



ABATEMENT COST ANALYSIS FOR GREENHOUSE GAS EMISSION REDUCTIONS IN UKRAINE

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ABSTRACT

Cost analysis approach is the common instrument used in project planning and technological selection process. The standard approach for doing this on the project pre-implementation phase is development of classical feasibility study which provides typical benchmarks, such as IRR, NPV, simple and discounted payback periods, etc. However pre-feasibility study usually does not include the emission reduction trading component. In some cases this component could have a significant impact on resulting financial indicators of planned project and could even lead to suspension of implementation of planned technology due to large variety of options with different carbon emission reduction potentials and costs of emission reductions per output product. Abatement cost analysis may demonstrate not only the potential of emission reductions for each specified technology but also to show the expenditures (in \$/tCO₂) for such emission reductions. These figures could be used then by installation operators to assess whether their technology provides optimal emission reductions from the financial point of view. In other words, is 1 t CO₂ reduced by certain technology the cheapest among other options with the same output or not? Current work proposes quantitative analysis of emission reduction potential and emission reduction cost with respect to selected roster of available and some perspective (demonstrating-level) technologies for primary energy generation in Ukrainian conditions. Obtained results could be helpful for scientists, governmental bodies, investors and operators of installations to assess the place of definite technology among other options with respect to carbon emission reductions and expenditures for achieving of these reductions.

Keywords: greenhouse gases, emission reductions potential, cost of emission reductions, abatement cost