Your place or mine?

What comes after the Anthropocene?

Decarbonising mobility systems with place and social justice in mind

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Horse manure under a bell jar (photo by Jikke de Gruijter) [Urban Futures Studio](#)
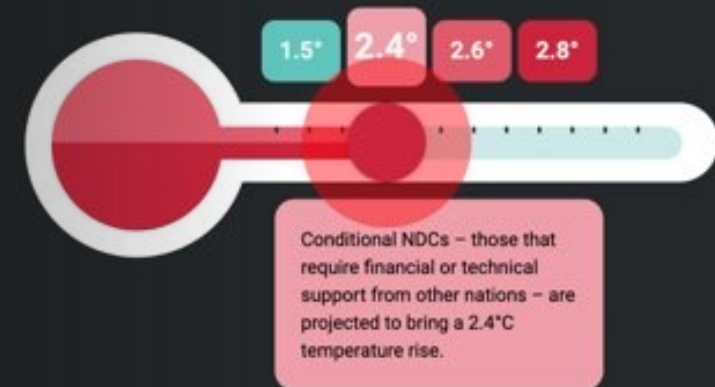
Making the familiar strange

Can understanding the past help us interrogate how the future is shaped? Which methods and techniques can we use to highlight the presence and absence of different agents of change both human and non-human? How can place-based reflection help?

Temperature projections

The lack of progress in curbing emissions leaves the world on a path towards a temperature rise far above the Paris Agreement goal of well below 2°C and preferably 1.5°C.

UNEP Emissions Gap Report 2022

1.5°   2.4°   2.6°   2.8°

Conditional NDCs – those that require financial or technical support from other nations – are projected to bring a 2.4°C temperature rise.

Collapse

The Guardian — *Newspaper of the year*

Tourists' cars may be banned from most popular parts of Lake District

National park chief wants to bring in more sustainable transport to stop worsening congestion

Helen Pidd *North of England editor*

Sun 14 Nov 2021 15.10 GMT

May bank holiday in Bowness on Windermere. 'It feels like we are at peak car,' says Richard Leafe, chief executive of the Lake District national park. Photograph: Gordon Shoosmith/Alamy
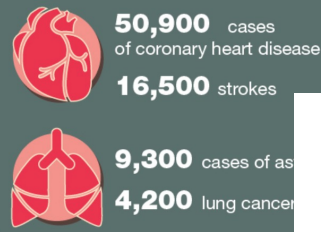
Public Health England — Health Matters
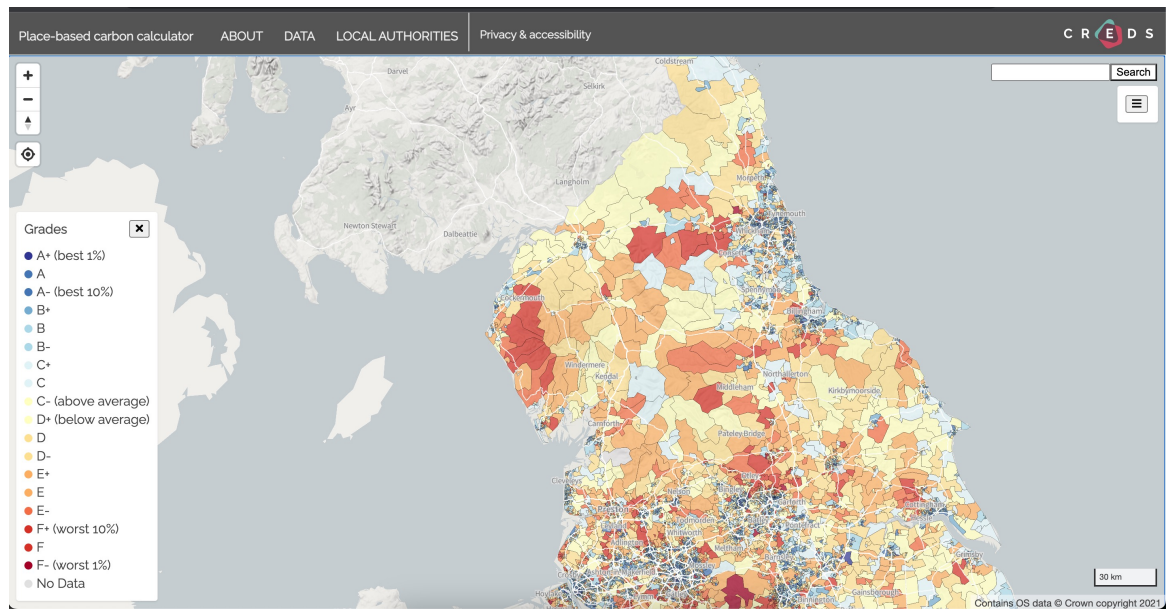
Scale of the problem

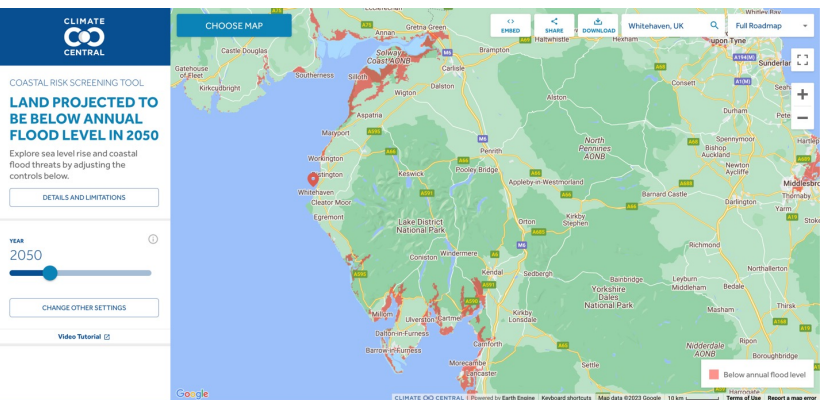It is estimated that **long-term exposure to man-made air pollution in the UK** has an annual effect equivalent to:

28,000 to 36,000 deaths

Over the following 18 years a **1 µg/m³ reduction in fine particulate air pollution in England** could prevent around:

- **50,900** cases of coronary heart disease
- **16,500** strokes
- **9,300** cases of as...
- **4,200** lung cancer...

Place-based carbon calculator | ABOUT | DATA | LOCAL AUTHORITIES | Privacy & accessibility | CREDS

Grades
- A+ (best 1%)
- A
- A- (best 10%)
- B+
- B
- B-
- C+
- C
- C- (above average)
- D+ (below average)
- D
- D-
- E+
- E
- E-
- F+ (worst 10%)
- F
- F- (worst 1%)
- No Data

Contains OS data © Crown copyright 2021

CLIMATE CENTRAL

COASTAL RISK SCREENING TOOL

LAND PROJECTED TO BE BELOW ANNUAL FLOOD LEVEL IN 2050

Explore sea level rise and coastal flood threats by adjusting the controls below.

YEAR 2050

Below annual flood level

ZERO CARBON CUMBRIA

Emissions reductions at net zero compared to 2019 baseline

Net Zero Date	2030	2035	2037	2040	2045
Reduction in energy only CO₂ emissions	78%	89%	92%	91%	91%
Reduction in household fuel use	60%	80%	90%	90%	90%
Electricity decarbonisation	90%	90%	90%	90%	95%
Reduction in carbon intensity of driving	65%	60%		57%	65%
Reduction in residents driving	65%	85%	79%	74%	68%
Reduction in food emissions	72%	60%		62%	65%
Cut in waste	83%	70%	73%	75%	80%
Cut in meat and dairy	83%	64%	65%	67%	72%
Cut in air freight	85%	80%	80%	80%	80%
Reduction in emissions from visitors travelling to and from	91%	89%	85%	83%	80%
Increase in average stay length	100%	100%	100%	80%	50%
Reduction in carbon intensity of driving	65%	60%	50%	57%	65%

Cumbria Carbon Baseline 2020 https://cumbria.gov.uk/elibrary/Content/Internet/536/671/4674/17217/17225/4414012219.PDF

Cars limit our independence

Copy link

MORE VIDEOS

Mobility gives us a sense of freedom and connection that we won't be able to achieve

0:21 / 3:25   YouTube

Best way to get there (no hostile behaviour)

Copy link

No hostile behaviour

Watch on ▶ YouTube st, Penrith 27 July 2022

Bike as far as we can go

Copy link

Bike as far as we can go

Watch on ▶ YouTube sembly, Carlisle 20th October 2022

Mobility Futures: Bob asks the people

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Bob asks the people

Watch on ▶ YouTube ssembly, Carlisle 20th October 2022
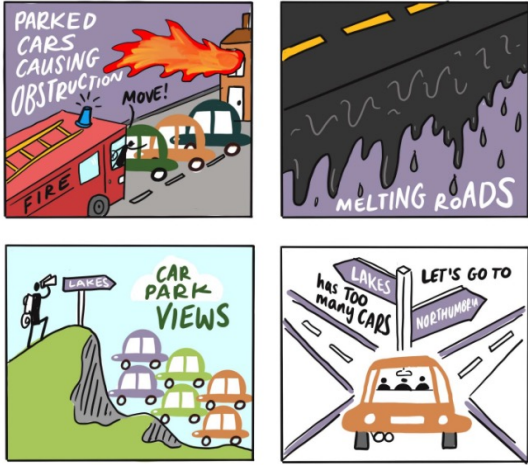
Good Collapse?

Cumbria 2037: Decarbonising Mobility Futures.

What happens if we do nothing?

Climate change is already causing problems in the Lake District. From the devastation of Storm Desmond to melting tarmac on public roads during the 2022 heatwave. Cumbria is car dependent and becoming more so during the cost of living crisis where fuel and car maintenance are becoming hard to afford for most households.

We are not investing sufficiently in things that will help us towards sustainable and cheaper travel like walking, cycling and buses. There are currently proposals to build new roads in the County, but the roads we already have are not being maintained. If we do nothing public transport will decline more – making life harder for some of the most deprived communities in the region (in West Cumbria around 25% of households don't have access to a car). A lack of public transport will make it harder for anyone to access the Lake District in anything other than a car.

If we do nothing, Cumbria will become less attractive to visitors, tourism businesses will become less viable and local businesses will experience staffing problems as staff can't get to jobs. The vibrancy and viability of communities will further decline as they become ever-more car dependent.

What happens if we keep doing the wrong things?

The big plan is to phase out petrol and diesel cars in favour of electric ones, but given the context of rising traffic and transport-related social exclusion, electric cars alone are not enough. Whether we do nothing or keep pressing ahead with the wrong policies, there are many plausible risks which will cause a range of problems:

Landscape damage and biodiversity loss

Natural land taken by urban land development

Induced traffic (more roads mean more demand for car use)

Reduced quality of life for Cumbrian residents

Worsening exclusion for those without cars

Negative visitor experience

What do we value?

Our future, our choice

Problem
We are caught up in a spiral of focusing on short-term problems when thinking about solutions to current transport issues, rather than taking a step back to think about what's really important to people, to our communities, and to the places that are important in our lives.

What if we changed the way we do things? What if policies and priorities were driven by a core set of values, that lead to the prosperity of places beyond economic value, and instead prioritise people and places, focusing on values such as health and wellbeing, inclusivity, local action and diversity?

These things matter to people, but this reality is not being borne through. And yet there is another approach that puts people and communities back to the centre of policy decisions - returning what's important to them back to the centre of policy decisions.

Solution
Instead of focusing on short-term solutions, maybe we should consider the reasons why travel is important and how our journeys and destinations contribute to our personal wellbeing and prosperity. Thinking about the things that matter to a diverse range of people and to our community as a whole we can look to the long-term, and understand what's really important to us and to future generations.

Result
Policy that understands the role that mobilities play in bringing together future sustainable regions, re-connecting us to the places and people that are important to us.

Possible Futures

In this section, we reflect on how the discussions of the previous day could translate into different futures that may be part of decarbonised sustainable transport in Cumbria. How might we achieve them, whilst also recognising their challenges?

Sketchnotes from Decarbon8 Cumbria Day 2

Possibility 1:
Mobility as Utility

Every month you receive a bill for your combined energy, communications and mobility usage. Using transport works just like how we currently use our mobile devices, consume energy or water or how we access music and entertainment. Choose the mix of different modes in your mobility account like you choose talk time, data and SMS for your mobile phone.

Accessing a wide range of transport options could be easy, using a single account to make any journey. Walk to your village hub, switch to the e-shuttle you called online, have a coffee and check messages on your journey whilst taking in the view, then pick up an e-bike to get to work; simply swipe with a card or phone to access any mode of transport.

What sort of personalised package might work for you? Fast and highly individualised with a journey guarantee built in or, if you aren't in a hurry, a package geared to save you the most money? Maybe a contract with set mobility units might work for you, or pay-as-you-go to match your less structured mobility lifestyle? Do you like the social buzz on the express shuttle or is it a day to trade-in some credits for the solitude of your own space in a car-club electric vehicle? Do you have a family mobility plan? Or are you on a free or pre-paid plan?

Why not earn credits? Are you happy to share space in the car you just booked or lend someone your e-bike? Maybe trade in your credits or bank them for your holiday travel?

Cumbria Mobility is operated across a wide partnership of operators, overseen by the Councils with service quality, social justice and safety regulated via Ofmob.

Possibility 2:
Redefining Travel

What if we redefined our future travel expectations? We break up with our dependence on cars as we have the independence and freedom to move around using public, pooled and active transport.

We value our environment and quality of life. We use more public transport: bus and railway services are integrated and rolling stock is high quality.

We help people to reduce the number of cars they own (and have to pay for), and we electrify and share the ones that we do have - with contracted hours of use and credit rewards for doing so.

We invest in our local infrastructure including charging points, hydrogen generation and storage, and communication technologies to enable more stable remote working. As a result we have high quality well paid green jobs and a demand for skills development.

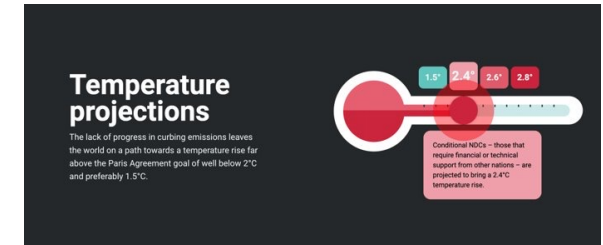We are no longer energy sappers. We are energy zappers.

Sketchnotes from Decarbon8 Cumbria Day 2

System Change?

Temperature projections
The lack of progress in curbing emissions leaves the world on a path towards a temperature rise far above the Paris Agreement goal of well below 2°C and preferably 1.5°C.
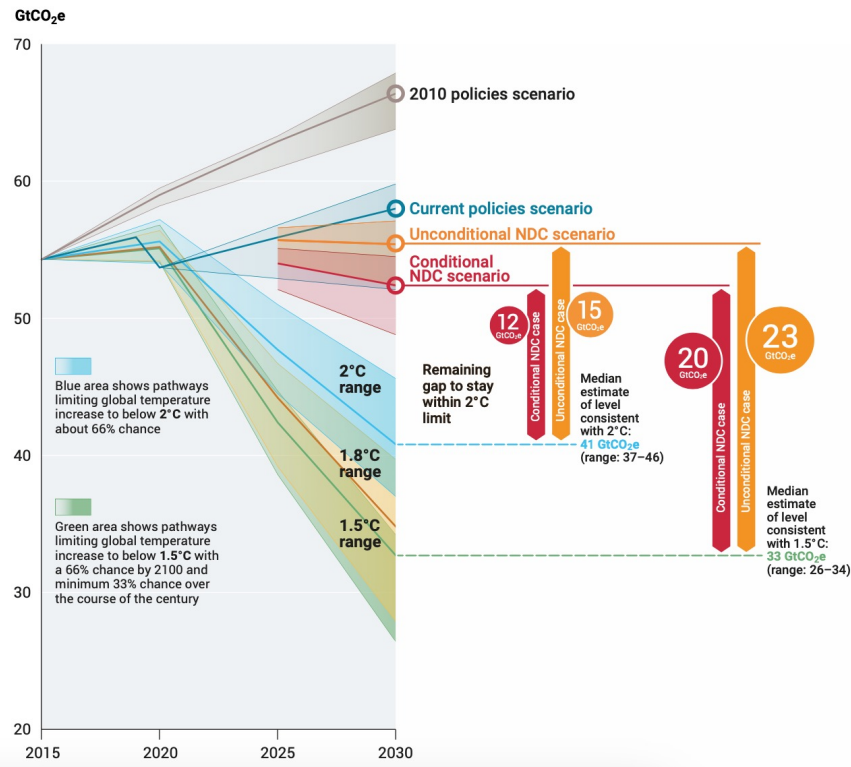Conditional NDCs – those that require financial or technical support from other nations – are projected to bring a 2.4°C temperature rise.
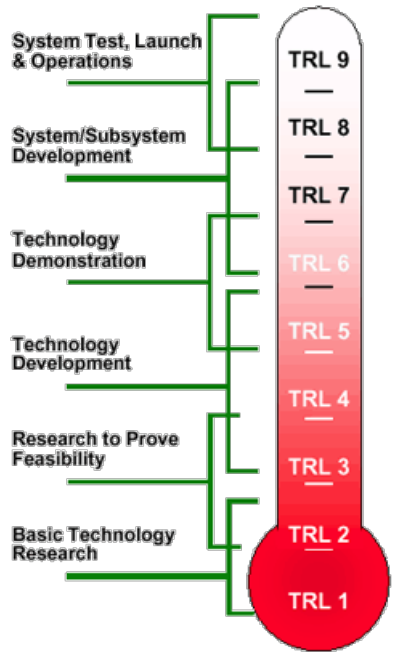1.5° 2.4° 2.6° 2.8°

Emissions Gap Report 2022: The Closing Window

Figure ES.3 Global GHG emissions under different scenarios and the emissions gap in 2030 (median estimate and tenth to ninetieth percentile range)

GtCO$_2$e

A stepwise approach is no longer an option. We need system-wide transformation.

Inger Andersen UNEP 2022
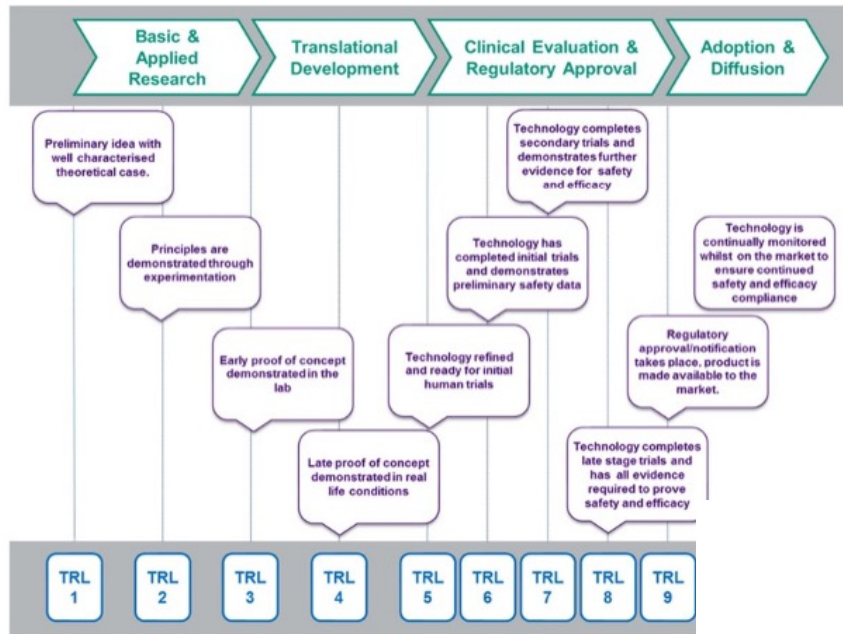
Technology Readiness Assessment promotes technological focus, and neglects to examine the *acceptability* 'solutions'.
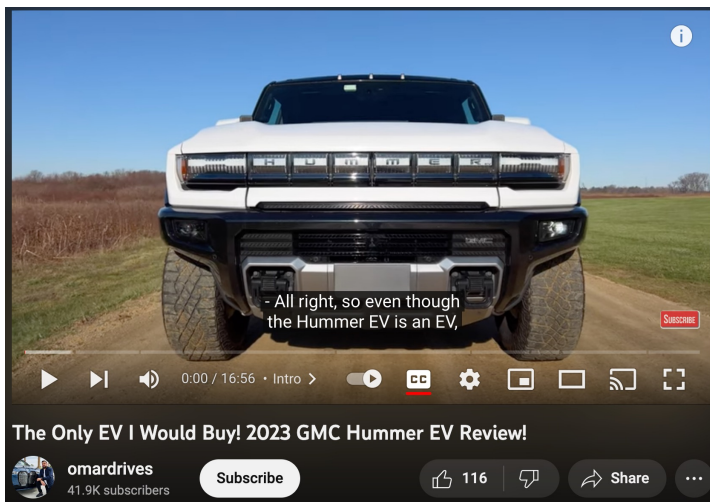
Image from This is Money

What are 15-minute cities and why are antivaxers so angry about them?

Conspiracy theorists claim that attempts to make urban areas more walkable are part of a global plan to suppress civil liberties

Dissent is not an obstruction, but an important part of democracy
It can be a source of inspiration and ambition for more societally ready innovation

Societal Readiness: misunderstood

As a high priority challenge & major barrier

Society could deliver 40–70% of low carbon transformation through demand reduction and behaviour change (IPCC 2023)

Surface transport				
BEV car sales	BEV van sales	ICE car intensity	Charge points	Van km
EV cars sales	EV van sales	ICE van intensity	Car km	HGV km

Surface transport emissions to reduce by around 75% by 2035 (relative to 2019)

Climate Change Commission Progress in reducing Emissions Report to Parliament 2022
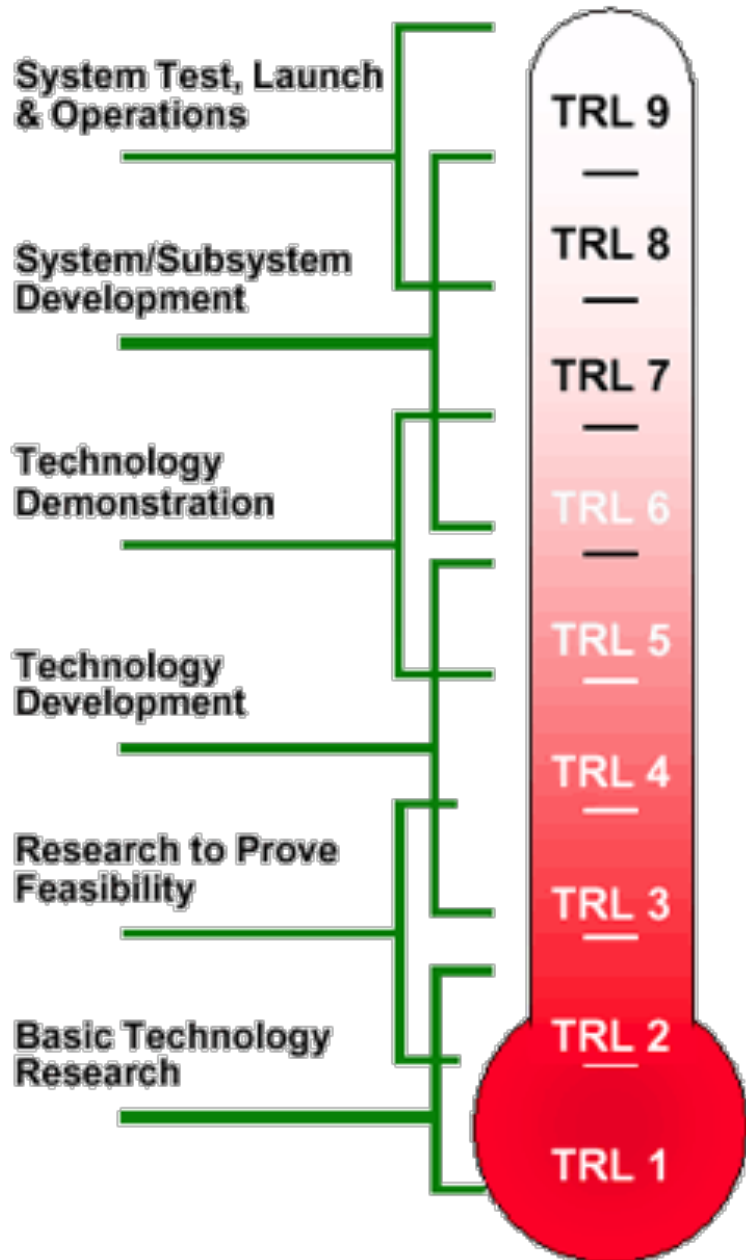
social change harbours 'opportunity for massive impact', but requires 'complex conversations

… societal readiness is about both society to be ready to integrate innovation **and innovations to be ready (and good!) for society and the climate.'**

We need Societal Readiness Assessment

TRL (left thermometer):

- System Test, Launch & Operations — TRL 9
- System/Subsystem Development — TRL 8, TRL 7
- Technology Demonstration — TRL 6
- Technology Development — TRL 5, TRL 4
- Research to Prove Feasibility — TRL 3
- Basic Technology Research — TRL 2, TRL 1

Societal Readiness scale (right):

- 9 — Innovation integrated into a diversity of zero-carbon everyday lives, as part of 'good life' and other society systems.
- 8 — Appropriation into everyday lives at a limited scale with demonstrable societal readiness and social good.
- 7 — Demonstration of societal readiness and social good through experiment and formative evaluation with stakeholders in expected conditions.
- 6 — Societal readiness of prototypes evaluated with diverse stakeholders examining full range of dissent through dialogue.
- 5 — Societal readiness of prototypes evaluated with diverse stakeholders in a limited way in everyday life.
- 4 — Societal readiness of prototypes evaluated with diverse stakeholders in test conditions
- 3 — Societal readiness concept evaluated with stakeholders.
- 2 — Innovation-specific societal readiness concept formulated.
- 1 — Basic principles of societal readiness and social good defined.
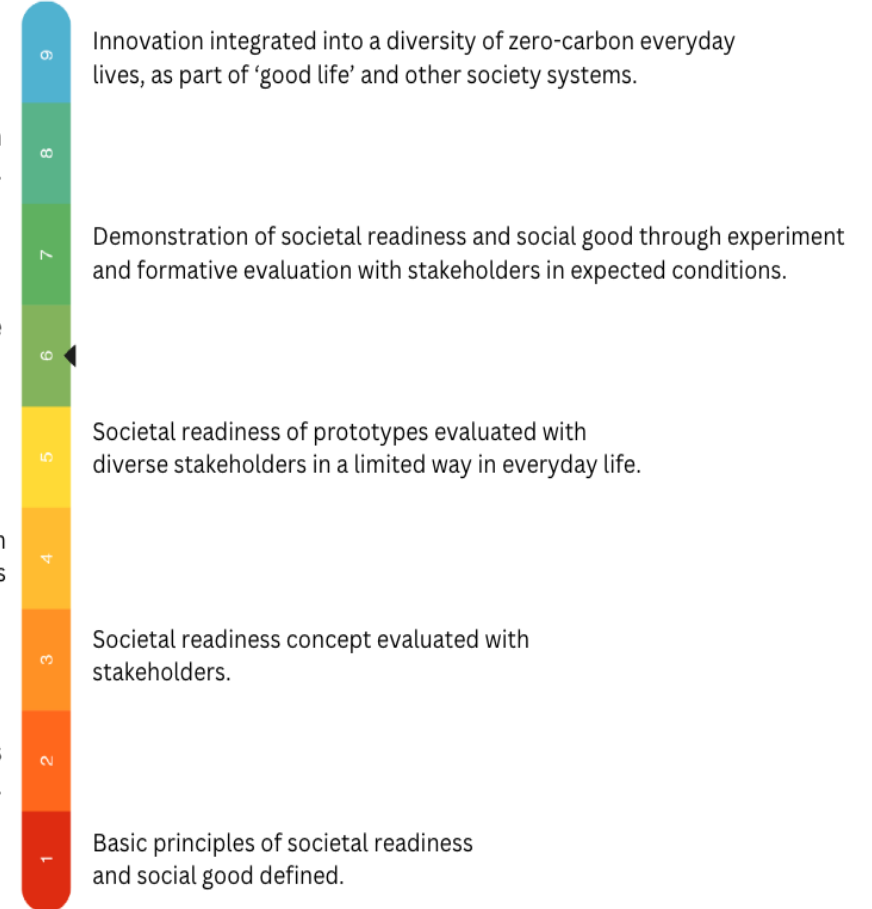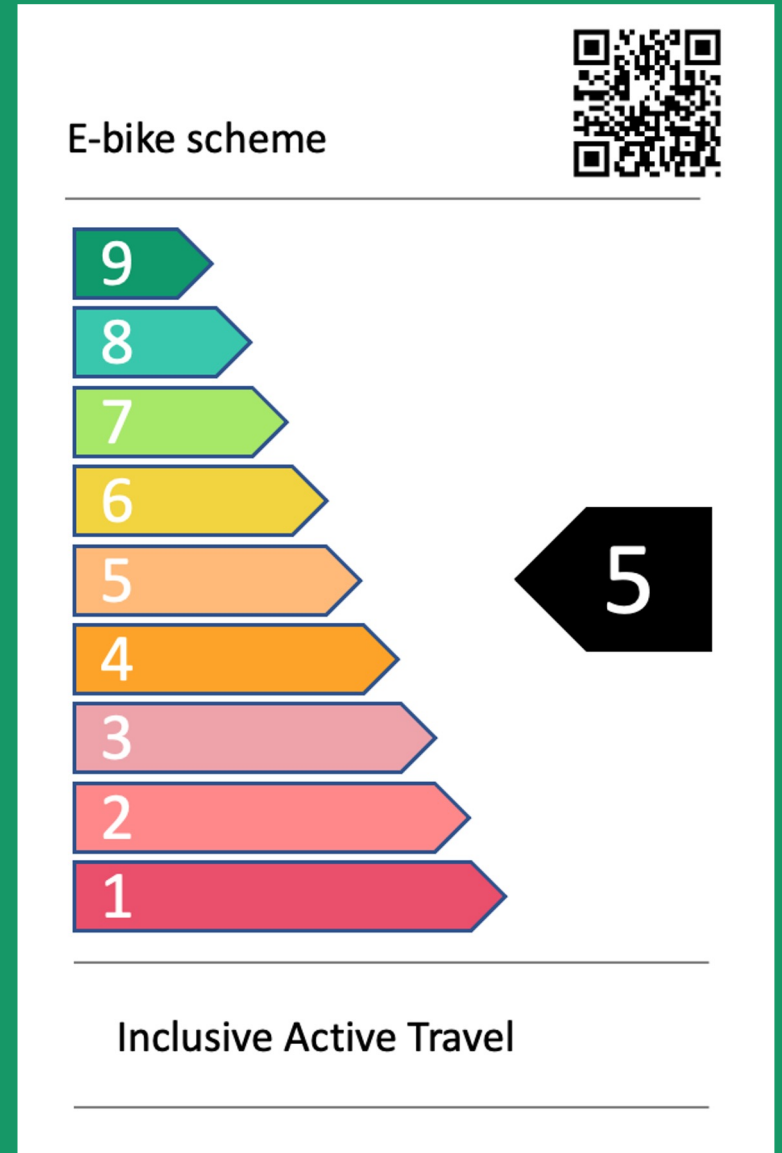
Societal Readiness Assessment

How ready is your innovation, policy, technology *for* society?

How **good** is it for society?

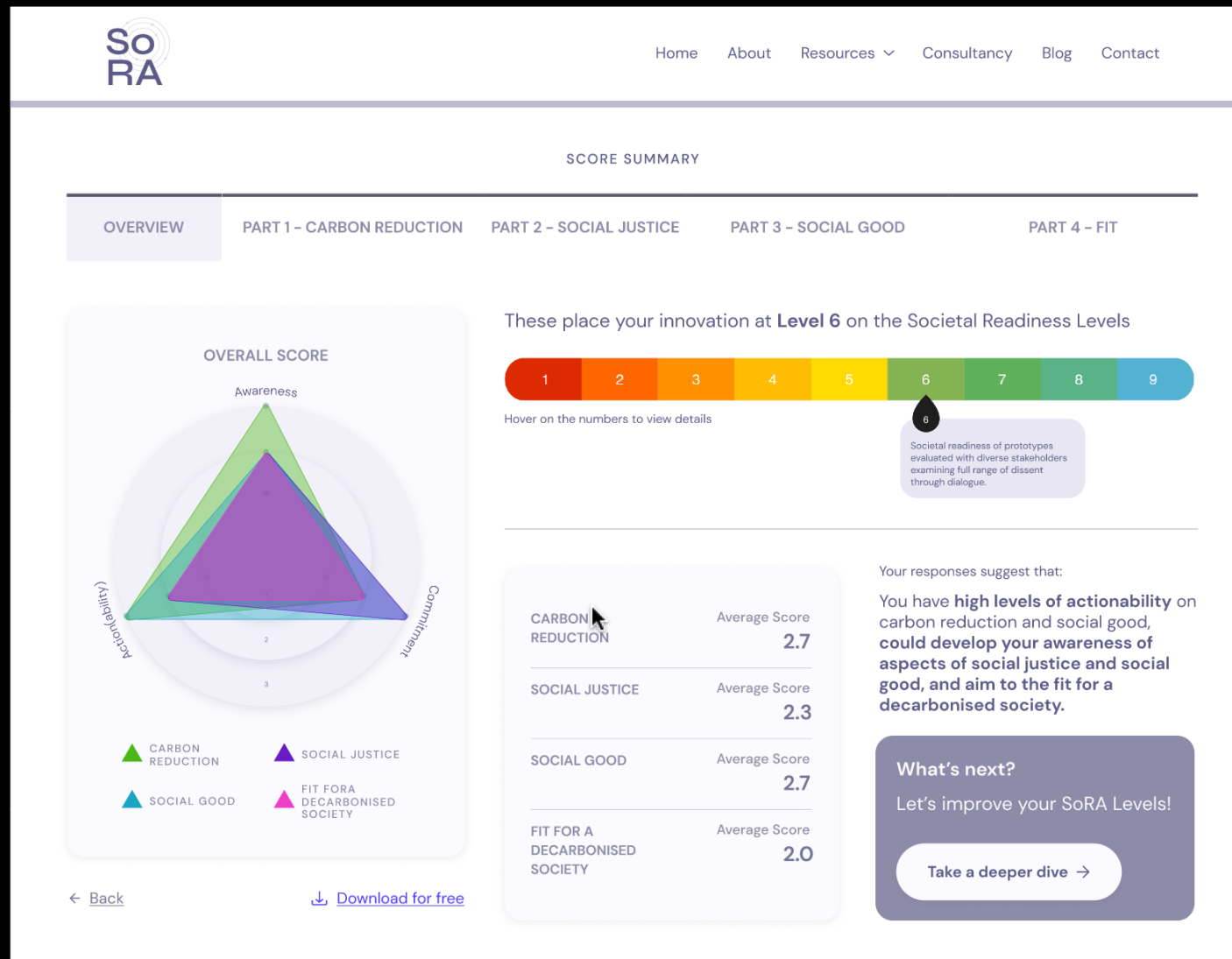How well does/could it fit with where society is?

Aims:
- Increase the ambition and quality of innovation
- Increase the 'fit' of innovations
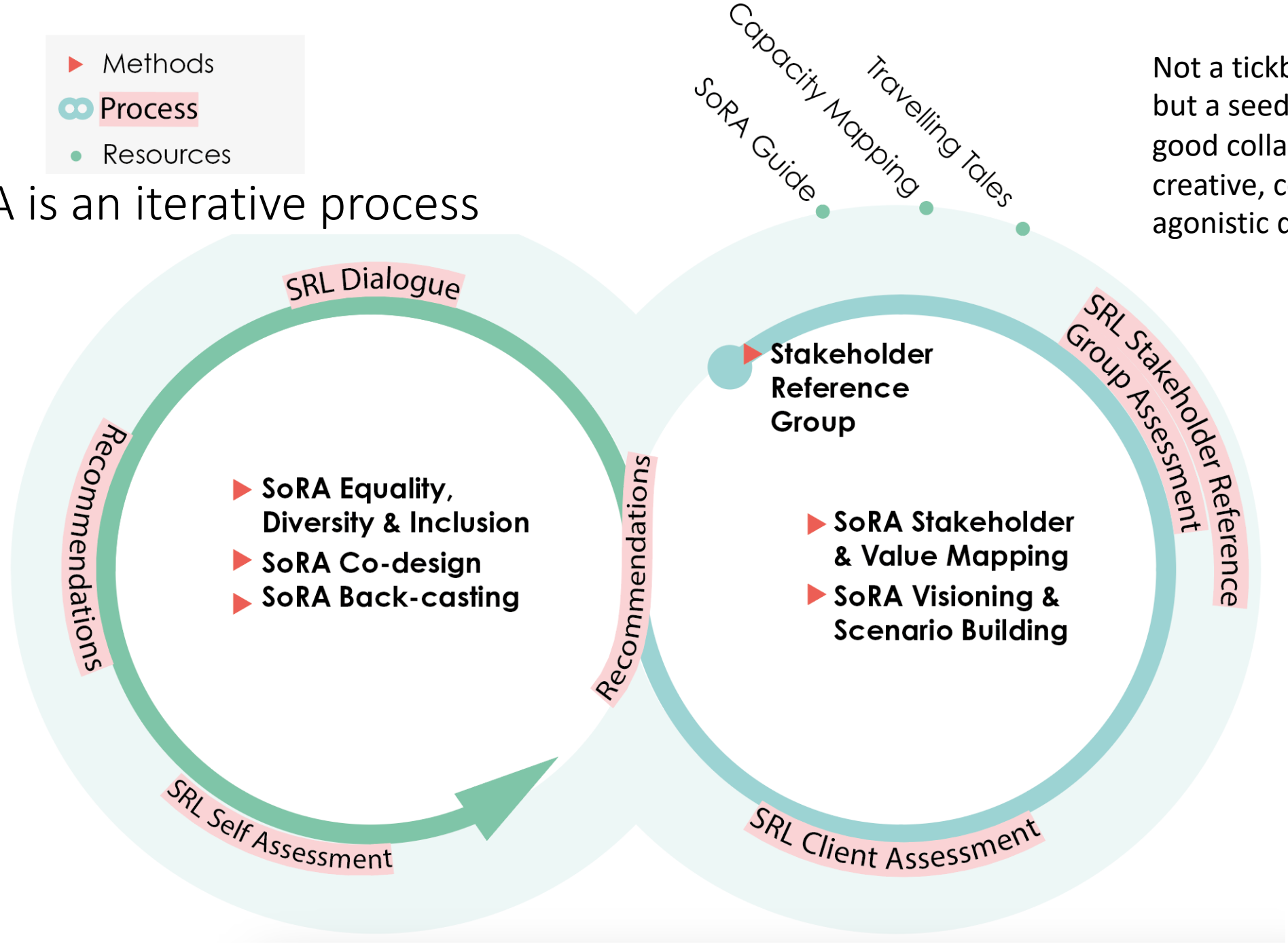- De-risk procurement

Screenshot from prototype online platform for Societal Readiness Assessment

Legend:
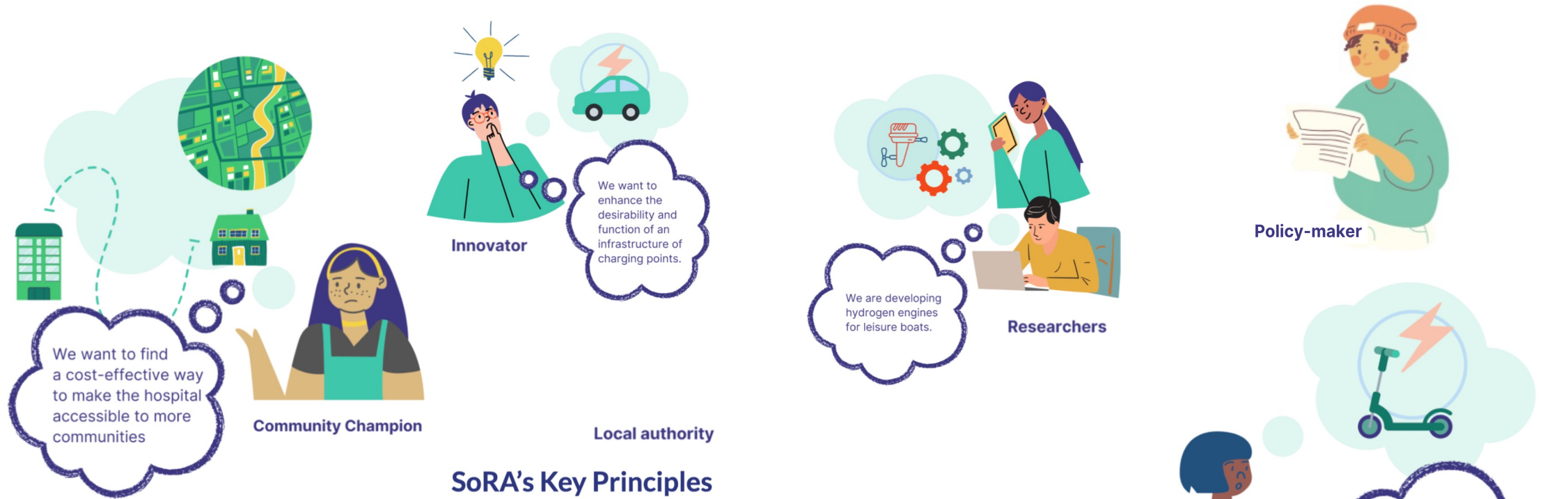- ▶ Methods
- ∞ Process
- ● Resources

SoRA is an iterative process

SoRA Guide · Capacity Mapping · Travelling Tales

Not a tickbox exercise, but a seedball to grow good collapse from creative, constructive agonistic dissent

SRL Dialogue

Recommendations

SRL Self Assessment

▶ SoRA Equality, Diversity & Inclusion
▶ SoRA Co-design
▶ SoRA Back-casting

Recommendations

Stakeholder Reference Group

▶ SoRA Stakeholder & Value Mapping
▶ SoRA Visioning & Scenario Building

SRL Stakeholder Reference Group Assessment

SRL Client Assessment

Societal Readiness Assessment can be done from many different perspectives

SoRA is a reflexive assessment that helps you to reflect on how socially responsive your green mobility innovation is against societal readiness indicators and supports the improvement potential of your innovation.

PURPOSE

- Decarbonising Transport Innovation projects and initiatives.

- Inform decision making of zero-carbon adoption.

- Supporting cross-sector collaborations.

BENEFITS

- De-risking procurement and mobility investments.

- Including community, organisations and local government in the readiness assessment of new technologies and initiatives.

- Increasing sustainability of mobility innovation.

From a participant:
The SoRA forum is an excellent way of managing constructive dissent. A key aspect of this is to ensure that the choices open to the group all involve radical change