

---

## PA41A-03: Mixed methods for the analysis of risks in low-carbon futures for the Canadian Oil Sands

---

Thursday, 13 December 2018

08:30 - 08:40

📍 *Marriott Marquis - Marquis 3-4*

A successful development of low-carbon pathways in the Canadian Oil Sands requires both the integration of the needs and interests of the communities most vulnerable to the impact of resulting changes as well as input from classic modelling tools. This study explored the integration of stakeholder consultations and outputs from economy, environment and energy system models (GCAM and E3ME) for three different low-carbon transition pathways. Specifically, the synergies and contrasts between the human perspective and the quantitative predictions were studied. These pathways were based on current provincial policies for Alberta, Traditional Environmental knowledge (TEK), and the Canadian Nationally Determined Contribution (NDC). The results of this study indicate that the three pathways could be successful in reducing carbon emissions. However, this reduction may not be enough to meet the NDC goals if the social priorities, such as economic and environmental security, are not considered during the policy development stage. Social acceptance and unfavourable policy frameworks were identified as relevant risks to meet the sustainability goals. Global climate action is expected to negatively impact the oil sands sector and the Canadian economy, increasing the risks of rejection of low-carbon policies in Canada. Nevertheless, economic contraction is expected to be accentuated if Canada takes no action on climate change. Regional analysis from model outputs showed that the future of Canadian climate goals and economic development is highly impacted by foreign actions, stressing the need for innovations in the development of natural resources to decrease exposure to foreign market decisions. These findings point to the need for low-carbon policy development based on factors relatable to the local communities and supported by evidence based from model outputs based and stakeholder knowledge.

### Authors

[Luis D. Virla](#)

*University of Sussex*

[Jenny Lieu](#)

*University of Sussex*

[Dirk-Jan van de Ven](#)

*Basque Center for Climate Change (BC3)*

[Alistair Smith](#)

*Cambridge Econometrics*

[Find Similar](#)

### View Related Events

Day: [Thursday, 13 December 2018](#)