

Assessment of energy technologies based on carbon price developments

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Abstract. The aim of the paper is to assess energy technologies in power and transport sectors. The main tasks are to develop the framework for comparative assessment of energy technologies based on future carbon prices imposed on economy by post-Kyoto climate change mitigation regimes. The assessment framework allows to compare power generation and transport technologies in terms of their environmental and economic impacts. The main indicators selected for technologies assessment are: private costs and external costs of GHG emissions. The ranking of energy technologies based on total social costs allows to identify the most perspective technologies in future taking into account international climate change mitigation constraints and to promote these technologies by policy tools. The main results presented in this paper were obtained during EU financed Framework 7 project "PLANETS" dealing with probabilistic long-term assessment of new energy technology scenarios.

Keywords. Energy technologies, comparative assessment, carbon price.