Human health effects of CSG activity: Phase 1 - Study Design Update

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Phase 1 Health effects study: Objectives

1. To report the current state of knowledge

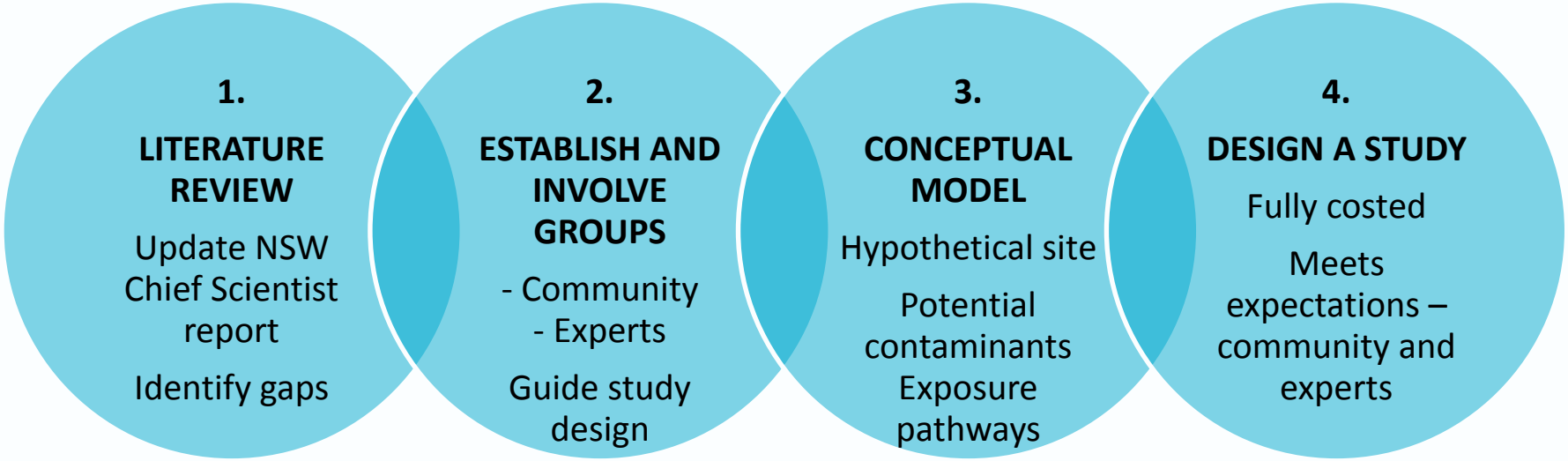
- Potential contaminants and health effects of CSG activities

2. To identify knowledge gaps

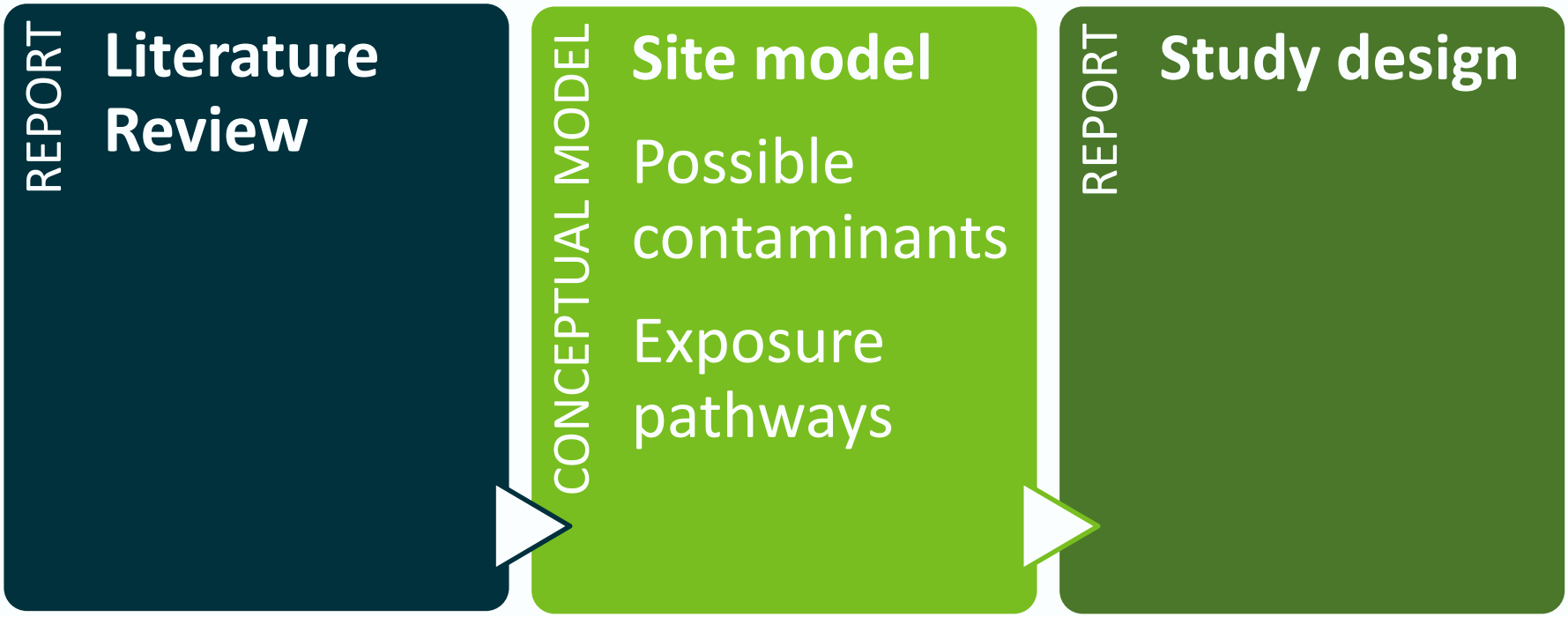
3. To design a study

- Addresses gaps
- Meets expectations – community and experts

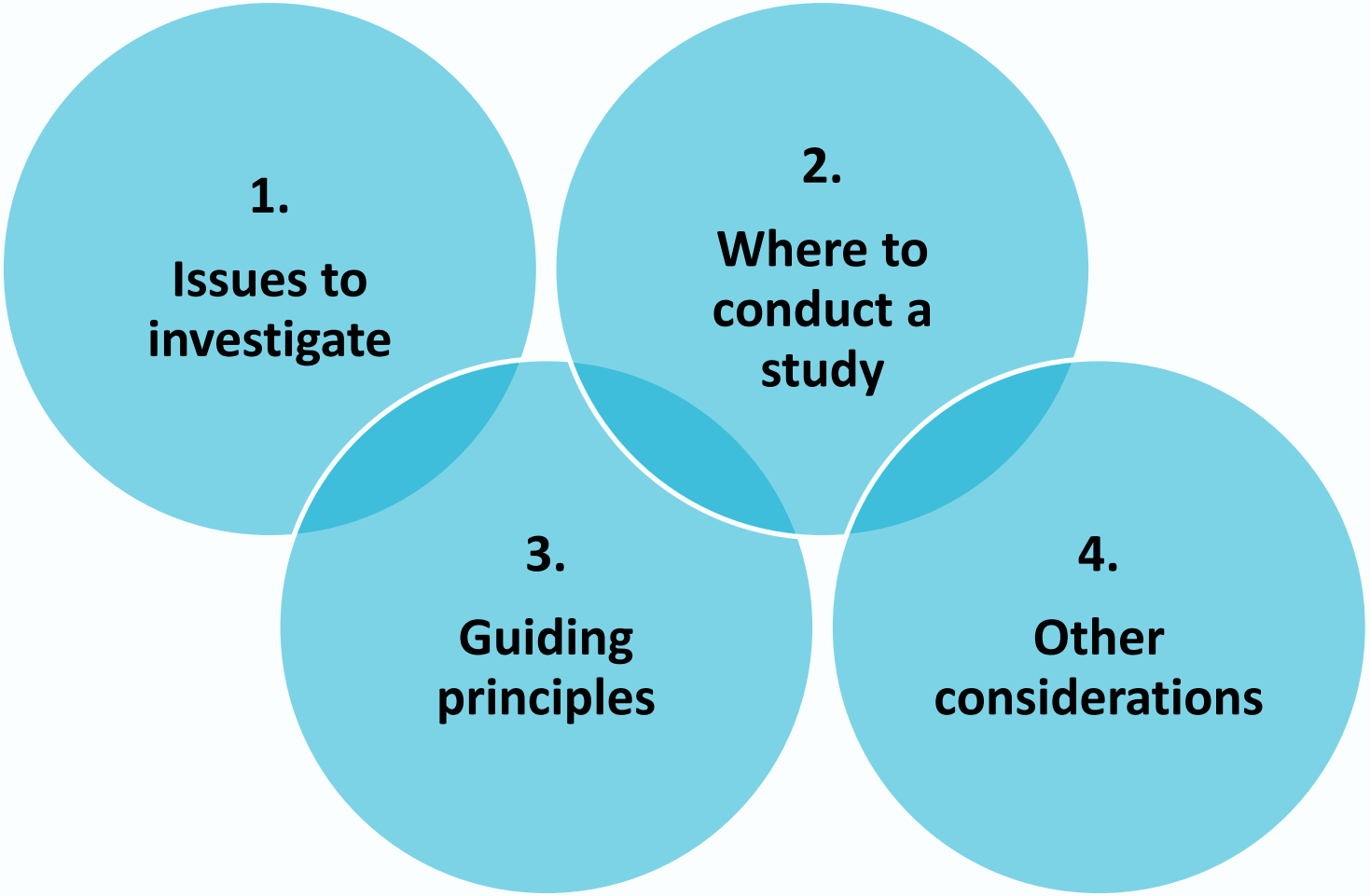
Phase 1 Health effects study: Four Tasks



Phase 1 Health effects study: Three outputs



Community perspectives: Key points



Issues to investigate

1. Issues

1. **Effects from physical hazards**

- Water – bathing in it, could drinking supply in town be affected
- Air – dust, flaring, asthma
- Noise – disturbed sleep

2. **Effects from psychological stressors**

Stressors

- Uncertainty
- Adds to other stresses - on-farm issues,
- Polarised views within the community, - Impacts on families, businesses caught up in the debate, social media effects, impacts of misinformation
- Boom bust effects

3. **Benefits that improve health –** safety culture extends to wider community, alcohol and drug testing can help an individual get treatment

Pros and cons with each

2. Where

A study in Narrabri

- Include those close to wells, and those who want to be included even if not close to wells
- Problem – only a few wells

A study in the Surat

- More likely to get people who are exposed
- May not be that useful to the Narrabri context – different geology, different policies and regulations, different companies
- Some doubt how transferrable the findings

A study in Camden

- Advantages are people living in close proximity to wells and for a number of years

Overall

- Places at different stages of development useful
- Include people who are concerned / uncertain / worried and those living in close proximity

Trust paramount

3.

Guiding Principles

- Findings to be **substantiated with data** – e.g. medical results, exposure measurements. Trust in qualitative data very low
- **Utilise Chief Scientist** work
- **Build trust in industry measurements** and **modelling** – test industry models, establish reliability, compare with other sources
- **Publicly available** and **transparent** – live data streams, good quality, constant and accessible
- Use **legitimate** and **credible sources** – e.g. National toxicity standards, scientifically qualified experts
- **Peer reviewed** – one option is for different interest groups to nominate a suitably qualified candidate

Independence

3.

Guiding Principles

- Independence critical
- Clear terms of reference independently developed would assist independence
- Independent committee – to oversee project

Community involvement

- Key groups, local councils, local health services, stakeholder reference groups
- Include people who are concerned or worried as possible participants in the study

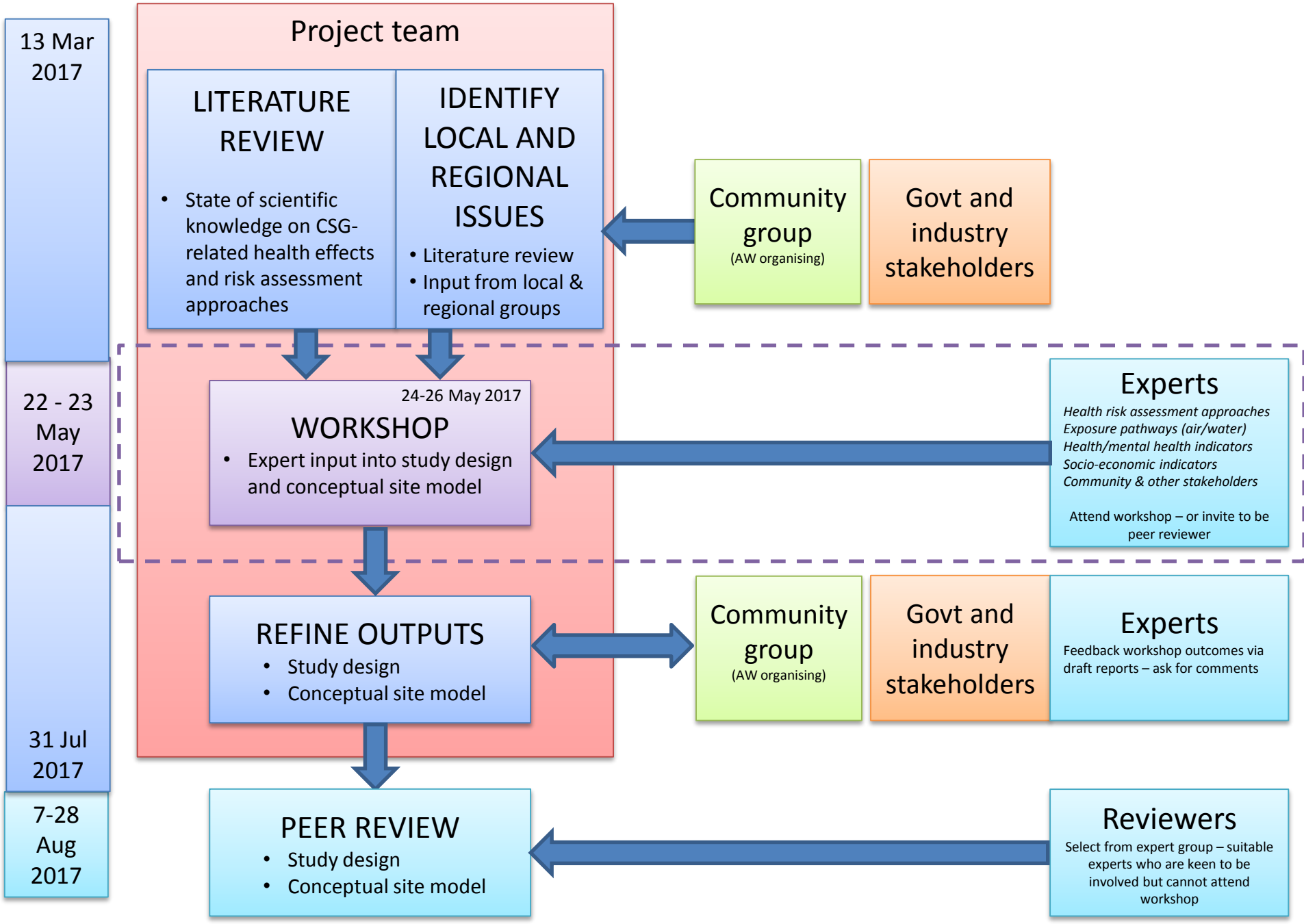
Other considerations

4.
Other

- **Baseline studies critical** – to identify natural variation in air, dust, noise, water, - before any increased activity
- Consider **cumulative effects**
- Consider all **confounding factors** – associated with intensive agriculture and the mines in the area (dust and chemical use)
- Risks and possible effects need to be understood **over the long term**
- Make **use of existing knowledge** – overseas studies, surrogate industries, chief scientist report, learnings from Tara
- **What will be the actions if risks found** – management approaches, commitment from industry, how will this be communicated

4. Other

- **Comparisons of risks** could be useful – but not everyone would find this meaningful
- Support from some that the study should be **funded by industry** but **conducted independently**
- What about **people who work in the industry** – are there any health effects?
- **Involve local health services** - Check all local hospital data, check for incidence of learning disabilities
- **Support for doing it** – one of the last areas of research to be done, however, needs to be managed carefully to ensure all confounding factors considered
- Needs to be **able to withstand scrutiny** from special interest groups


13 Mar 2017
22 - 23 May 2017
31 Jul 2017
7-28 Aug 2017
Project team
LITERATURE REVIEW
• State of scientific knowledge on CSG-related health effects and risk assessment approaches
IDENTIFY LOCAL AND REGIONAL ISSUES
• Literature review
• Input from local & regional groups
Community group
(AW organising)
Govt and industry stakeholders
24-26 May 2017
WORKSHOP
• Expert input into study design and conceptual site model
Experts
Health risk assessment approaches
Exposure pathways (air/water)
Health/mental health indicators
Socio-economic indicators
Community & other stakeholders
Attend workshop – or invite to be peer reviewer
REFINE OUTPUTS
• Study design
• Conceptual site model
Community group
(AW organising)
Govt and industry stakeholders
Experts
Feedback workshop outcomes via draft reports – ask for comments
PEER REVIEW
• Study design
• Conceptual site model
Reviewers
Select from expert group – suitable experts who are keen to be involved but cannot attend workshop

THANK YOU