulation of scenarios
 - 2030 more important than 2050
- MEDA:
 - plan solaire&desert tech as a greenwash for cables for coal&nuclear
- Transport:
 - Secrecy around agrofuel sustainability
 - Electro-mobility hype

SHIFT HAPPENS

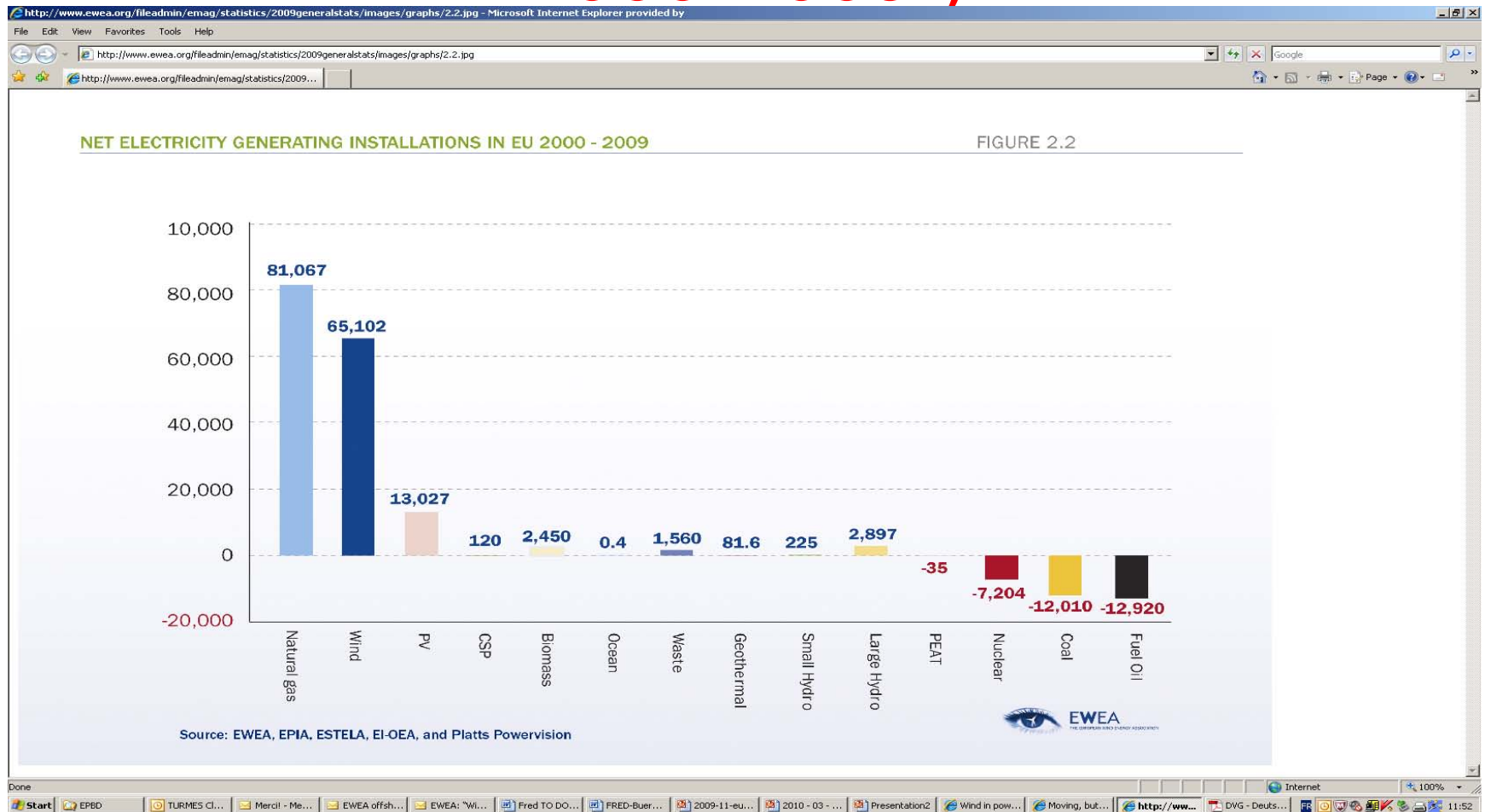
- Power sector
 - 2010-2025: coal/nuclear to renewables/gas
 - 2025-2040: full renewables system
- Heating&Cooling sector
 - 2010-2025: efficiency/efficiency/renewables
 - 2025-2040: oil&gas to renewables&green electricity
- Transport sector:
 - 2010-2025: new mobility concepts/optimising conventional engines/hybrid/demo electric
 - 2025-2040: full green electric cars/sustainable biofuel or green hydrogen ships/lorries/airplanes

Shift happens !

From coal/nuclear to renewables/gas

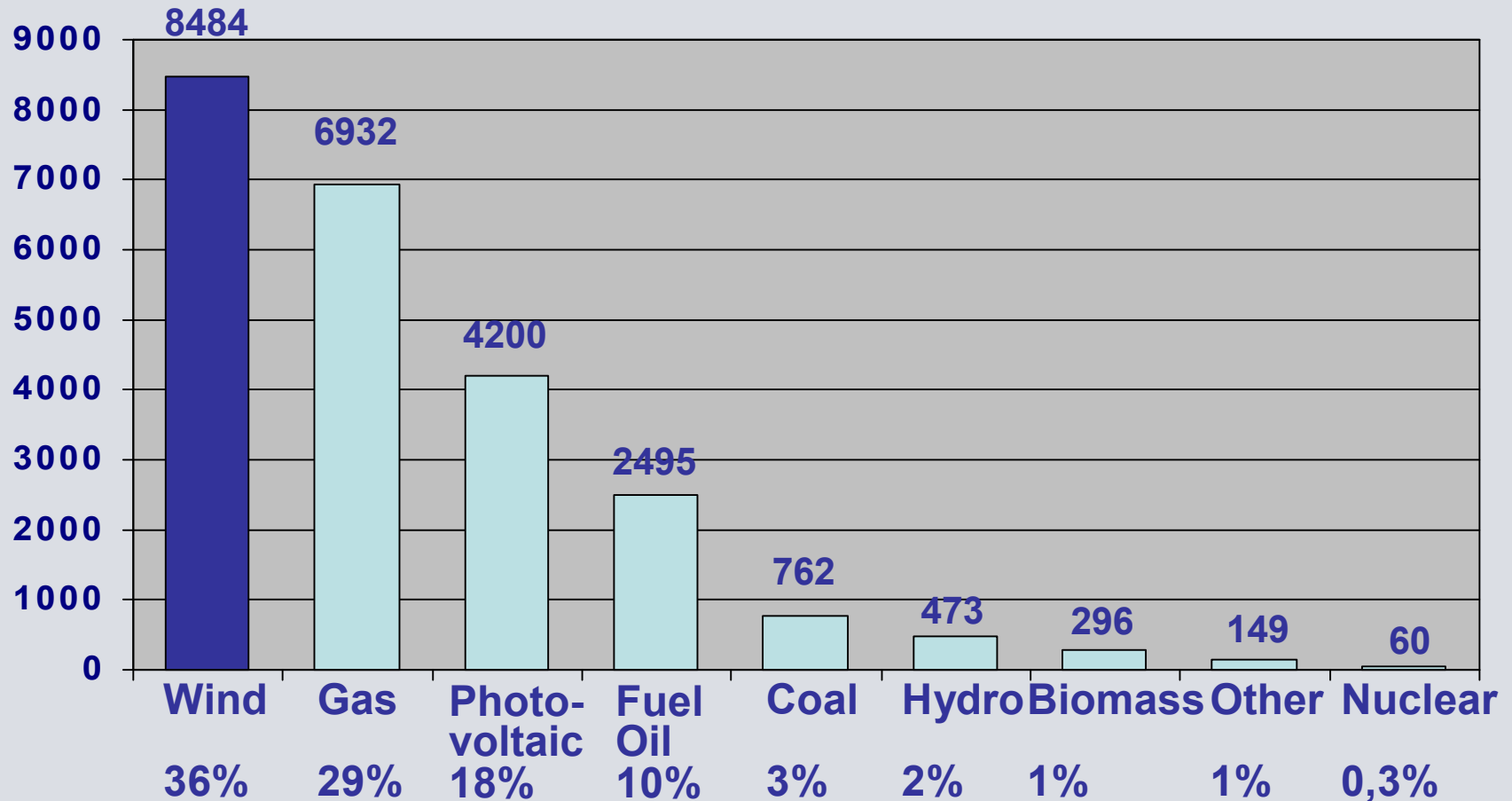
- The power investments of last 10 years
- The climate package and its consequences on EU power investments
- The next paradigmme: resource&energy (electricity) productivity and savings
- Grid development: new alliances
- Electro-mobility: a lot of questions still

Gas&renewables – a one night stand? (figure: powersector in EU 2000-2009)



Gas&renewables – a one night stand?

(figure: powersector in EU 2008)

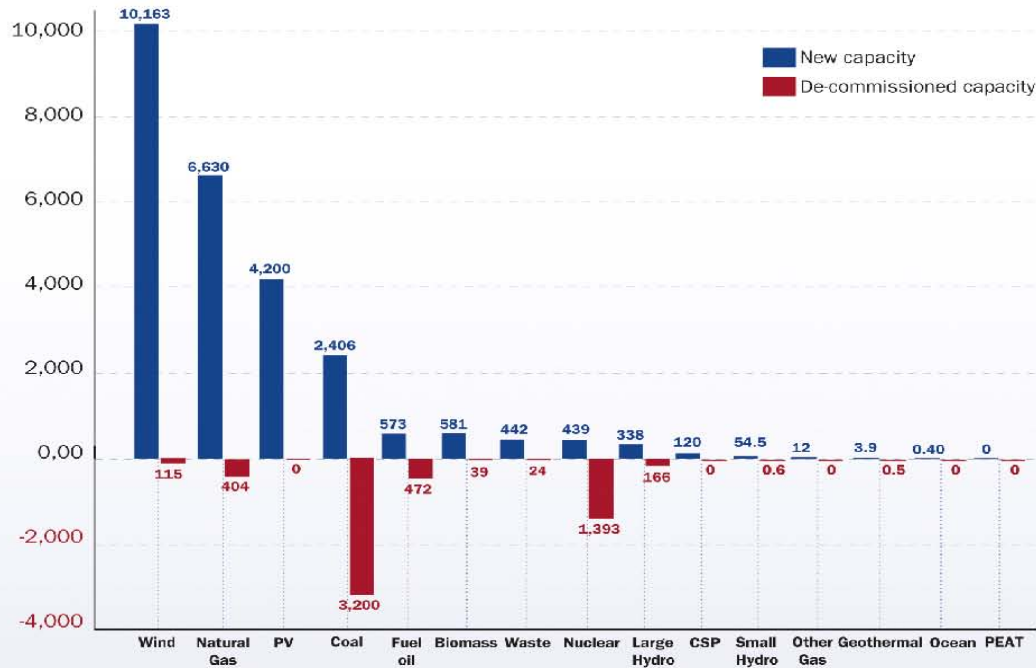


Note: Preliminary figures for solar photovoltaic installations
Source: EWEA, EPIA and Platts PowerVision

Gas&renewables – a one night stand? (figure: powersector in EU 2009)

NEW INSTALLED CAPACITY AND DE-COMMISSIONED CAPACITY IN EU 2009

FIGURE 1.2



Source: EWEA, EPIA, ESTELA, EI-OEA, and Platts Powervision



...or a 10 years love story!

EU Power sector 2000 – 2009:

- +85.000 MW gas
- +65.000 MW wind
- +13.000 MW solar
- 7.000 MW nuclear
- 12.000 MW coal
- 12.000 MW fuel oil

Why would gas&renewables love story end now?

- **“climate package EU 2020” (Dec 2008)**
 - 20% - 30% GHG
 - 20% raise in efficiency
 - **MINIMUM** 20% renewables
- **other energy legislation (2009)**
 - EU elec&gas market (ACER, new mandate regulators)
 - “near zero energy” buildings decision
 - Gas security of supply (on-going)

The new center: wind

- The center of gravity of the EU power system will shift away from coal/nuclear
- Thermo-electric will have to be more flexible and will have less running hours
- Storage, balancing and other grid services will be growing “business”
- New regulation might be needed in the power markets (capacity markets?)

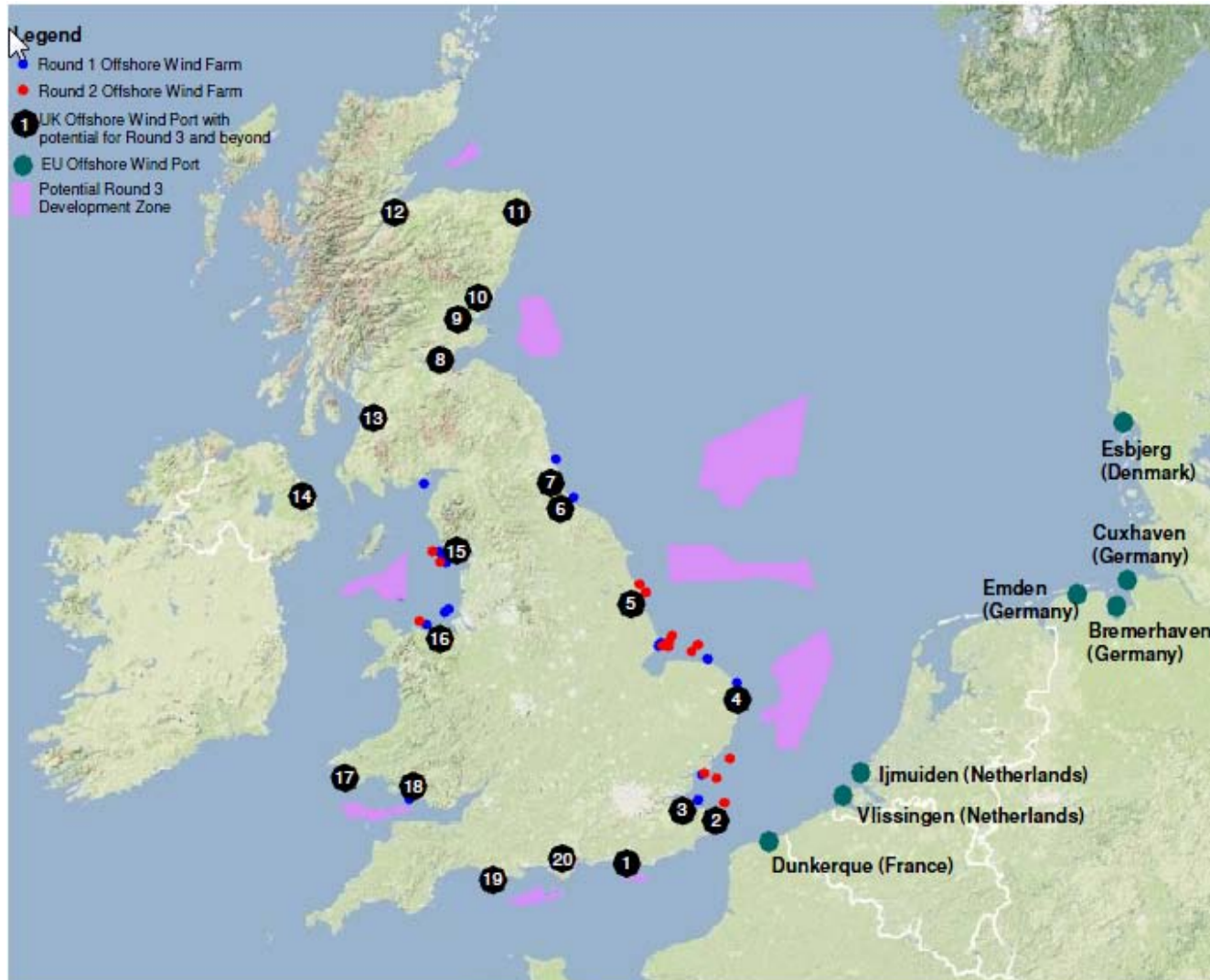
renewables&gas love story – no place for other lovers?

- Renewables progress between 2020 - 2030 is “normal” with
 - full supply chains up and running (off-shore wind, PV, Biomasse, CSP...) and
 - new actors (Munich, Zurich, Blackstone,...) entering the market
- Intermittency is manageable: new results from KEMA&Poyry studies
- Gas will beat coal & nuclear as a back-up

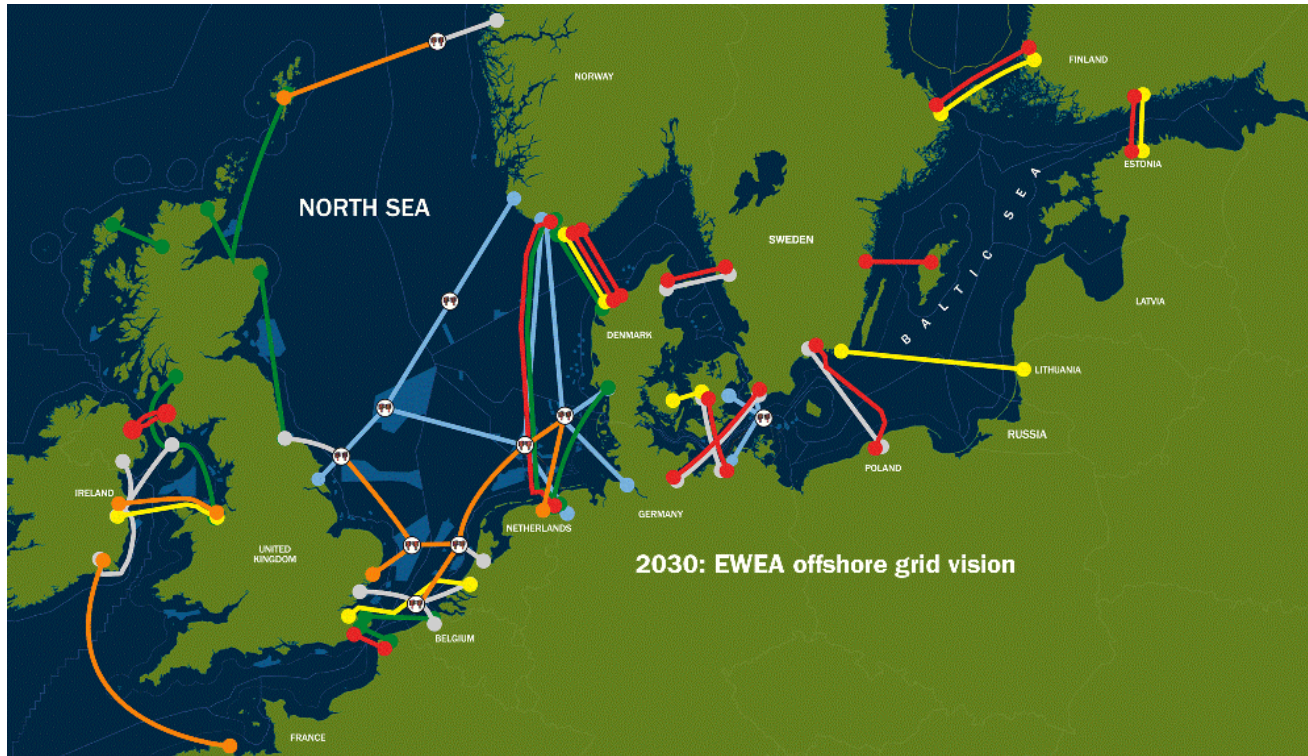
Bremerhaven, a success story



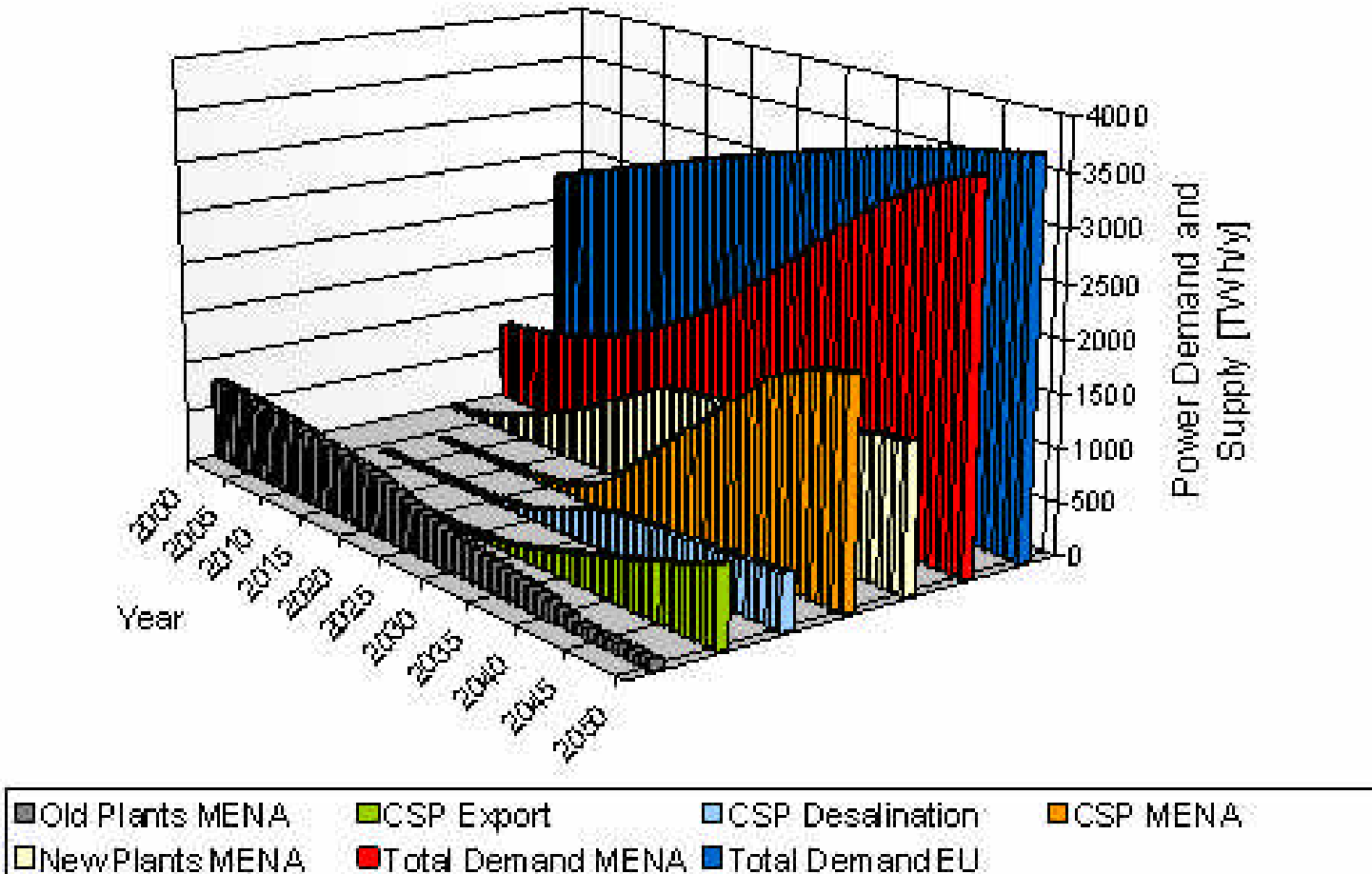
New Bremerhavens



EWEA's 20 year offshore network development plan



Scenario for CSP Interconnection between MENA and Europe



Source: DLR, 2009

The 100% renewables community

JOIN US TO BUILD UP THE

- 100% renewables buildings!
- 100% renewables cities!
- 100% renewables regions!
- 100% renewables companies!
- 100% renewables citizens!

Thank you for your attention!



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