

## BIOMASS: EXECUTIVE SUMMARY

- ❑ Biomass (BM) is establishing itself as an important element in governments' renewable energy (RE) portfolios, with in most cases some type of support mechanism
- ❑ In some markets (UK, US ...) BM being viewed as viable/desirable for large-scale generating plants
- ❑ BM is more relevant for heating than power given relative conversion efficiencies
- ❑ While generally exhibiting lower LCOEs than other RE forms, and though positive scale effects associated with certain fuel types have not yet been fully exploited, BM has some long-term disadvantages:
  - Technology curves and intensity are significantly less steep
  - Proximity, security and price stability of feedstock is a critical element of project investment attractiveness
  - Controversy vis-à-vis sustainable/renewable "credentials" of some biomass sources (esp. in US)
- ❑ While less dynamic than in other cleantech sectors, biomass continues to see innovative emerging technologies; technology investments exist across most of the process spectrum
- ❑ Biomass is a relative heterogenous technology landscape – combustion, co-fired (biomass/coal), CHP/cogeneration, gasification vs. pyrolysis, energy-from-waste, anaerobic digestion (AD); traditional combustion technologies significantly more bankable
- ❑ The principal sector investment vehicles are developers / operators / projects, which often deploy in-house technology (resulting in higher equity:debt mixes than typical project financing)
- ❑ There is significant interest currently in multi-fuel based conversion processes/systems to reduce feedstock supply risk