15th International Sustainability Transitions Conference

16th to 19th of June 2024

University of Oslo

Sustainability Transitions and Nature

Exploring the emerging complexities and paradoxes at the nexus between sustainability transitions and nature

The IST conference is the central event of the international transitions research community and is organized annually by different partners on behalf of the Sustainability Transitions Research Network (STRN). STRN comprises more than 1500 international researchers from various disciplines and produces more than 500 publications in specialist journals every year. The research network and the annual conference address the question of how sustainability transitions can be understood, how they can succeed, and how they can be governed without unjust consequences.

Conference theme 2024

The theme of the 15th IST conference is 'Sustainability transitions and nature'. Sustainability transition research investigates social and technical change processes in solving environmental problems including possible social injustices, tensions, and dilemmas associated with these. The focus on the 'social' and the 'technical' often externalize the natural world treating it instead as part of the 'landscape' of transitions. Nature—broadly understood as the biophysical environment—thus remains an often overlooked but important dimension in the STRN research agenda.

The point of departure for sustainability transitions research is that existing production-consumption systems are environmentally unsustainable and need to transform. As such sustainability transitions therefore aim to preserve the natural environment in its current Holocene state. This simplistic understanding of the relationships between sustainability transitions and nature is increasingly becoming inadequate for understanding transition dynamics.

One reason for this is that nature is transforming. Despite past sustainability transition efforts, environmental degradation and GHG emissions have continued to grow. Consequently, climate change is upon us and several planetary boundaries have already been crossed. Our natural environment is transforming at unknown speed and scope due to obscure tipping points and complex, irreversible outcomes. Changes currently manifest in heat waves and extreme weather, poor harvests, species mass extinction, etc. and are increasingly impacting various sociotechnical systems such as food, transport, and energy.

As climate change impacts are expected to grow in force in the coming years, it is timely for sustainability transition scholarship to engage more with questions of climate change adaptation and the resilience of sociotechnical systems to climate change. Indeed, there are several indications that adaptation can be transformative to sociotechnical systems and that disagreements and tensions between social groups over when and how to adapt are prevalent, often leaving the most vulnerable

exposed. Another recent issue is that climate change is impacting the risk assessments and valuation tools of finance and insurance sectors leading them to increase premiums and interest rates. How this unfolds and influences investments and sustainability transitions is not well understood. The intersection between climate change mitigation and adaptation strategies and policies similarly seems a topic ripe for transition scholars, e.g., are our net-zero emissions plans resilient to rapidly worsening climate change? Also, more attention is needed for the technological and social innovations involved in adaptation responses and in particular the role of nature-based solutions that could contribute to both resilience and mitigation.

Another new aspect of the relationship between sustainability transitions and nature is that the growing scale, scope, and speed of sustainability transitions is, paradoxically, starting to have negative consequences for nature. For instance, low-carbon technologies tend to be land and material intensive. Their widespread deployment thus demands massive changes in land use with often unintended consequences to landscapes and livelihoods, which, in turn, lead to local resistance and controversies. Similarly, rapid growth in the production of low-carbon technologies drives expansion of mining of "transition minerals" which often has negative environmental impacts locally such as disruption of local eco-systems and wildlife habitats.

The growing land-use and mineral needs of global low-carbon transitions clearly illustrate how sustainability transitions are now increasingly influencing nature, and it draws attention to less explored topics such as responsible diffusion and scaling of innovations, circular economy transitions, and even "degrowth" that promise to ease the material footprint of sustainability transitions. The growing importance of transition minerals furthermore brings security policy into the frame because controlling them is critical for countries' energy security and thus autonomy. In addition, the associated growth in mining sectors promises a new window of opportunity for economic development in natural resource-rich countries in the Global South but is also leading to regionalization of low-carbon technology value chains (e.g., new mining in Europe and the US). Lastly, limited progress in GHG mitigation efforts fuels interest in transforming nature through various forms of geoengineering such as carbon dioxide removal and spraying reflective aerosols into the atmosphere. These issues require more attention from transition scholars.

Such initial observations on the changing relationships between sustainability transitions and nature are far from exhaustive but they are sufficient to call for more attention to the general theme. The 15th edition of IST therefore seeks to direct attention to the novel complexities, paradoxes and opportunities related to the diverse relationships between sustainability transitions and nature.