

# UNDERSTANDING CGES USED FOR ENVIRONMENTAL POLICY ANALYSIS

EAERE-FEEM-VIU Summer School

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## LECTURE 1: *Opening the CGE black box; Searching for a triple dividend in South Africa*

This lecture will present to the participants some tools that allow a more systematic assessment of environmental policies by use of CGE models. First the lecture shows how scenarios can be understood as vectors in policy-space, and how this vector representation simplifies the comparison of (combinations of) policies. Second the lecture encourages the use of formal analysis to understand and explain the results of large-scale numerical CGE models. Part of the lecture draws on the experience of the lecturer as co-author of a paper on triple dividends in South Africa (van Heerden *et al.* 2006, *The Energy Journal* 27: 113).

## LECTURE 2: *Endogenous Technological Change in CGEs; carbon leakage*

The implications of technological change for efficient environmental policies may become a major topic in the CGE literature for the coming years. First the lecture presents some constructive suggestions to represent technological change (TC) in a simple way in a static CGE model. Second the lecture links the CGE analysis of carbon leakage to its formal analysis, and specifically the lecture uses a meta-analysis to compare formal results from different stylized models with numerical results from GTAP-E. Third the lecture illustrates the relevance of technological change through numerical calculations for the effect of (TC) on carbon leakage.