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Investing in Biomass Power Plants: key features and challenges

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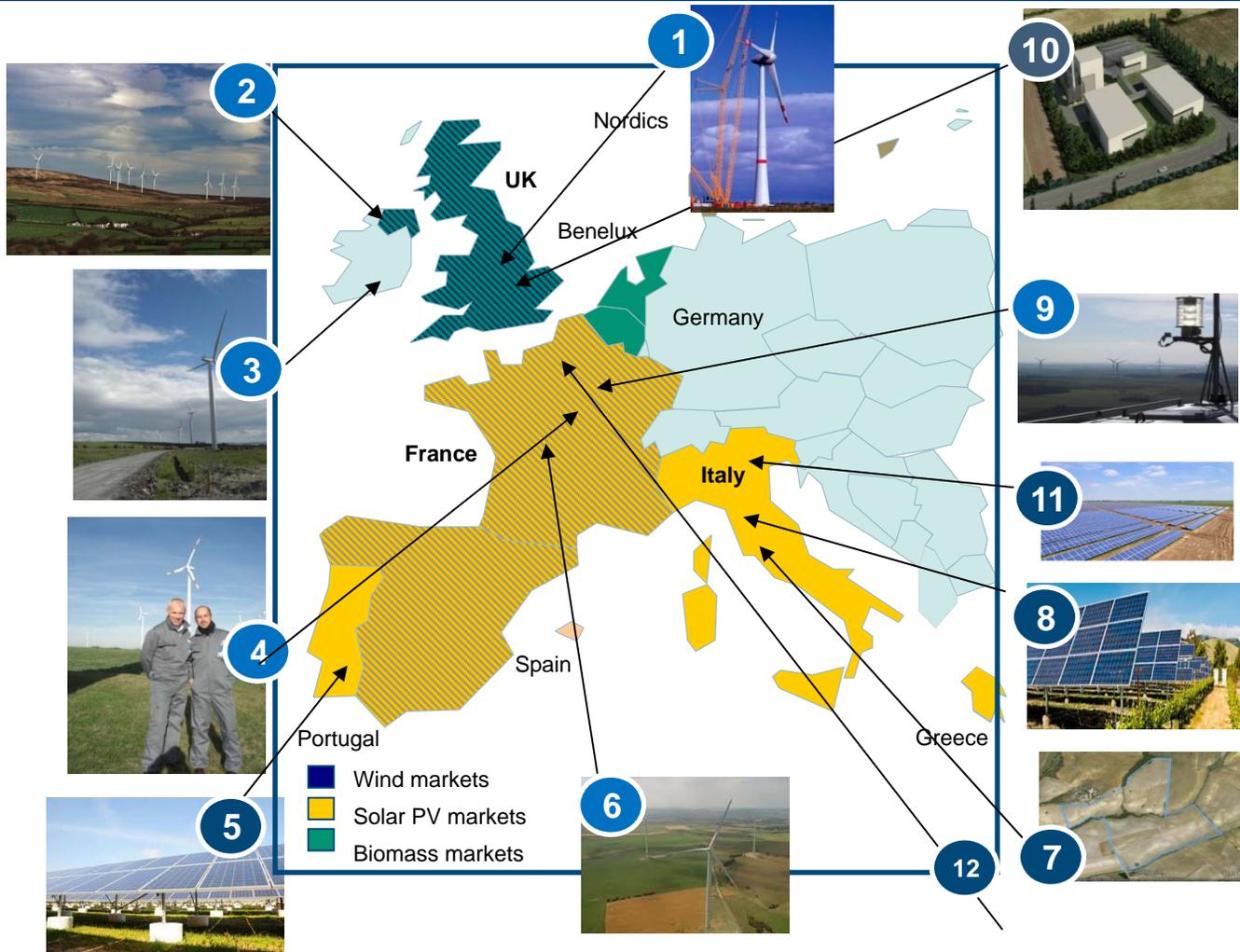
BNP Paribas Clean Energy Partners: the fund

- EUR 437m Equity Fund, fully focused on Renewables
- Management Company is part of BNP Paribas group
- Investment strategy:
 - Technologies: solar pv, on-shore wind, biomass, small hydro
 - Geographies: European Union
 - Risk profile: typically assets to be built or already operational
- Investments sourced through proprietary pipeline built around strategic partnerships with credible developers
- Team of investment professionals with over 50yrs combined experience in power sector, clean energy and fund management



Sizeable European Portfolio: in excess of 350 MW

Geographical Diversification



Technological Diversification

- **Biomass:**
 - 38 MW straw-fired power plant under construction. Sleaford - UK
- **Wind:**
 - 80 MW ops / under construction in France
 - 70 MW ops / under construction in the UK
 - 25 MW operational in Republic of Ireland
- **Solar PV:**
 - 80 MW operational in Italy
 - 20 MW under construction in Portugal
 - 60 MW operational in France



Why Biomass projects can be attractive for Investment Funds?

Main features which are attractive for an investor:

- stable and predictable long term Cash Flows
 - revenues underpinned by regulated tariffs
 - contracted cost base
- low volatility of returns: fuel is controllable (vs wind / solar)
- proven technology (ie combustion biomass)
- inflation link: quota systems (UK) / feed in tariffs (France / Italy), indexed to inflation
- cash yield: strong cash yield thanks to Base Load characteristic
- seen as alternative to typical fixed income products (ie government bonds)



Key Biomass-specific risks an investor needs to mitigate

Key challenges for an investor, which are biomass - specific:

- Fuel supply risk
 - quantity risk: availability of fuel in the long run depends on a series of variables beyond investor's control
 - Local / Country / European Agricultural Plans
 - Increasing demand for alternative use (ie furniture business for woodchips)
 - Logistics: biomass has to be (i) available and (ii) at the right place and time
 - price risk: potential squeeze of operational margin due to
 - weak correlation between Revenues (power price / ROC, FIT) vs Opex (straw, wood) price drivers
 - very fragmented / non fully commoditised fuel market
 - counterparty risk: sellers are mostly SMEs / private farmers
- Operational risk: operational complexity similar to a conventional power plant



“Bankability” of Biomass projects: challenging but possible

- In the past years a limited number of large scale biomass projects (> 10MW) have been financed in Europe
- Key show-stoppers for banks are:
 - Technology: track record and predictability of production
 - Fuel Supply: quantity / tenor / price and financial strengths of counterparties
- Regulatory uncertainties have not been helpful to the biomass cause..
- However, we think and we have proved that large scale biomass projects can be banked.
- Our approach:
 - Keep it simple: (i) technology, and (ii) biomass strategy
 - Fuel supply: in order to breach the gap of “credit rating” (fuel suppliers are by definition small and fragmented) we would focus more on (a) contractual structure and (b) “sustainability” of supply



Conclusions

- Biomass projects can be attractive for Investment Funds, but it is not for any investor: biomass-specific risks require sector-specific knowledge
- Strategic approach is crucial
 - Sizeable opportunities are limited: partnerships with developer is key
 - Projects take time to structure, build and finance: medium term commitment is needed
- Fuel Supply: the importance of focusing on its “sustainability”
 - Economical: long-term contracts with fix price component for managing risk of Opex squeezing EBITDA margin; pricing and guarantees to include right incentives for suppliers to stay committed in the long term
 - Politically: incentives to locally sourced biomass is more defensible in the long run than imported biomass
- Bankability: very limited number of projects have been financed in the past years; however
 - with the right risk mitigants it is possible to obtain non recourse long term project financing
 - we are seeing an increasing interest from traditional project finance lenders



Thank You!

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