FINANCING OPTIONS – OVERVIEW AND CHOICES AVAILABLE

EUROPEAN PARLIAMENT, BRUSSELS

ANGUS MCCCRONE

29 NOVEMBER 2011
CONTENTS

1. Clean energy investment trends

2. The staircase of prices and tariffs

3. Forecasts

4. Financing options
GLOBAL TOTAL NEW INVESTMENT IN CLEAN ENERGY
2004–10 ($BN)

Note: Includes corporate and government R&D, and small distributed capacity. Adjusted for re-invested equity. Does not include proceeds from acquisition transactions

Source: Bloomberg New Energy Finance
GLOBAL CLEAN ENERGY INVESTMENT TYPES AND FLOWS
2010 ($BN)

Note: SDC = small distributed capacity. Total values include estimates for undisclosed deals. Source: Bloomberg New Energy Finance
TOTAL NEW INVESTMENT IN CLEAN ENERGY BY REGION
2007–10 ($BN)

Note: Includes corporate and government R&D, and small distributed capacity. Adjusted for re-invested equity. Does not include proceeds from acquisition transactions.

Source: Bloomberg New Energy Finance
EUROPEAN UNION - ASSET FINANCE PLUS SMALL-SCALE PROJECTS 2007-10 ($BN)

Source: Bloomberg New Energy Finance
FINANCING OF NEW-BUILD UTILITY-SCALE ASSETS IN EUROPE: BY SECTOR, Q1 2004–Q3 2011 ($BN)

Source: Bloomberg New Energy Finance
AUTUMN STORMS

- Clean energy share prices fall 30% in first 10 months of 2011
- Solyndra, SpectraWatt, Evergreen Solar bankruptcies
- Spreads widen sharply on debt finance for wind and solar projects in Europe during the autumn
- Pressure on feed-in tariffs for PV
- Gas prices fall further, new shale gas discoveries
1. Clean energy investment trends

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WHICH IS GOING DOWN FASTER – PRICES OR TARIFFS?

Source: Wikimedia Commons
ITALIAN FEED-IN TARIFFS, 2010-16 (EUR/MWH)

Note: From 2013 the Fourth Conto Energia introduces a switch from the current “feed-in premium” system to a true feed-in tariff system.

Source: Bloomberg New Energy Finance
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LONGER-TERM: WORLD INSTALLED RENEWABLE POWER CAPACITY (GW) – IEA AND BNEF

Bar chart showing installed renewable power capacity by source and projection from 2009 to 2030 for IEA and BNEF.

- Biomass/WTE
- Wind
- Geothermal
- Solar
- Marine

Sources: International Energy Agency, Bloomberg New Energy Finance
INVESTMENT VOLUMES IN EU RENEWABLE ELECTRICITY SECTOR, 2011-2020 (EUR BN)

Note: Capex estimates include cost of project development, construction, equipment/materials.(O&M, cost of debt, other expenses excluded)

Source: Bloomberg New Energy Finance
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GLOBAL ASSET FINANCE OF CLEAN ENERGY BY TYPE, 2010 ($BN)

Source: Bloomberg New Energy Finance

Bond/other
Project finance
Balance sheet

Source: Bloomberg New Energy Finance
ENTRY AND EXIT TIMINGS FOR EQUITY INVESTORS WITH TARGET RISK-ADJUSTED RETURNS, %

Source: Bloomberg New Energy Finance
## DEVELOPMENT BANK FINANCING: 2007-2010, $M

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<td><strong>10,979</strong></td>
<td><strong>8,924</strong></td>
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Source: Bloomberg New Energy Finance
FINANCING MECHANISMS

- Development banks likely to remain important, and could become even more so

- Commercial bank project finance being restricted by euro area debt worries and Basel III, but Chinese banks have money

- Bond issues for projects: mixed fortunes – Breeze, SunPower

- Export credit agencies: important on big offshore wind, solar thermal projects – eg Thornton Bank, Acciona Termosolar

- Debt funds: a bank organises a fund to co-invest in projects, institutional investors put money into fund

- Green tax-efficient retail products

- Institutional refinancing of projects initially backed by banks
FINANCING OPTIONS – SPECIFIC IDEAS

• Development banks: strengthen capital and increase focus on RE
• Commercial banks: government shareholders could prioritise RE
• Debt funds, institutional refinancing: key role for insurers
• Institutional investors, eg pension funds: regulation on holdings
• Green tax-efficient retail products: introduce tax incentives
• Micro-generation: leasing products from banks or utilities
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FINANCING OPTIONS – OVERVIEW AND CHOICES

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