



Cyprus
University of
Technology

Faculty of Geotechnical
Sciences and
Environmental
Management

Master's Thesis

**EVALUATION OF THE COST – EFFECTIVENESS OF
POSSIBLE CLIMATE CHANGE MITIGATION POLICIES
AND MEASURES IN CYPRUS**

Chryso Sotiriou

Limassol, December 2017

CYPRUS UNIVERSITY OF TECHNOLOGY
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Approval Form

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The approval of the thesis by the Department of Environmental Science and Technology does not imply necessarily the approval by the Department of the views of the writer.

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ABSTRACT

The continuous increase in atmospheric GHG concentrations and its consequences, require the implementation of effective policies and measures for reducing GHG emissions. This study evaluates the effectiveness and efficiency of various climate change mitigation options applied in the residential, the commercial, the industry, the road transport and the agriculture sector in Cyprus. Those measures can be illustrated in a Marginal Abatement Cost (MAC) curve constructed for a specific point in time. MAC curves are a common way to indicate the GHG emission abatement potential and the related abatement costs in the various fields. They have been beneficial in the climate policy context due to the demonstration of the cost – effectiveness of different policies within and among sectors. The analysis was performed i) separately for emissions in the sectors of the Cypriot economy that are not subject to the EU Emissions Trading system (non-ETS sectors), by excluding electricity generation related emissions; and ii) for the total emissions of both non-ETS and ETS sectors. Two MAC curves were thus constructed for the year 2030. The results show that 42.48 kt CO_{2-eq} of the non – ETS emissions can be cut for the year 2030. That corresponds to a reduction of 1.12% of the non – ETS GHG projected emissions of 2030. As regards total GHG emissions, the implementation of all measures can yield a decrease of total 2030 GHG emissions by 953 kt CO_{2-eq}, an amount that corresponds to a 12.07% reduction of the projected 2030 emissions.

Keywords: Marginal abatement cost curve; Cyprus; Climate change mitigation; Sectoral policies and measures; Cost – effectiveness