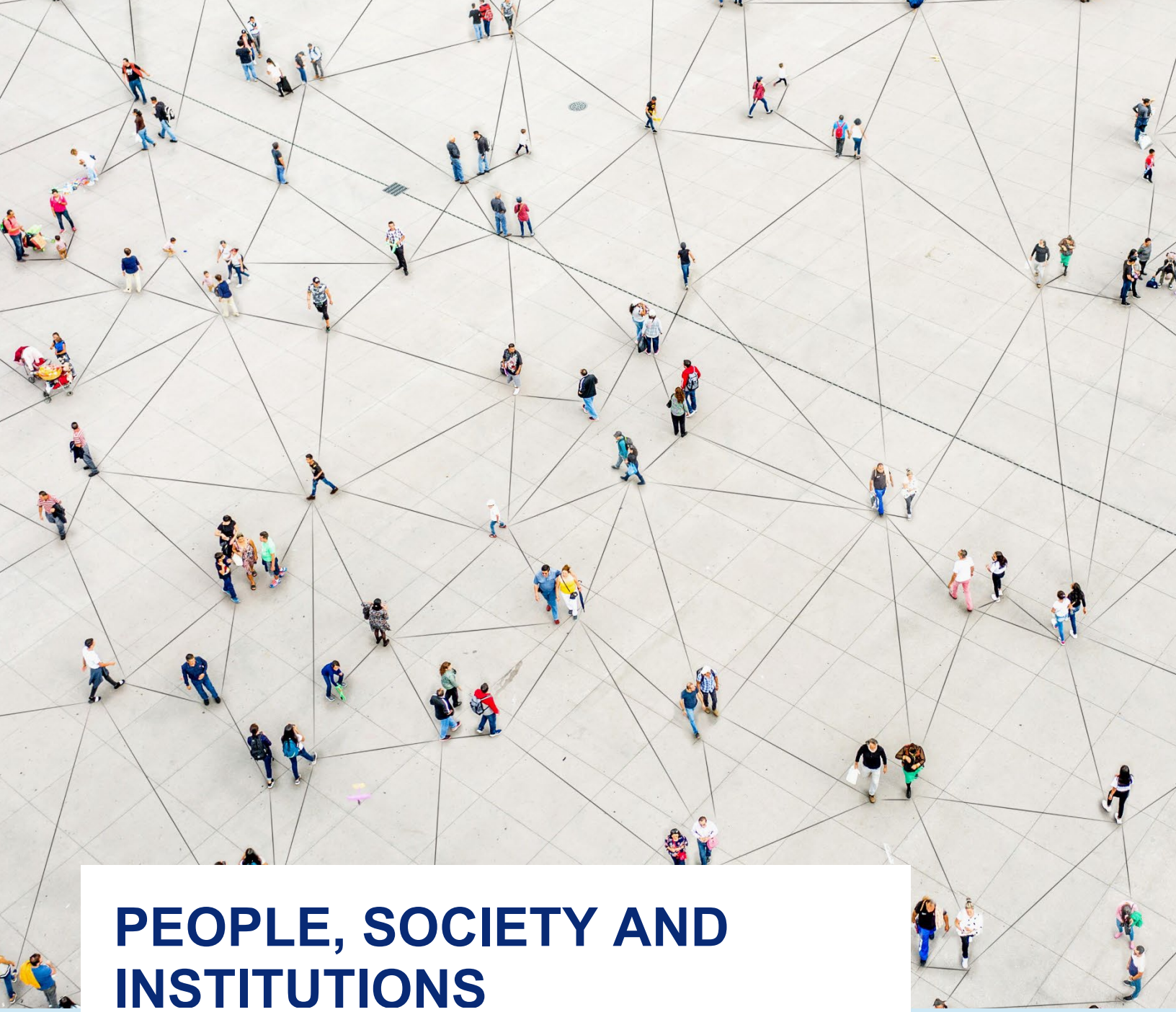

PEOPLE, SOCIETY AND INSTITUTIONS

Chaired by Peter Hansford
Deakin University

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SESSION # 1
ROOM 434A

ERICA
ENERGY RESEARCH INSTITUTES COUNCIL FOR AUSTRALIA

First Nations and Clean Energy: barriers, opportunities and actions to increase First Nations jobs in Clean Energy

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Increasing the involvement of First Nations people in clean energy is an essential element of a 'just transition' in the Australian context. Increasing employment and training for First Nations can be an importance source of benefits and source of labour supply for the clean energy sector in the context of skill shortages. The Institute for Sustainable Futures is currently undertaking research into the barriers, opportunities and actions to increase First Nations employment and training in clean through a combination of desktop research, interviews and stakeholder engagement in a Renewable Energy Zone, remote area and industrial area in transition (Gladstone). The research is currently mid-course but our paper would present findings from the research, focusing especially on actions to increase employment and training outcomes.

Emergent opportunities and barriers on the feasibility of microgrids in Australia

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Climate change is having widespread impacts worldwide, with rural and remote regions particularly at risk from the worst effects. In Australia, communities in these areas are responding by seeking to ensure a more resilient, reliable, affordable, and cleaner energy supply amidst this changing climate. Microgrids are increasingly being deployed around the world to provide these outcomes, but their application remains limited in most markets. In 2019, the Australian government announced a 5-year $AUD50 million funding program to accelerate microgrid activity for rural and remote communities called the Regional and Remote Communities Reliability Fund - Microgrids (RRCRF). This presentation will present empirical findings from qualitative research with project participants from these microgrid feasibility studies. The aim was to better understand the major drivers, community engagement strategies, and barriers encountered. Australia appears to face barriers that are not prominent in the literature, specifically complex legal issues around land ownership, patchy communication networks, and workforce availability in regional and remote areas. The findings can support increased microgrid deployment in Australia and overseas while helping inform future associated policies and programs to benefit those living and working in rural and remote communities.

Visibility, meaning and power imbalances in a VPP pilot

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Increasing household solar in Australia is creating risks for electricity networks, as well as purported opportunities for consumer energy resources (CER) to "participate" in energy markets. This presentation provides results from the social research conducted for Project Symphony, a large-scale pilot Virtual Power Plant (VPP) where participants household solar, air conditioners, home batteries and hot water systems were operated on the Wholesale Electricity Market (WEM) in Perth, Western Australia. Project Symphony was a technically complex and ambitious undertaking to determine the value of operating CER on the WEM for customers, the aggregator, distribution system operator and the market operator.

The social research determined the value proposition for participants and captured their responses to the operations of Project Symphony using a multi-method, longitudinal approach. Data was collected through in-depth interviews, surveys, and focus groups with participants, before and during the pilot.

Participants were informed early in the pilot that their CER would be orchestrated, but they had no understanding of what this meant. Participant responses showed that they were surprised and somewhat confused when orchestration tests were underway. Orchestration was at times disruptive to daily routines and household energy management, particularly when participants household solar was being constrained, requiring the import of electricity from the grid. There was also limited visibility or awareness for participants about how their CER was being orchestrated on the WEM. Communicating the full range and timing of orchestration was a challenge for the organisations involved due to the complexity of the scenarios tested.

For participants with a subsided home battery system, they had certain expectations and understandings about what the project was when deciding to be involved. This included cost reductions, self-consumption of solar, energy arbitrage and having battery back-up in the event of a power outage. Through the pilot, participants expectations were not always met. For example, when household solar was constrained in the middle of a sunny day, thus requiring the import of electricity from the grid. This was in tension with participants expectations and for some, their environmental motives to participate in the pilot. Battery storage was also being exported to the grid and charged from the grid, at seemingly odd times at night to coincide with pricing events on the WEM, which were not visible to participants. These actions were perplexing to participants and led them to become dissatisfied with the pilot.

The findings of our research illustrate the power imbalance that emerged when participants did not have visibility, understanding of, or influence in the operation of orchestration across intangible networks and markets. Our research found that the lack of information and visibility about orchestration created confusion for participants who questioned the logic, value and meaning of the pilot project. The research has significance for future VPP and demand response programs to ensure that participants needs and motivations, are considered alongside the impetus for grid support and participation in energy markets from proponents.

Accelerating a just transition? Human rights due diligence as a tool to ensure a social licence to operate for wind and solar projects in Western Australia

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The deployment of wind and solar energy in Western Australia (WA) is integral to driving the energy transition. However, the need to accelerate the energy transition can mean that consultation processes with communities whose human rights could be impacted by land acquisition may be bypassed or not carried out effectively, resulting in failure by companies to secure a social licence to operate. Projects in other jurisdictions have been developed without companies securing a social licence to operate through meaningful consultation or obtaining the free, prior and informed consent (FPIC) of Indigenous peoples. As a result, several of these projects have been suspended, subject to litigation and faced significant criticism – decelerating the energy transition.

Failure to secure a social licence to operate is more likely to occur where companies do not have human rights or social risk policies and procedures in place. In this regard, international legal norms set out key expectations for business to respect human rights which can help to ensure that companies secure and retain a social licence to operate.

The UN Guiding Principles on Business and Human Rights (UNGPs) are the globally endorsed standard on responsible business conduct and expect companies to implement a human rights due diligence process (HRDD) to 'identify, prevent, mitigate and account' for how they address impacts on people – and meaningful engage with potentially affected stakeholders as part of HRDD. Many Australian mining companies – and companies in other sectors – conduct HRDD to meet these standards and respond to investor expectations on ESG.

However, it is much less clear the extent to which companies involved in WA wind and solar projects are implementing HRDD while also pushing to meet ambitious renewable energy targets. This presentation will shed light on this through sharing qualitative data findings and arguing that HRDD can be a vital tool to ensure the energy transition accelerates in a way that is fast, but also fair.

Methodology

I have used qualitative indicators from the Corporate Human Rights Benchmark (CHRB) to assess the publicly available human rights-related policies and processes of 10 companies involved in WA wind and solar projects and provide quantitative scoring of their approaches. The companies were selected based on involvement in large-scale projects such as the Western Green Energy Hub. The CHRB is developed by the World Benchmarking Alliance to provide comparative data on company human rights approaches. I draw on just transition theories to argue for meaningful engagement of stakeholders in HRDD. A just transition requires ensuring the shift to renewable energy does not come at the expense of workers or communities.

Findings

A limited number of companies assessed conduct basic HRDD, have internal human rights expertise or a clear grievance mechanism for affected communities. Some identified companies engage with potentially affected groups, including Indigenous communities, but this is often not aligned with international standards including FPIC principles. This is a potential barrier to a just transition and indicates that social licences to operate may be unlikely to be obtained or maintained.

Warm and safe? An exploration of householder practices and perceptions of heating in Victoria

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Accelerating the energy transition requires a comprehensive strategy considering public attitudes toward current and future energy technologies and the imperative of achieving a fair transition. Heating is essential for maintaining comfortable and healthy home environments in cold climates. In Victoria, the location of this study, heating costs can account for up to one-third of annual energy bills. Gas ducted heating, electric heaters, wood heaters and reverse cycle air conditioning systems are commonly used heating systems. Householder practices, such as the thermostat settings, regular cleaning of filters and system servicing, are key to efficient and safe heating. However, there is little understanding of how households use and maintain their heating systems and why.

This presentation presents the energy carrier attitudes, as well as heating patterns, practices and perceptions of forty-eight Victorian households with gas heating during winter. The work draws on a mixed-methods study that combined monitoring energy use and indoor temperatures with semi-structured householder interviews and field observations in Melbourne during winter 2023. The households were categorised based on their dwelling type, number of occupants, level of income, and cultural and linguistic diversity. We aim to highlight how households in Victoria approach energy and heating in a way that not only underscores the technical and environmental aspects but also the social dynamics and how they are shaped by the affordability and safety of energy services and energy vulnerabilities.

The study revealed four householder archetypes in residential energy carrier attitude: 1. Entrenched in gas; 2. Energy agnostic; 3. Moving to an all-electric home for economic reasons; and 4. Moving to an all-electric home for multiple benefits. The findings also demonstrate the diversity of heating routines (incl. heating times, temperature settings, achieved temperatures, and non-energy-using heating mechanisms) and maintenance regimes. Some households were compromising on warmth due to cost concerns. Warmth was perceived to be most important for children and older people. Few householders were regularly servicing their heating systems. Factors that influenced the frequency of heating system servicing included the age of the system, understanding of the technologies, cost and availability of professional services. Perceptions of safety were associated with heating outlet design and the location of the appliance.

These findings suggest that many households are proactively reducing their gas heating consumption. Further, some households are considering shifting from their current gas-ducted heating to an electric split air conditioning system. This may impact future energy usage projections. These changes in practices may signal a transition towards the electrification of domestic energy services and/or result in elevated electricity usage in the near future. Furthermore, the study highlights a need for targeted education around efficient heating usage and encouraging householders to prioritise regular heating system maintenance to ensure their homes are warm and safe. Overall, the findings underscore the significance of understanding how and why householders use energy to foster an inclusive housing energy transition that benefits both the environment and society.