What people don’t want to know about Carbon Capture and Storage (CCS)

Problem

- Knowledge and acceptance of CCS is low [1] so project communications seek to create positive attitudes.
- Studies on how information processing impacts CCS acceptance have conflicting results.
- Studies on CCS acceptance neglect the changing role of CCS from a ‘fossil fuels transition’ to ‘CO2 removal’ technology [2] and the impact of legacy information.

A new theoretical framework for processing CCS information

Theoretical Basis

- **Technology Acceptance Model** [3]: acceptance = personal motives + context + technical familiarity (knowledge and experience).
- **Elaboration Likelihood Model of Persuasion** [4]: High personal applicability leads to high levels of relevant thought (elaboration) and resultant attitude changes have greater longevity than heuristic-based persuasion.

Additional Elements:

- **Mental Models**: People create internal maps of knowledge and experience that can be ‘run’ to make predictions [5]. New information is either assimilated (slots into existing models) or accommodated (the model is modified) [6].
- **Dual Processing Model**: People default to simplified heuristics (system 1 thinking) unless analytical processing (system 2 thinking) [7] is triggered.
- **Motivated Reasoning**: People may seek information that confirms their own view, ignore contradictory information or actively construct counter arguments while reviewing contradictory information [8].

Methodology - Data collection to verify framework

Research Question

How do information processing and information seeking behaviors influence support for a CCS Project?

Implications of the framework

- A negative “gut response” triggered by the System 1 assessment (heuristics, values and personal applicability) makes persuasion more difficult.
- A sense-making activity or personal trigger is required to initiate cognitive System 2 processing and achieve long-term attitude change.
- Related mental models are used to process CCS information. These may include models of the energy industry, climate change or economics (e.g. capitalism).
- Mental model selection is influenced by context and information should seek to create role for CCS within that model.
- Influence points to change people’s attitudes are identified.
- The “CO2 Removal” role of CCS is likely to tip different system 1 triggers, to generate different information seeking behaviour and to create different mental models than CCS projects associated with fossil fuels.
- Legacy ‘pull’ information will also be subject to heuristic assessments and may trigger values that are not associated with the CCS project (push) information.

References