

**DAY 3 – SOCIAL SUSTAINABILITY**Date: 10th November**10:00 The Economy Module****Inaki Arto**

In this module, WILLIAM's detailed analysis involves around 50 economic sectors, exploring complex interconnections, including energy, climate change, and financial aspects. The model calculates final energy demand, evaluates various technology scenarios, and integrates financial variables, providing a comprehensive understanding of economic and energy systems' constraints.

Inaki Arto works at the Basque Centre for Climate Change where he holds a position of Research Professor and lead the research group "Assessment Methods and Tools". His main area of expertise is Energy-Environmental-Economic modelling, including Integrated Assessment, Computable General Equilibrium, Dynamic Econometric Input-Output and Multi-Regional Input-Output models. My research activity is mainly focused on the analysis of the economic, environmental and technological implications of climate change and the transition towards a low-carbon society in a globalized world.

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11:00 The Social and Demographic Module**Robert Oakes, Guilherme Spinato Morlin**

The module emphasizes the need for considering demographic factors such as population size, health, education, and migration in understanding the interactions between economy, society, and the environment. By incorporating these elements, the WILLIAM module aims to humanize IAMs, highlighting the interconnectedness of people, economy, and environment in the face of climate change and energy transition challenges.

Dr. Robert Oakes works in the Environment and Migration: Interactions and Choices (EMIC) Division of United Nation University. He researches the reasons for, and outcomes of mobility including evacuation, displacement, voluntary migration, planned relocation in addition to those who are unwilling, or unable to move.

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Guilherme Spinato Morlin is a researcher at University of Pisa. His research concerns Macroeconomics, Open Economy macroeconomics, Post-Keynesian Macroeconomics, Conflict Inflation. More specifically current publications focus on Inflation and conflicting claims in the open economy, Growth and debt stability in a supermultiplier model with public expenditures and foreign trade.

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12:00 BREAK**12:10 Lab Models Practice**

The lab emphasizes integrating socio-economic analysis with environmental and resource modules to explore their collective impact. Instructors introduce a basic socio-economic model in Vensim, guiding students to identify crucial parameters and structural changes for enhancing both economic and environmental outcomes.