

Topic: Advances in linking models in order to address impacts across scales or sectors

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Wanting it all - is a stakeholders' Vision for Europe compatible with meeting Europe's food demand under climate change?

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Responding to climate change requires a desirable endpoint or vision against which to plan adaptation and mitigation and to determine 'success'. Climate change impact, adaptation and vulnerability (CCIAV) models are useful tools to assess the consequences of adaptation in reducing the potential impacts of climate change. However, to date most CCIAV studies have had two significant limitations - (1) the lack of a clearly defined Vision and (2) a lack of contextualisation of adaptation according to the constraints (and opportunities) of alternative socio-economic futures. This paper describes how a European integrated assessment platform (the IMPRESSIONS integrated assessment platform or IAP), downscaled European Shared Socio-economic Pathways (Euro-SSPs) and a structured stakeholder engagement process of adaptation planning and Visioning have been brought together to provide a rich understanding of the adaptation challenges facing Europe. A scenario-neutral multi-dimensional Vision for Europe in 2100 (encapsulating such factors as equity, lifestyle, governance, resilience, environment, food, water and energy) was derived by stakeholders, who then developed preliminary adaptation, mitigation and transformational pathways to achieve the Vision within the context of the individual Euro-SSPs. The multi-sectoral IMPRESSIONS IAP was then used to assess the ability of the pathways to achieve selected indicators of the Vision. The results demonstrate the very different challenges and opportunities for Europe over the coming century posed by the Euro-SSPs and the synergies and trade-offs between meeting Europe's food demand under climate change and other desirable aspects of the Vision.