

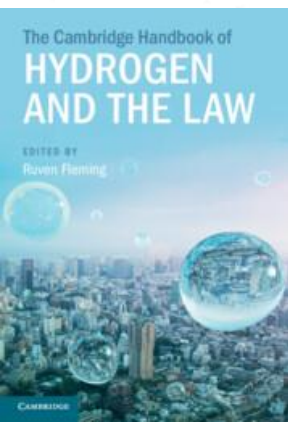


GVNL WP7

Hy-SUCCES

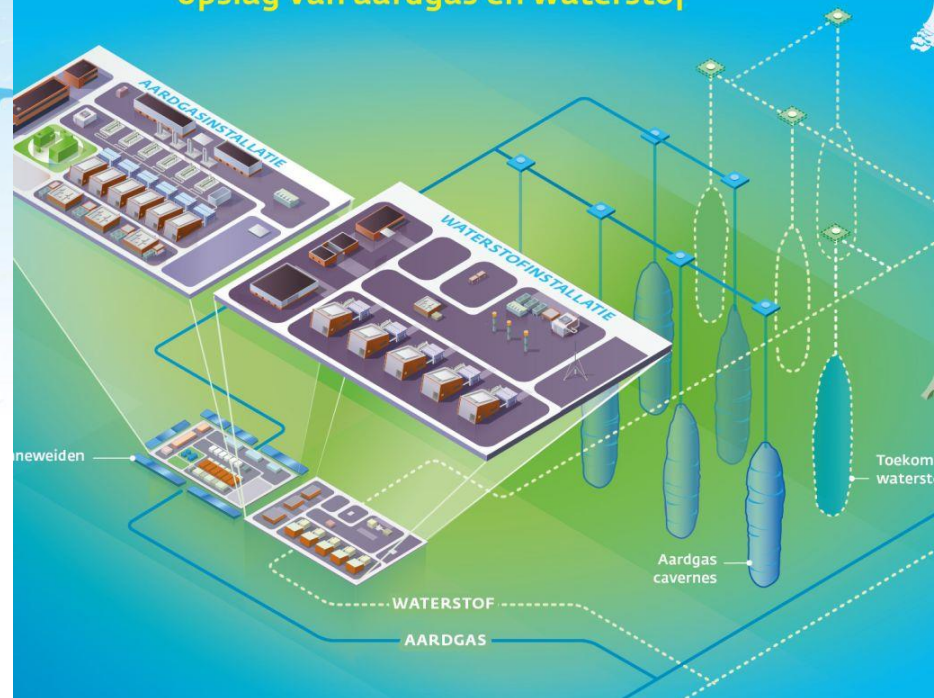
Social, **U**ser **aC**ceptable,
Economically **S**ustainable
Systems for hydrogen

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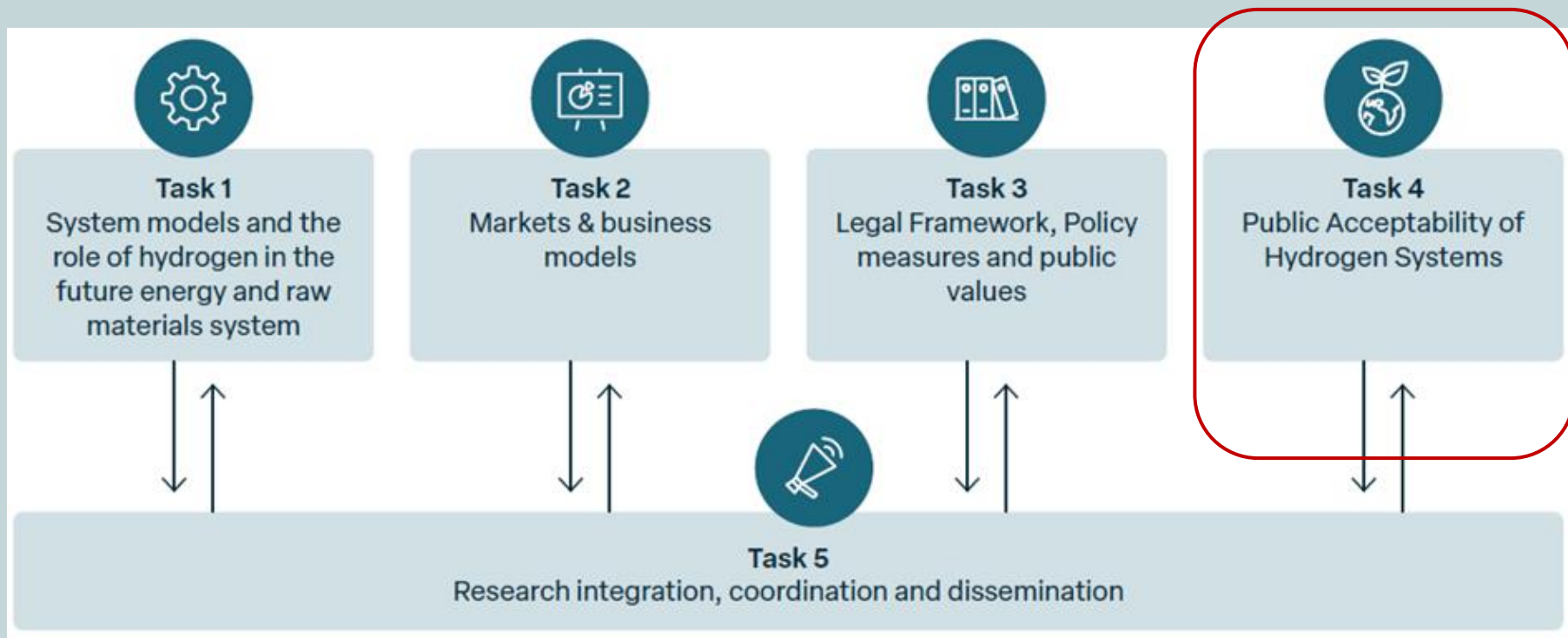


Quikers

Waterstof tanken



The work in Hy-SUCCESS is structured around five Tasks



What influences sustainable behaviour?

- 1) Psychological factors:
 - Altruistic values;
 - Egoistic values;
 - Environmental values;
 - Hedonic Values.

	Opposed to my values	Not important	Important					Very important	Of supreme importance
EQUALITY: equal opportunity for all	-1	0	1	2	3	4	5	6	7
RESPECTING THE EARTH: harmony with other species	-1	0	1	2	3	4	5	6	7
SOCIAL POWER: control over others, dominance	-1	0	1	2	3	4	5	6	7
PLEASURE: joy, gratification of desires	-1	0	1	2	3	4	5	6	7
UNITY WITH NATURE: fitting into nature	-1	0	1	2	3	4	5	6	7
A WORLD AT PEACE: free of war and conflict	-1	0	1	2	3	4	5	6	7
WEALTH: material possessions, money	-1	0	1	2	3	4	5	6	7
AUTHORITY: the right to lead or command	-1	0	1	2	3	4	5	6	7
SOCIAL JUSTICE: correcting injustice, care for the weak	-1	0	1	2	3	4	5	6	7
ENJOYING LIFE: enjoying food, sex, leisure, etc.	-1	0	1	2	3	4	5	6	7
PROTECTING THE ENVIRONMENT: preserving nature	-1	0	1	2	3	4	5	6	7

What influences sustainable behaviour?

- 1) Psychological factors:
 - Altruistic values;
 - Egoistic values;
 - Environmental values;
 - Hedonic Values.
- 2) Demographic factors:
 - Age;
 - Gender;
 - Studies;
 - Incomes;
 - Etc....
- 3) Contextual factors:
 - History of the community

What we know about acceptability of hydrogen projects?

- Only few quantitative studies on acceptability of hydrogen in general:
 - Percentage agreement: The Netherlands (3), Germany (3), Taiwan (1)
 - Means agreement: Australia (1); part of UK (1)
 - IMP: support mostly for green hydrogen
- Even fewer quantitative studies with ‘the public’ about pipelines and storage:
 - Germany, Japan, France

Factors influencing acceptability:

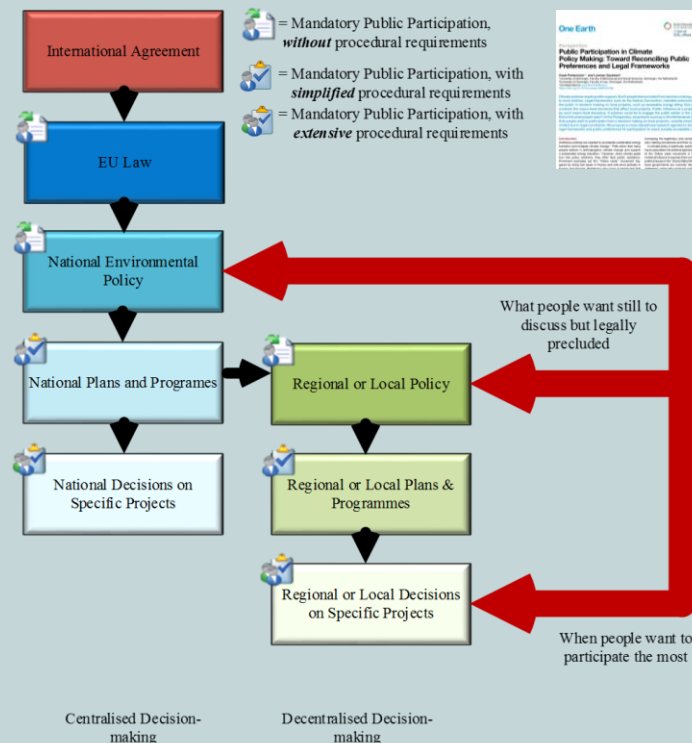
- Limited overview!
- So far, six different factors:
 - 1) safety,
 - 2) climate change mitigation,
 - 3) affordability,
 - 4) reliability,
 - 5) accessibility, and
 - 6) job creation.
- trust in government beneficial for acceptability of green hydrogen Häußermann et al (2023).
- perceived utility of hydrogen correlated with acceptability of hydrogen in salt caverns (France).
- **NONE OF THE ABOVE IS CONCLUSIVE!**

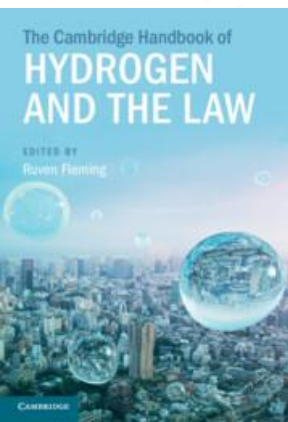
The role of public participation

- Public participation can improve acceptability



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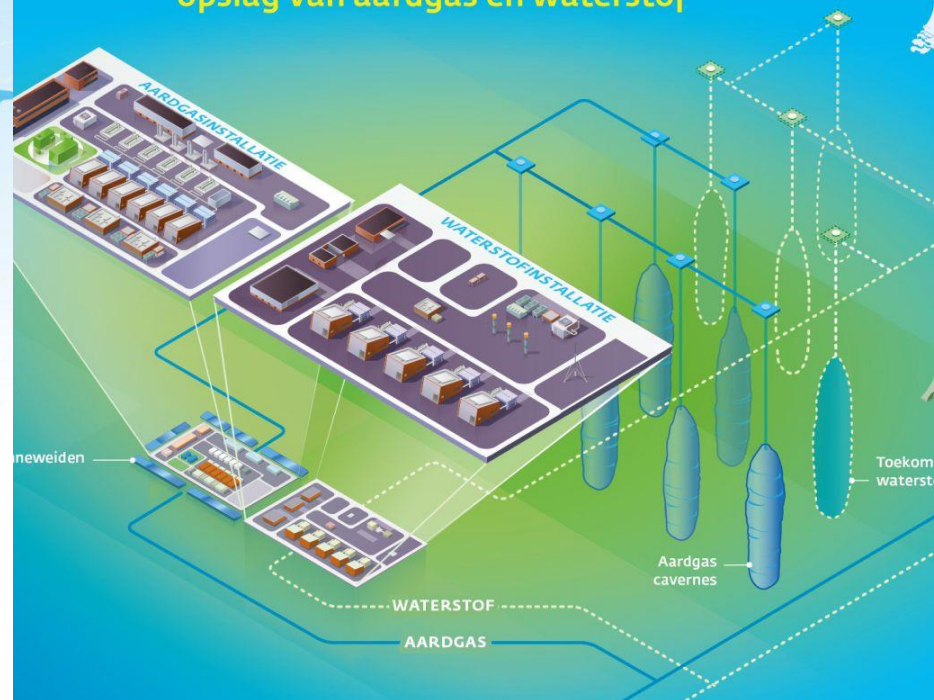




uikers

Waterstofopslag HyStock

Energiebuffer Zuidwending: opslag van aardgas en waterstof



How did the public participated?

- National level:
 - Dutch National Hydrogen Programme 2022-2025 No PP
 - Dutch Hydrogen Roadmap No PP
 - Zuidwending location mentioned
 - Dutch Programme for the Energy Infrastructure
 - Preference for storage is depleted salt cavers PP
 - In portance of PP due to Groningen earthquakes
- Regional level:
 - Climate Agenda of the Province of Groningen 2030 No PP
 - Regional Energy Strategy 1.0 and 2.0 No PP
 - Investment Plan on Hydrogen 2020 No PP
- Project level:
 - Permitting for Zuidwending Energy Buffer PP
 - Participatieplan EnergyStork PP, but not for location!

Task 4 – Public Acceptability of Hydrogen Systems:

- Mapping and assessing the socio-cultural factors that influence the social acceptance and thus possibly the feasibility of various hydrogen applications.
- Research into various decision-making processes and how they can contribute to a fair direction of the Dutch hydrogen transition and influence the social acceptance of the hydrogen transition.



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