

Submission to AEMO Draft Integrated System Plan 2024

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Introduction

The Draft ISP clearly identifies that “Community acceptance or social licence is needed for new infrastructure development, for the ‘orchestration’ of consumer-owned energy resources, and for national investment in the energy transition itself” (Draft ISP 2024 p.16). As a researcher who has been working at the cutting edge of understanding user engagement with these three closely interconnected dimensions of the transition, I applaud the AEMO’s recognition that the social and public engagement challenges of the transition can no longer simply be an afterthought to technical design questions. Energy users/prosumers/consumers/citizens¹ must be partners in the design, rollout and operation of a renewable energy system, especially given the enormous role for CER in the future.

This submission addresses the question of *evidence* as it relates to social licence, especially around ‘orchestrated’ CER.

This submission is informed by extensive national and international research work initiated in 2019 by Dr Kuch and partners through the International Energy Agency’s User-Centred Energy Systems Technology Collaboration on *The Social License to Automate*. The link to a summary for policymakers of our final report is appended to this submission and I would welcome the opportunity to engage with AEMO further on the question of a social licence, especially as it relates to CER integration. Subsequent work is underway examining the role of ‘middle actors’, including installers in establishing and determining a social license to automate CER.

Social License questions

Do you have advice about how social licence can be further considered in the ISP, or advice on how to quantify the potential impact of social licence through social licence sensitivity analysis?

¹ These concepts capture something of the different modes that people experience the transition through but are all inadequate in different ways

Section A8.2.1 of the draft ISP notes that “...low social licence refers to a future state where there is low social acceptance of large-scale energy infrastructure development within a region, to the degree that a development cannot progress, is delayed, or requires considerable change to meet community expectations. There is already strong social acceptance and uptake by energy consumers across the country in rooftop solar systems, where it is affordable and possible, and uptake of EVs, battery storage systems and other home energy management solutions is increasing” (p.16)

The uptake of rooftop solar is certainly strong across Australia, however what this statement glosses is the diverse *motivations* Australians have for purchasing solar. These motivations vary by culture, norms and values and often cluster in place. For example, several studies highlight the conservative, even libertarian, motivations of many Queensland solar owners - they view the energy industry monolithically as running against their interests (eg. Bondio et al, 2018; Snow et al, 2022). However, survey data from the Energy Consumers Australia’s Behavioural datasets shows us that this motivation is less prevalent in many other parts of the country. We can thus understand solar ‘acceptance and uptake’ not through a singular lens of acceptance/rejection but through multiple justifications (Kuch, Morgan 2015). Justifications are socially negotiated through groups, not simply transacted through markets.

The Consumer Panel of some 4 representatives with experience across government, the charity and private sectors note that customers are motivated by various factors, with saving money becoming increasingly important as energy prices rise, alongside other significant motivations. However, they consider “...the role of [consumer] storage devices for dispatch to be a rapidly changing and uncertain topic that needs to be informed by sound data collection over the next 2-4 years.” (Memery et al. 2023). They note ‘caution due to uncertainties about the future scale of storage and the predictability of dispatch, which are both expected to increase’ (Memery et al. 2023). For this reason, it is advisable for AEMO to ensure its social licence consultation includes broad social science expertise, not just technical or economic expertise.

One trend that is clear in the social science literature, however, is that most solar PV households have made investments in CER to get *away* from the energy industry, abstractly understood (Roberts et al, 2023; Newton et al, 2023; Snow et al, 2022). Appetite for VPPs beyond a few curious participants is thus likely to remain low unless a wider reform of the energy sector shifts public perception.

Suggested methods for engaging communities and measuring a social licence to automate:

Social licence can be measured using an appropriate combination of methods. There is considerable academic and practitioner literature outlining these methods, especially in

the context of extractive industries. Adams et al (2021) discusses the relevance of the concept to ‘orchestration’. It is worth stressing that a measurement of social licence - whether for individual projects, a class of technology like VPPs or the whole transition - cannot be measured without intervening. Surveys require respondents’ time and efforts in interpreting questions. Apps and displays change the social and material arrangement of households. This does not make them invalid, but as interventions, they must be carefully considered (see below for further elaboration on this). It is for these reasons that abstract measure of trust should not be used to extrapolate social licence (see Figure 1).

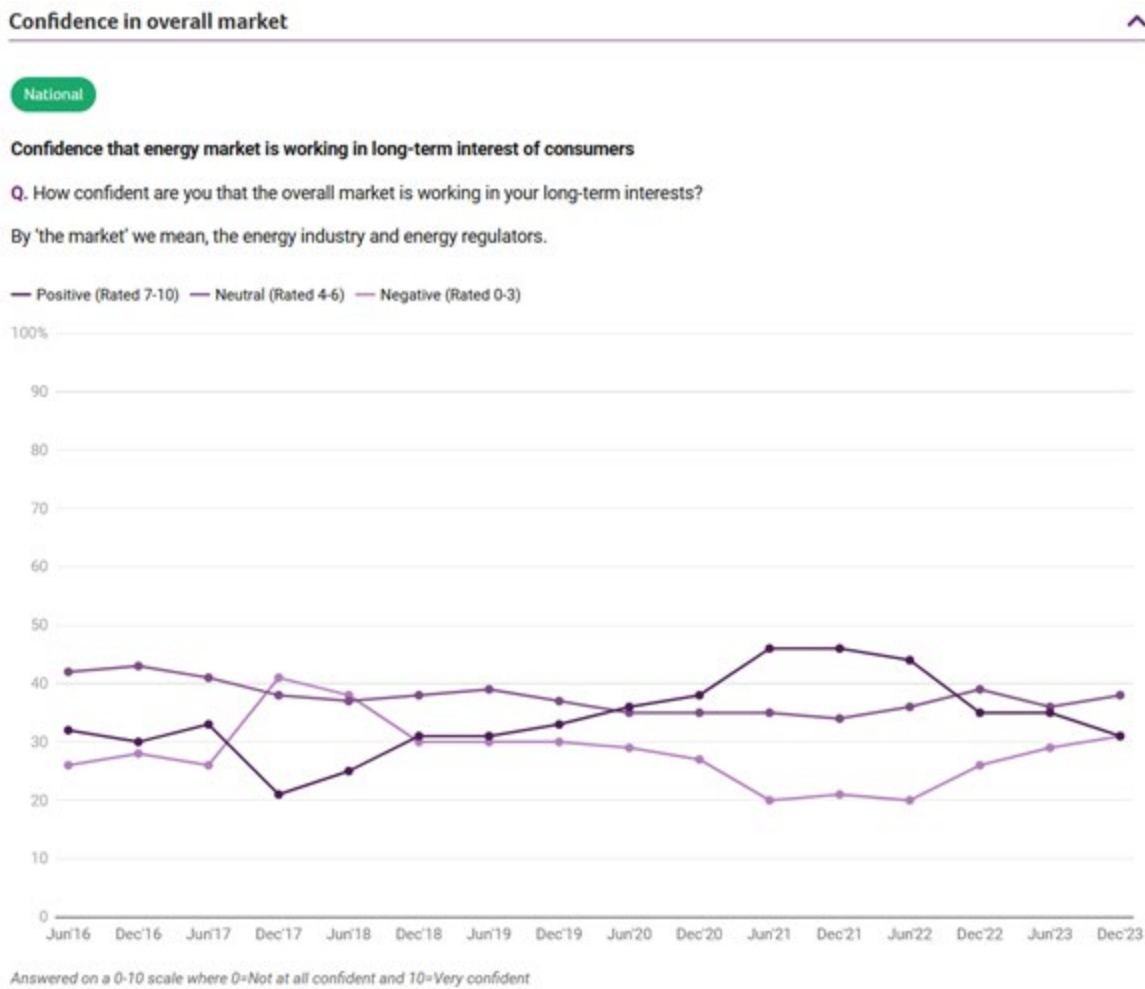


Figure 1: Confidence in the energy market is part of wider social forces. It is no coincidence that consumers felt positive about energy institutions during the COVID pandemic when the national broadcaster was running ads about how ‘we’re all in this together.’ (ECA Sentiment Survey, December 2023)

Trust in automation and the Social License to Automate (SLA) is not just individuals relating to technologies, but should be viewed as communities engaging collectively

with relevant issues and forming new communities around these technologies (Adams et al, 2021 p.8).

The primary report of our "Social License to Automate: Emerging Approaches to Demand Side Management in the Energy Transition" included several methods are effective in engaging with communities and gathering their concerns, expectations, and interests regarding automated energy systems:

1. Experimentation and Testing: Projects and policies aimed at redistributing agency between users, grid operators, and energy companies can be seen as social and technical experiments in engaging communities and gathering their concerns. The Draft ISP notes Projects Edge and Symphony, but others could also be included for consideration of a social licence to automate. Briggs (et al 2023) reviewed the ARENA flexible demand portfolio, highlighting findings across many pilot VPP and similar projects beyond Symphony and Edge.

2. Anticipatory Engagement with Technology Users: our work on a social licence to automate emphasizes the need for engagement with technology users before implementing automation systems. This approach involves actively involving energy users and considering their concerns and expectations as a part of the decision-making process. The use of national survey datasets such as the Energy Consumers Australia complement our detailed qualitative work on consumer expectations about VPP.

3. HEMS data: Clear information provision and data sharing are key methods to engage communities. Providing clear and accessible information through interfaces, apps, portals, etc., including data visualization, can sensitize people to their energy use and encourage them to change energy practices in line with their concerns and interests. Inferring a social licence from methods that rely on energy use through personalised apps such as Amber or Tesla requires a careful assessment of the demographics of its users before such data could be extrapolated to the wider population.

4. Community Action and Middle Actors: Engaging communities through community action and effective communication strategies can play a vital role in understanding their concerns, expectations, and interests. This includes considering the role of community organizations and facilitating communication channels between energy users, operators, and experts. Quantitative methods of use here could include assessment of churn rates of installers such as electricians, HVAC and solar PV through the industry using accreditation figures; existing datasets of compliance rates used by DNSPs could provide a useful proxy for user satisfaction with installation.

5. Collecting Data on Refusals to Opt-in: It is important to collect information on why people refuse to participate in automated demand-side management projects, as this can help tailor business models and increase engagement with communities by addressing their specific concerns. Ombudsman complaint data about VPPs and similar CER automation offer an important data source for social licence here.

On the limits of quantitative methods and need for qualitative and experimental approaches data

Quantitative approaches to public engagement have their limitations in capturing the full complexity of participatory processes such as those that are needed around the orchestration of CER. One key limitation is that quantitative data, such as survey statistics or market prices, do not necessarily hold inherent meaning until they are interpreted by diverse human actors. This means that quantitative approaches alone cannot provide a comprehensive understanding of public engagement, as they lack the ability to capture the human narratives, interpretations, and perceptions behind the data.

Furthermore, relying solely on quantitative data can lead to a reductionist approach that overlooks the important role of emotions, beliefs, and affective dimensions in shaping participatory practices (Chilvers & Kearnes, 2015). Emotions and beliefs play a significant role in the co-production of collective participatory practices and understanding them requires a more holistic and qualitative approach.

Energy policy is an important area of public policy and requires democratic engagement. Quantitative approaches often prioritise objectivity and seek to represent public opinion as an aggregate of individual attitudes and preferences. However, this approach fails to capture the socially relational and emergent nature of public participation, where practices actively produce publics, public issues, and forms of democratic engagement (Chilvers & Kearnes (2015). An exclusive focus on quantitative data can undermine the importance of embodied, imaginative, sensory, and affective elements in shaping participatory processes (Chilvers & Kearnes, 2015). Embodied and sensory elements underpin trusted relations, as scholars of markets have noted (eg Pixley, 2004). Qualitative methods such as ethnography and interviews are crucial in understanding such relations.

Surveys, if not implemented as part of a full suite of social science methodologies, would be unlikely to anticipate events such as protests against transmission lines. This is because quantitative approaches tend to overlook the social contingencies that lead to protest and can be understood by actors as a mechanism to limit and constrain the range of possible participatory pathways. By treating public participation as a fixed and procedural process, quantitative approaches such as surveys may not adequately capture the dynamic and diverse nature of participatory politics.

For these reasons, a full suite of diverse methods is required to correctly understand the three interrelated dimensions of social licence in the transition. The limits of quantitative approaches to public engagement lie in their inability to capture the interpretive and experiential dimensions of the participatory dimensions of the energy transition, their tendency to overlook affective and relational elements, and their reliance on pre-given normativities and values. A more comprehensive understanding

of public engagement with CER requires a broader perspective that incorporates multiple methods.

On the limits of *social licence* as a framework:

I note section A8 attempts to balance questions of 'permission' implicit in the concept of social licence with 'Community approaches premised on equitable benefit sharing'. The latter approach should give energy planners pause for thought as to the reasons for opposition. Our research covered numerous cases where *desirable communities* were created through both careful participation and investment in renewable energies. Such approaches can avoid the mobilisation of 'NIMBY' rhetorics by centring place in the assessment of values and value in project design (see eg. Batel & Devine-Wright, 2020).

Further information: Social License to Automate <https://userstcp.org/task/social-license-to-automate/>

Social licence to automate policy brief <https://userstcp.org/wp-content/uploads/2023/03/USERS-TCP-A4-SLA-POLICY-BRIEF-1-DOI-updated-.pdf>

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