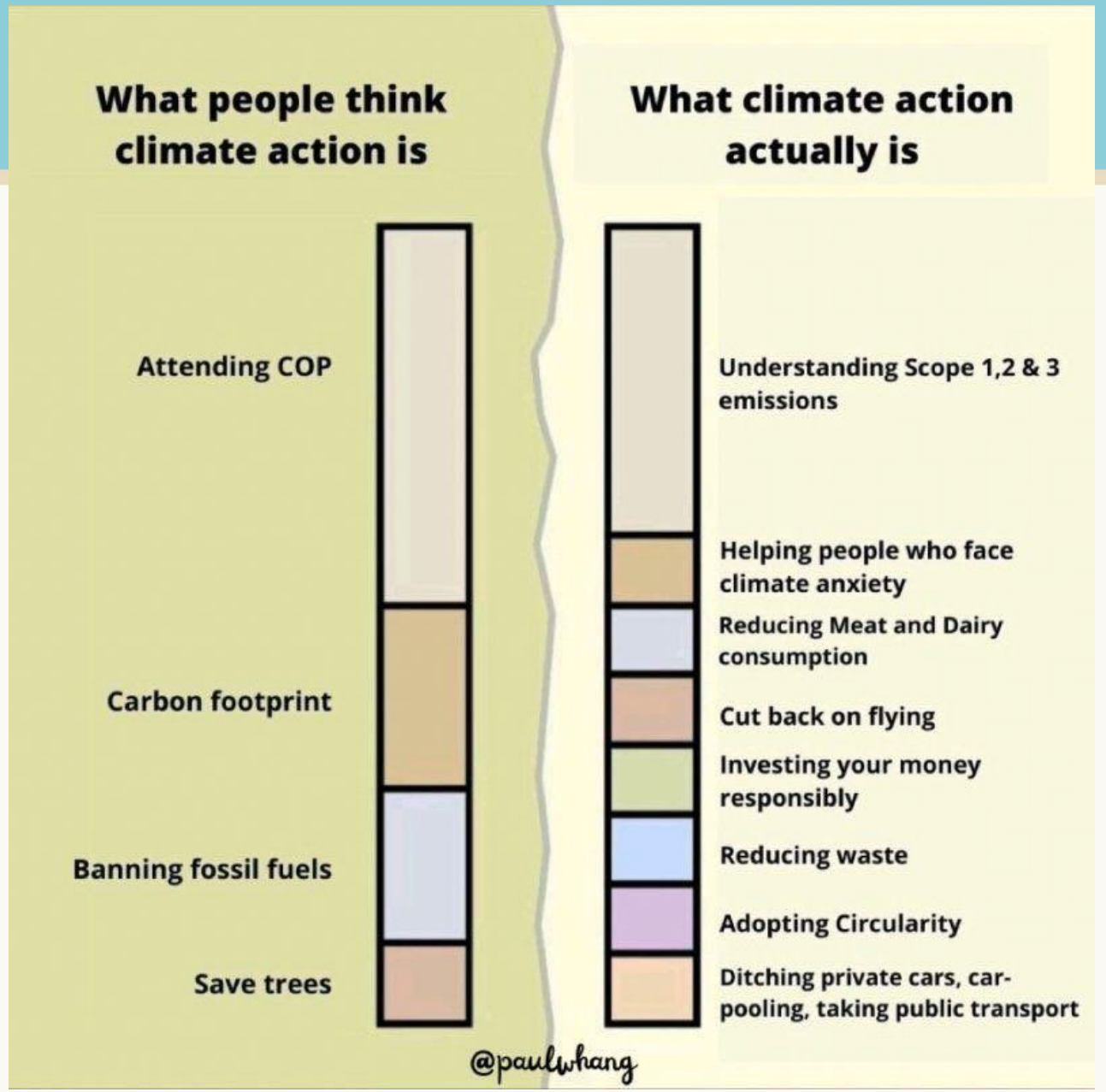
How do we motivate Action?

A Transition is coming, one way or another.



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A little journey

Maybe a "thought experiment" in what LbD describes as action for Transitions – a model based on words for cooperative domestic action.

How did we start?

- We started with a simple question:

  "How would a 'Good Life' be in 2050?"

- This is kind of like asking how you'd like to live in 2050, but there are some restrictions
  - It must be in a carbon-neutral context—or in a 2-1.5˚ emissions envelope;
  - It must be adapted to climate impacts of 2-1.5˚;
  - It must be attractive
- The Transition is a journey. And we're late.

How do we map the transition?

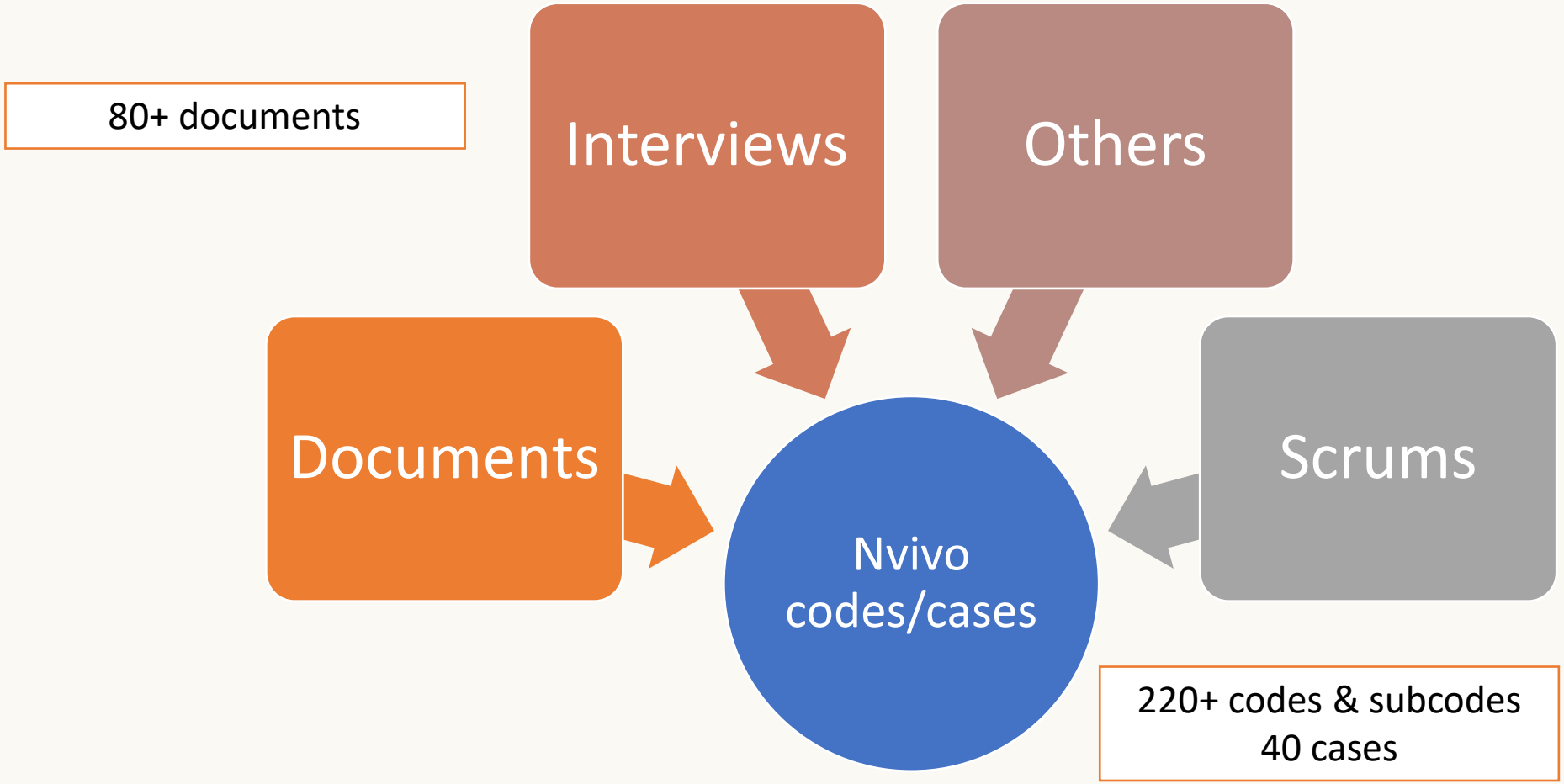
- If we focus on **direction** and **trajectory**, we lose position—where we are, what's around us
- If we focus on **position**, we lose direction—where things are going, where they've been, and where they could go
- **We have to keep both perspectives in mind**

The LbD Process

- We don’t start from a trajectory, or from emissions metrics, but from a **vision** of what we want in 2050.
  - This anchors coherence over time
- The Narrative is an imagined journey to the vision
  - Steps and milestones to walk us to the vision
  - Not an open-ended narrative

Our Starting Period	The Narrative	The Vision
Initial conditions	“Stepping Stones”	2-1.5˚
		Convivial, Dignified

Knowledge Management- Process



Nvivo coding

MODELING GROUP

There is an assumption that there is a sense of a good everywhere - how this is addressed in specific places
There is also a sense of inertia - people not necessarily where are the inflexion points
We will also need some of the discussions on macroec decision making in change

Jose - if we could start thinking about specific areas ar would look in a particular place.

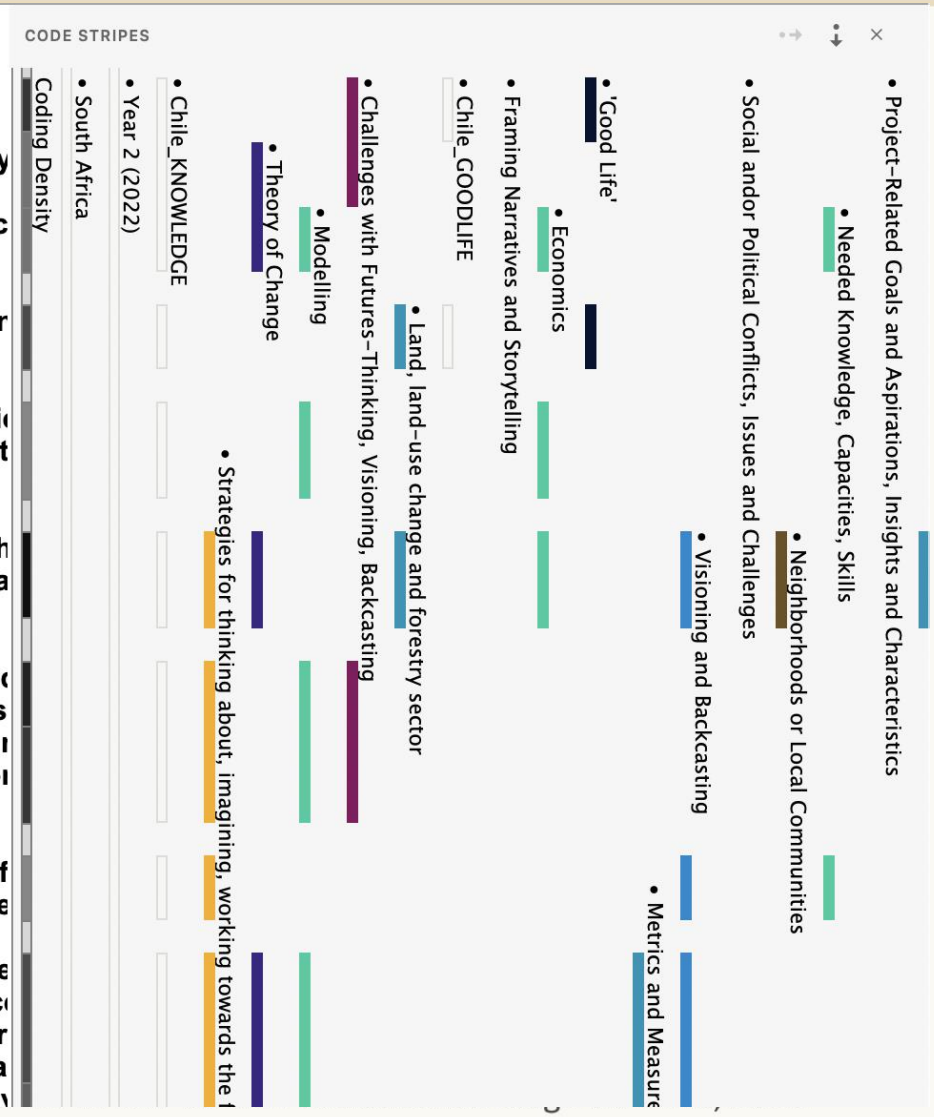
Julia - what kind of model allows for real human decisi there is a ceteris parisbus approach, where we ignore t of systems modelling are you planning to use?

Steve - Community based design process - what is it th willingness to pay for that. They you start pointing wha do you see it happening - this is a place based design.

Andrew - Tools we have available are large sectoral and models are very good in technology and on specific as are they for plotting emissions, but less good on plotti an emissions point of view, and then try to plot them o are planning to consider.

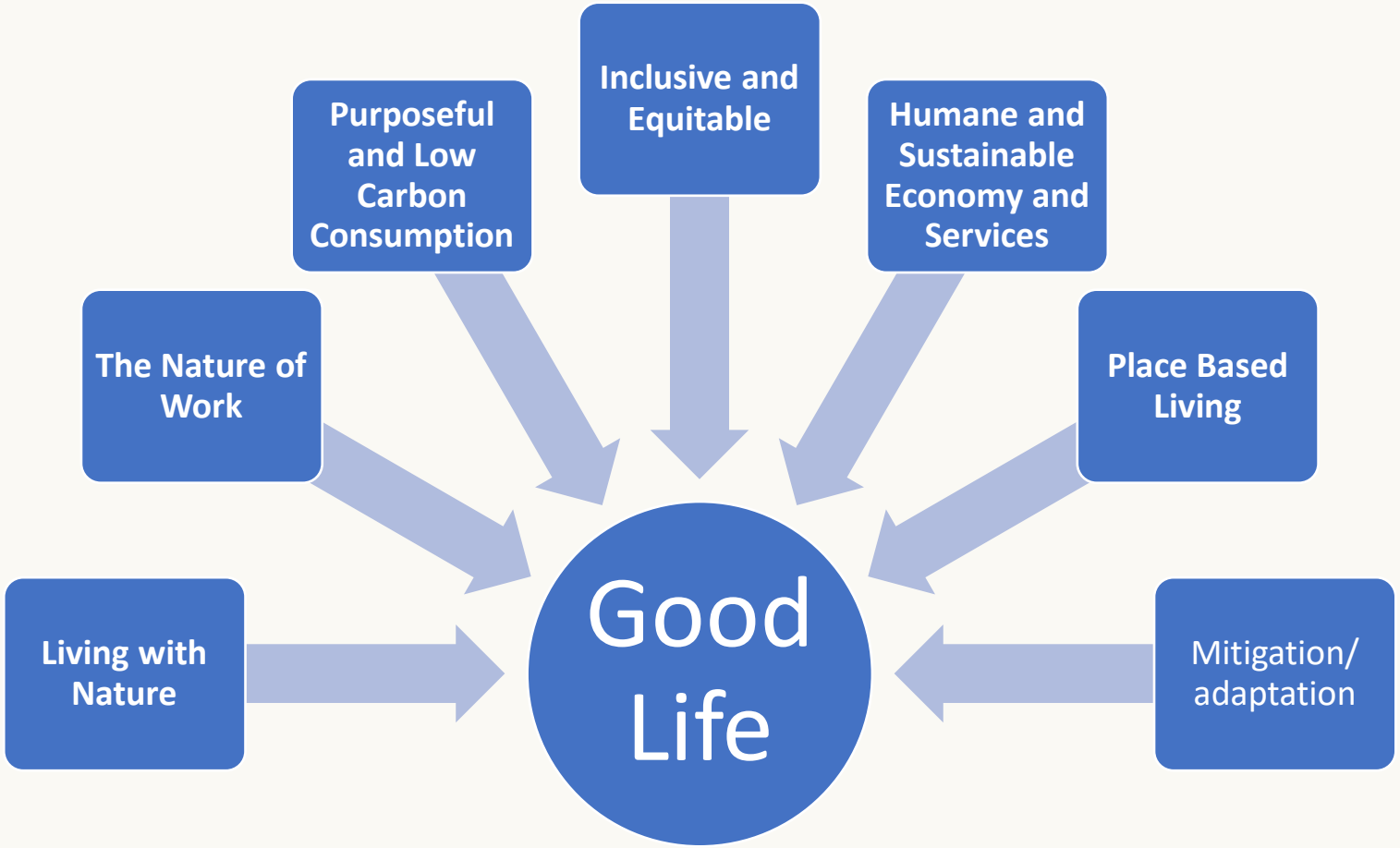
Another case is to start looking about how to use this f 2050 and then go back. The opposite of the process we

Jonghi a vision - two part. A vision for society will have society. Once you have a vision, there are consequenc want to do a constrained analysis - what are the constr something - one can do this at sectoral level. An idea a intersting - interventions that are trend breaking to mo



Good Life and other themes

Good Life – the notion



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The visions

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What did People Say?

- Originally we heard a *lot* of different things about the visions—some very specific to their country and area, others more general
  - 3-4 day work week, more time with elderly, more dancing, etc.
- Then we asked people to consider a ***Eutopia***, and not just a Utopia. So we're imagining a *real* place. And this refined things towards the narratives.
- We also asked them about a ***Dystopia*** in 2050
  - The terrifying thing is that in <u>every</u> country, Dystopia was direct from BAU
- People wanted things to *change* between now and 2050.

(We've heard about "change" before)

… so, how?

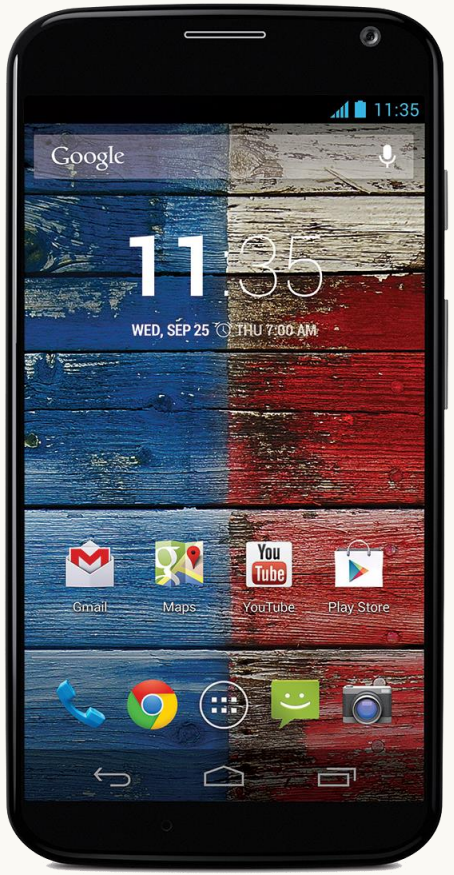
Las visions y narrativas están en www.learningbydoingproject.org …

"How" for the Transition?

The project found a few of things, some of which we weren't expecting.

1. Looking at this as an economy-wide, carbon-pricing-based Transition would be *politically* catastrophic.
   a) *Postponing* the politically catastrophic would be *economically* catastrophic.
2. If the Transition doesn't happen *fast*, we're in trouble (see above)
3. For the Transition to happen *fast*, it needs to be **attractive**.
4. "Technology" was not the most important element in the Transition
5. For the Transition to happen fast, *some* **facilitation** is necessary
6. "**Bottom-up**" unlocks many, many co-benefits, including **inclusion**.

How's "**Technology**" not so important?



Tech doesn’t always explain itself

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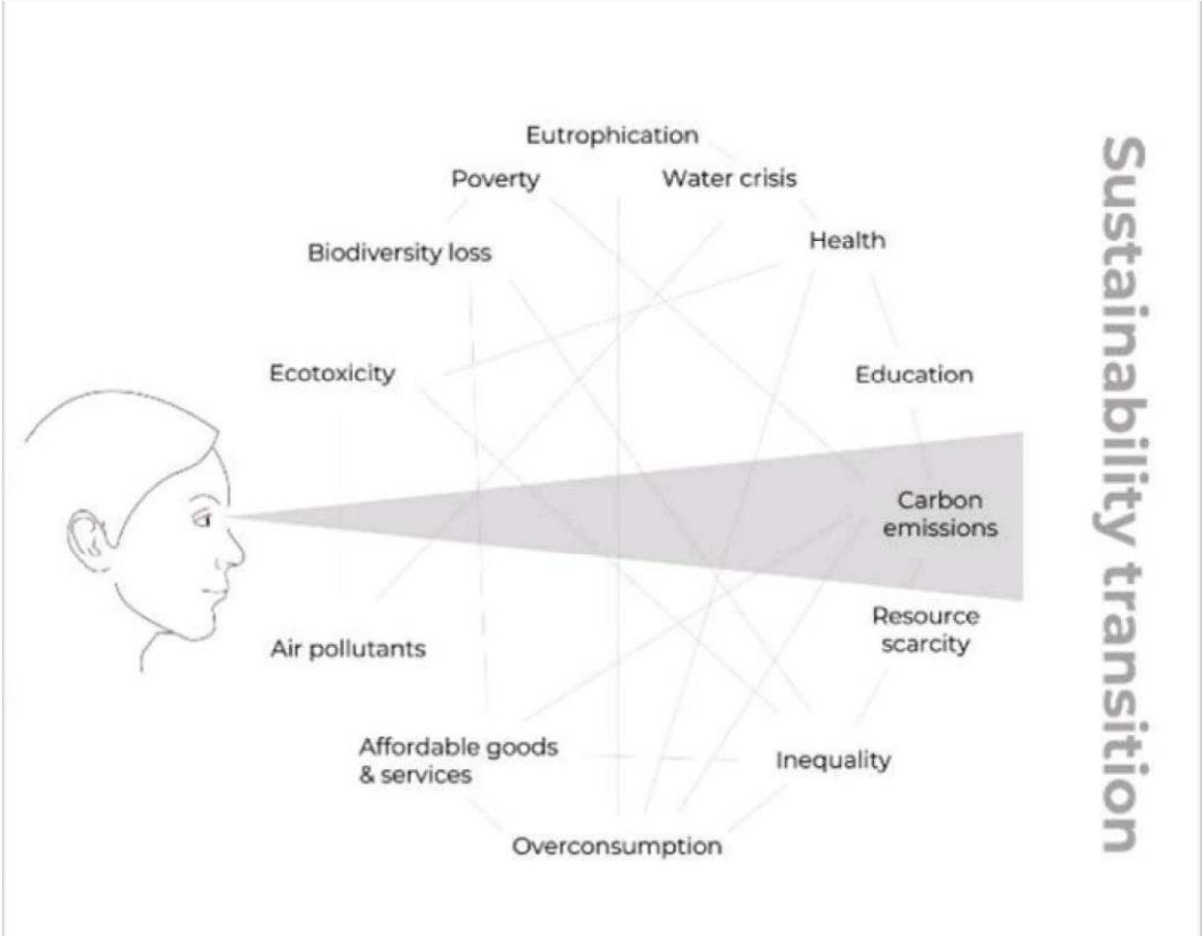
About “**facilitation**” in bottom-up

- It’s not just financial facilitation, though that will be necessary
  - Cognitive and experiential barriers
  - We need some orientation on new technology—be exposed to it
- It means implying overcoming practical uncertainties
  - Trying things out
  - Seeing a *direction of travel*, **testing it,** and understanding its benefits
  - Seeing that it collaborates to a ”Good Life”, to “wellness with dignity”, to working with Nature
- *Then*, the financial mechanisms

A word about “Top-down”…

- “Top-down” almost by definition we get into tunnel vision
  - About the design of the Project
  - About the aims of the Project—which normally are about emissions
- You often overlook co-benefits when looking at things “top-down”
- “Top-down” projects need to **import** innovation, as “tunnel vision” means that local innovation would not be prioritised.
- “Bottom-up” delivers opportunities for innovation and local economic benefits—more localised value-add, more local opportunity and inclusion

About “Top-down”



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About “Bottom-up” and co-benefits

Building blocks for (sub)sectors

- Orientation
  - Understanding new processes or technologies
- Facilitation
  - Cognitive, and financial support
- Bottom-up
  - Supports economic inclusivity
  - Allows for innovation and spread
  - Makes the measures digestible
  - Broader creation of opportunities
  - Agents have Motivation to Act

- Not necessarily one monolithic package of regulation
  - This plays to larger, more sophisticated actors
  - Aim regulation and guidance bottom-up
- Be aware of governance for actors, and the right signaling
  - long-term and short-term – position and direction, with KPIs (words *and* numbers)

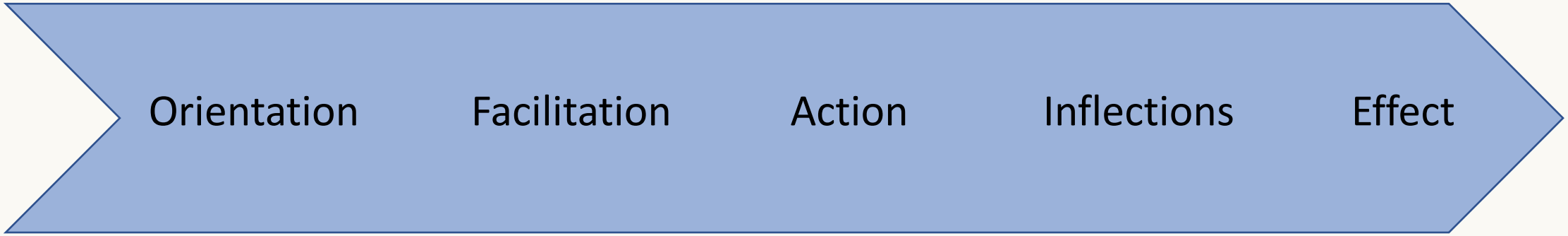
Bottom-up, Sectoral Transitions

(We only have time for *one* sector)

We looked Transitioning Transport

Changes derive from introduction of new vehicle drive trains (ICEs are replaced hybrids, plug in hybrids, electrics, fuel cell, and hydrogen) plus addition of accompanying infrastructure (chargers and stations). Cargo shifts to trains, catenaries, hydrogen. Transport efficiency improves through improved road control and better fuels; transport needs are also avoided through shifts in work practices, and changes in urban environment requiring less transport. New cottage industries emerge to supply sector. Agents are users, importers, cottage industries (vehicle stock) and public sectors (charging and station infrastructure; roads and tracks). Self-financed (vehicle stock), blended (cargo) and bonds (infrastructure)			
Immediately – 2022-2027	**Short Term – 2028-2035**	**Medium Term – 2036-2040**	**Long Term – 2040-2050**
Improvements on fuel quality and regulations for public transport	Replacement schedule for mandatory Internal combustion engine (ICE) vehicles in force and replacement continues and expands		Full replacement of ICE vehicles for electric built in equivalent
Programs for better use of climate friendly fuels	Replacement schedule for buses and cargo trucks with alternatives in force and replacement continues and expands		Most heavy goods cargo replaced by catenaries, hydrogen, trains, BRT, bicycles, trains and others replace use of local ICE in cities
Introduction of Bus rapid transit systems and announcement of congestion pricing and road control measures	Expansion to % tbd of road usage measures		Trains and EV only for longer distance travel
Introduction of programs and incentives for electric bicycle provision and roads	Further use of PHEV and EV and others advances		Most road usage re-ordered
Announcement of discussions for replacement schedule for Internal combustion engine	Expansion of residential charger use in major cities		City built environment and work practice transformed so as to use less transport

Pathways for Bottom-up, (sub)sectoral



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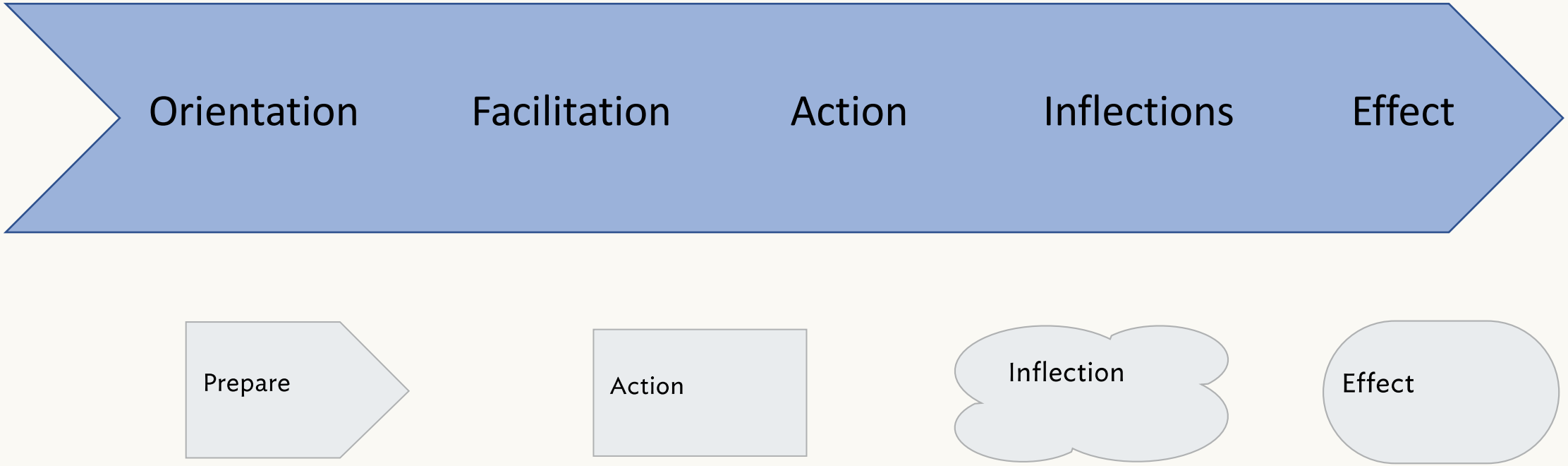
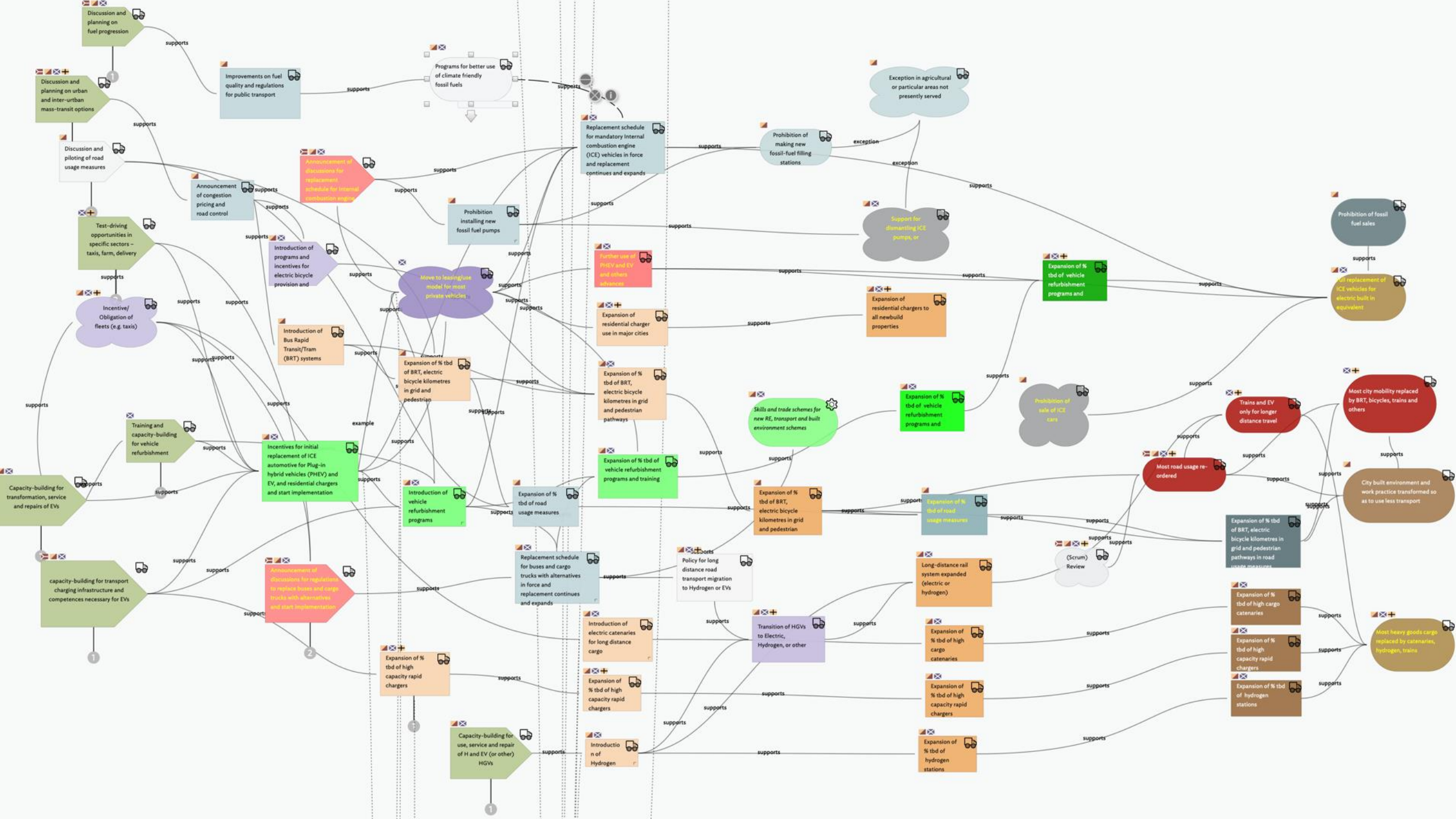
Pathways for Bottom-up, (sub)sectoral

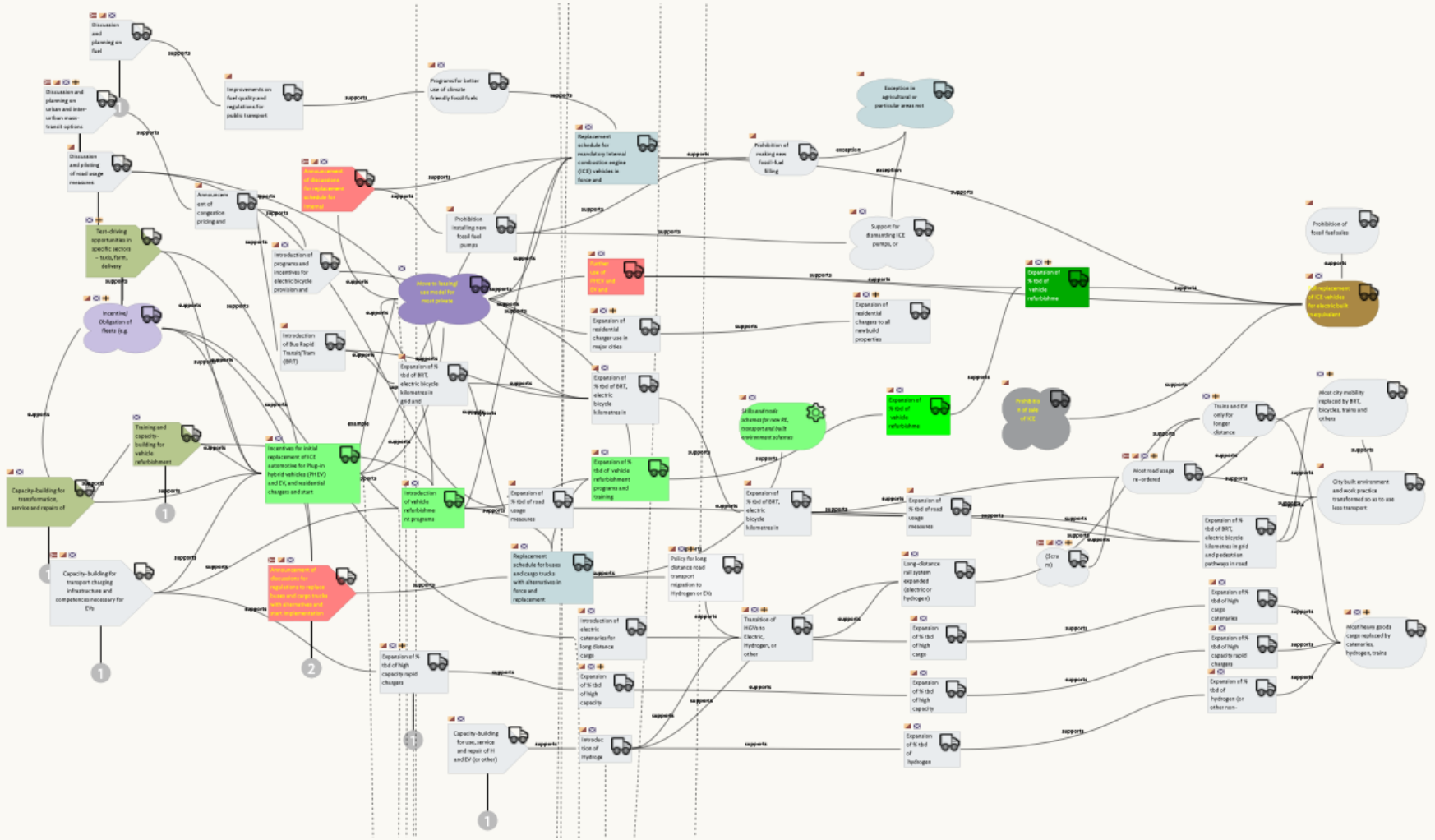



Discussion and planning on fuel progression
supports
Improvements on fuel quality and regulations for public transport
supports
Programs for better use of climate friendly fossil fuels
supports
Discussion and planning on urban and inter-urban mass-transit options
supports
Discussion and piloting of road usage measures
Announcement of congestion pricing and road control
supports
Announcement of discussions for replacement schedule for internal combustion engine
supports
Replacement schedule for mandatory Internal combustion engine (ICE) vehicles in force and replacement continues and expands
supports
Prohibition of making new fossil-fuel filling stations
exception
Exception in agricultural or particular areas not presently served
exception
supports
Prohibition installing new fossil fuel pumps
supports
Support for dismantling ICE pumps, or
supports
Prohibition of fossil fuel sales
supports
Full replacement of ICE vehicles for electric built in equivalent
supports
Test-driving opportunities in specific sectors – taxis, farm, delivery
supports
Introduction of programs and incentives for electric bicycle provision and
supports
Move to leasing/use model for most private vehicles
supports
Further use of PHEV and EV and others advances
supports
Expansion of % tbd of vehicle refurbishment programs and
supports
Incentive/ Obligation of fleets (e.g. taxis)
supports
supports
Expansion of residential charger use in major cities
supports
Expansion of residential chargers to all newbuild properties
supports
Introduction of Bus Rapid Transit/Tram (BRT) systems
supports
Expansion of % tbd of BRT, electric bicycle kilometres in grid and pedestrian
supports
Expansion of % tbd of BRT, electric bicycle kilometres in grid and pedestrian pathways
supports
Prohibition of sale of ICE cars
supports
Most city mobility replaced by BRT, bicycles, trains and others
supports
Trains and EV only for longer distance travel
supports
Most road usage re-ordered
supports
City built environment and work practice transformed so as to use less transport
supports
Training and capacity-building for vehicle refurbishment
supports
Incentives for initial replacement of ICE automotive for Plug-in hybrid vehicles (PHEV) and EV, and residential chargers and start implementation
example
supports
Skills and trade schemes for new RE, transport and built environment schemes
supports
Expansion of % tbd of vehicle refurbishment programs and training
supports
Capacity-building for transformation, service and repairs of EVs
supports
Introduction of vehicle refurbishment programs
supports
Expansion of % tbd of road usage measures
supports
Expansion of % tbd of BRT, electric bicycle kilometres in grid and pedestrian
supports
Expansion of % tbd of road usage measures
supports
(Scrum) Review
supports
Expansion of % tbd of BRT, electric bicycle kilometres in grid and pedestrian pathways in road
supports
capacity-building for transport charging infrastructure and competences necessary for EVs
supports
Announcement of discussions for regulations to replace buses and cargo trucks with alternatives and start implementation
supports
Replacement schedule for buses and cargo trucks with alternatives in force and replacement continues and expands
supports
Policy for long distance road transport migration to Hydrogen or EVs
supports
Long-distance rail system expanded (electric or hydrogen)
supports
Expansion of % tbd of high cargo catenaries
supports
Introduction of electric catenaries for long distance cargo
supports
Transition of HGVs to Electric, Hydrogen, or other
supports
Expansion of % tbd of high cargo catenaries
supports
Most heavy goods cargo replaced by catenaries, hydrogen, trains
supports
Expansion of % tbd of high capacity rapid chargers
supports
Expansion of % tbd of high capacity rapid chargers
supports
Expansion of % tbd of high capacity rapid chargers
supports
Expansion of % tbd of high capacity rapid chargers
supports
Expansion of % tbd of hydrogen stations
supports
Capacity-building for use, service and repair of H and EV (or other) HGVs
supports
Introduction of Hydrogen
supports
Expansion of % tbd of hydrogen stations
supports

Transition of the Transport Sector

- **Transitions of Vehicles** – buses, cars, light-duty vehicles, etc.
  - This is the most visible part, and what many people focus on.
- **Fuel and energy for transport**
  - This is charging points, energy network, and alternative fuel distribution
  - This is more invisible, but the former simply won't work unless this moves
- **Urban and Suburban Mobility**
  - More a public, municipal and urbanistic consideration
  - *This* is the one that yields quality of life, as it means a reduction in traffic
- **Cargo and Long-distance Transport**
  - Involves infrastructure, but also with industrial logistics, which will evolve

Transition of a Transport Sector: Transition of Vehicles



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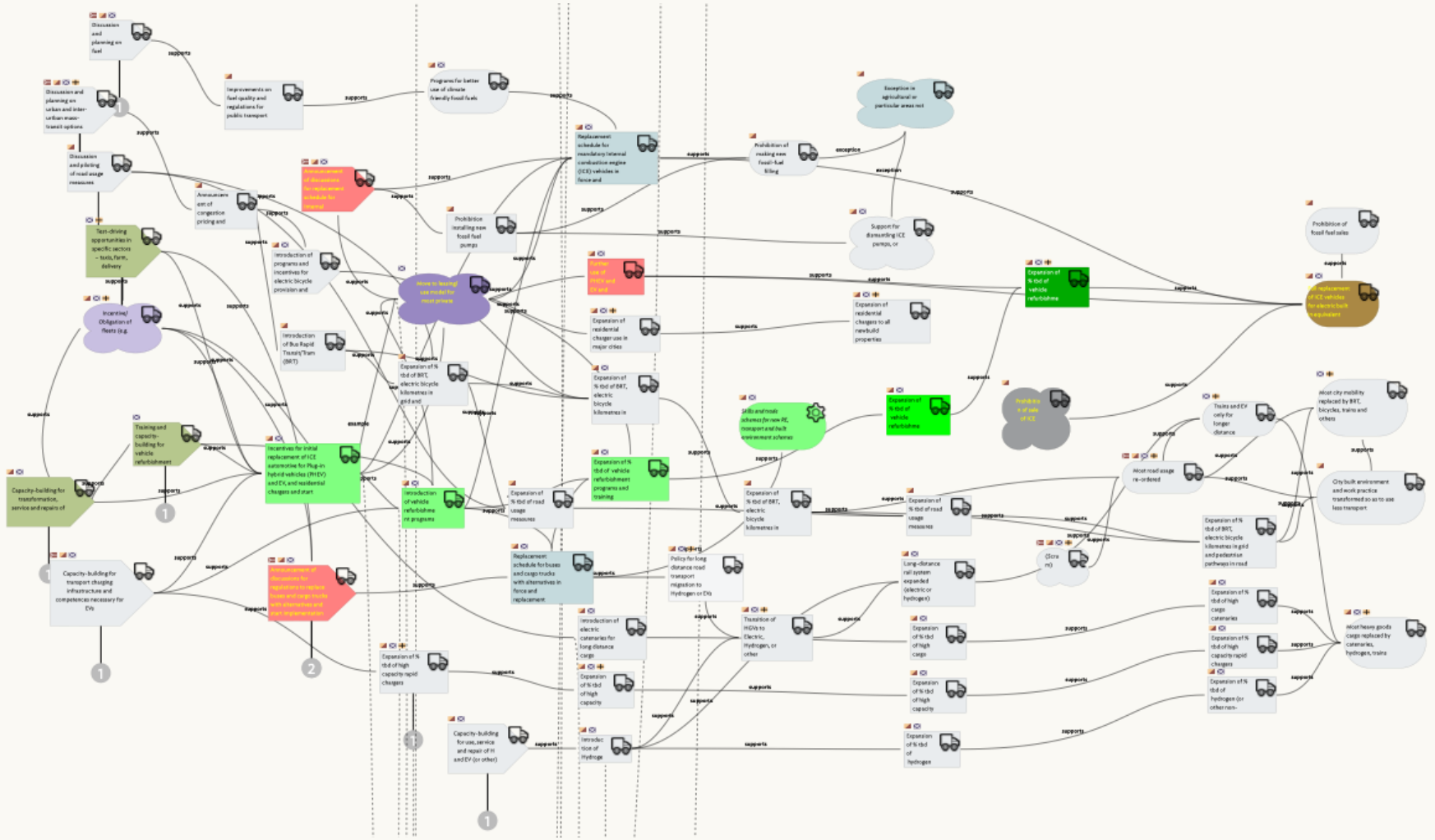
Transition of the Transport Sector (e.g.)

So, say in **Transition of Vehicles**:

- 2022-2027: **Prepare –** signaling of eventual transition away from ICE; incentives for initial replacements; incentives for charger rollout; capacity-building for retrofit/service/repair of EVs, introduction of facilitation for vehicle refurbishment/fleet transition; test-driving opportunities for fleets.
- 2025-2050: **Action –** Incentive/Obligation of fleets to transition
- 2028-2035: **Inflection –** Replacement schedule for buses, LDVs
- 2030-2040: **Inflection –** Leasing/use model for most private vehicles
- 2045-2060: **Effect –** Prohibition of sale of ICE vehicles

Transition of a Transport Sector: Transition of Vehicles



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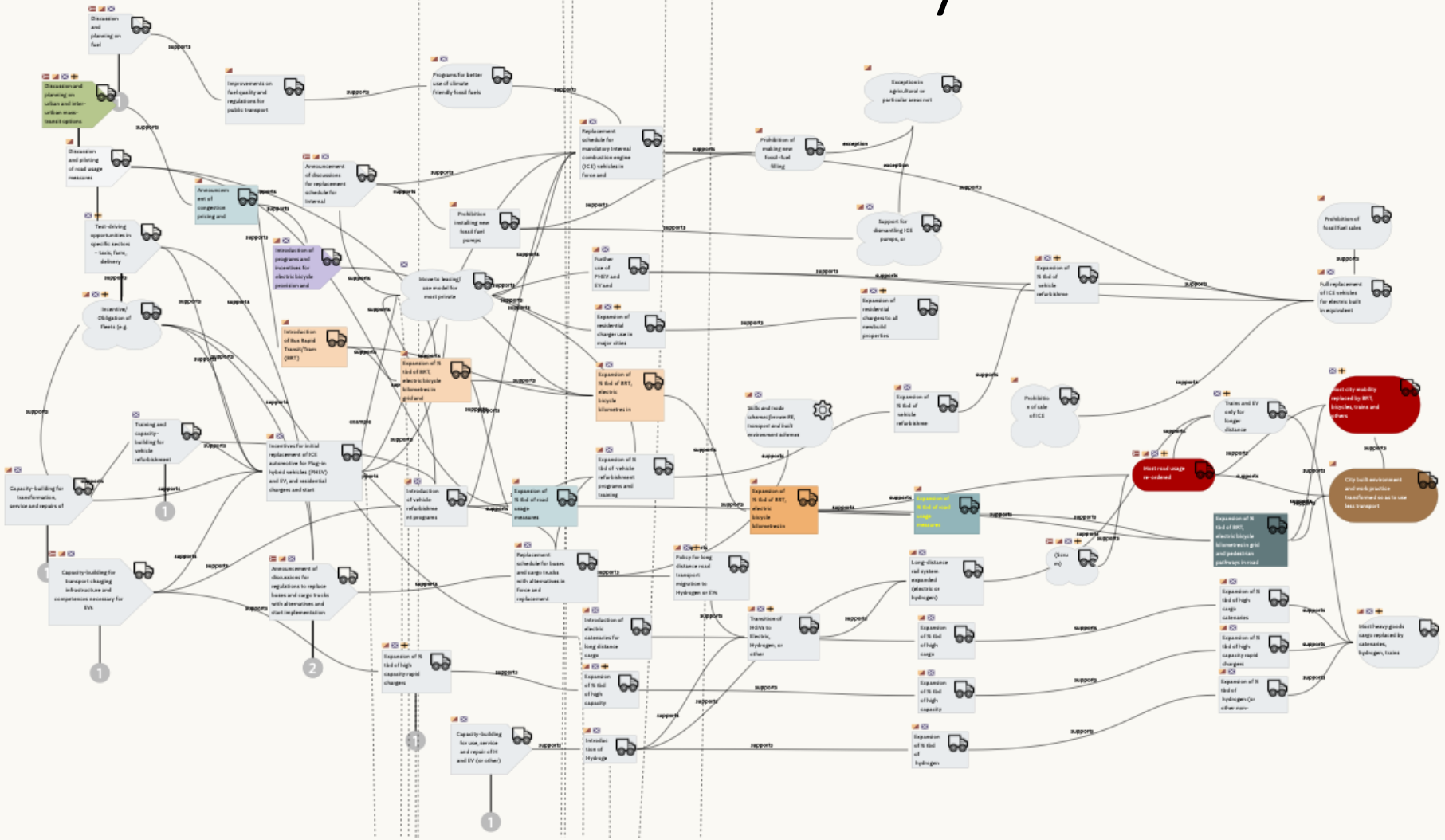
Transition of a Transport Sector: Urban and Suburban Mobility

LEARNING by DOING



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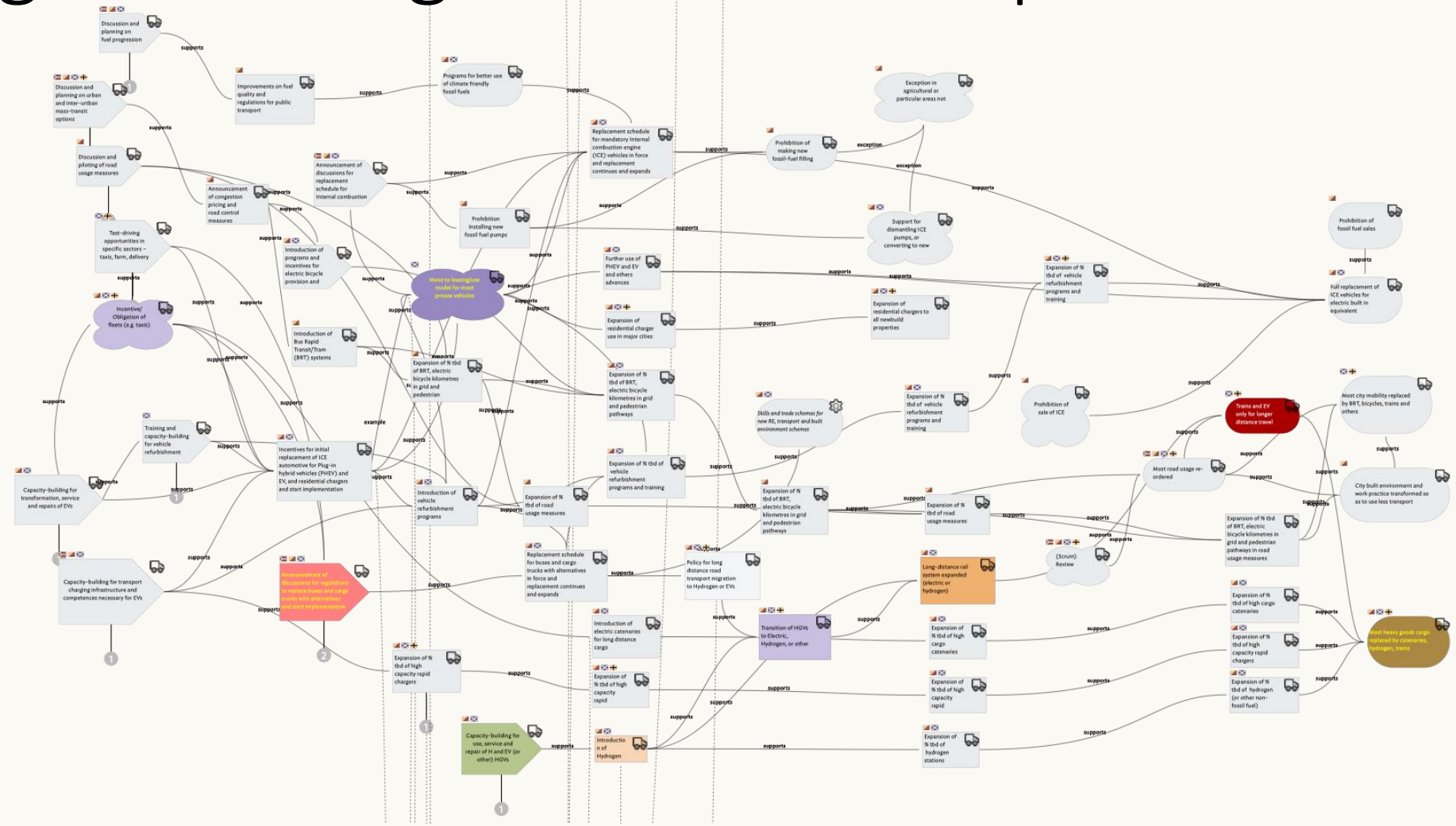
Transition of a Transport Sector: Cargo and Long Distance Transport



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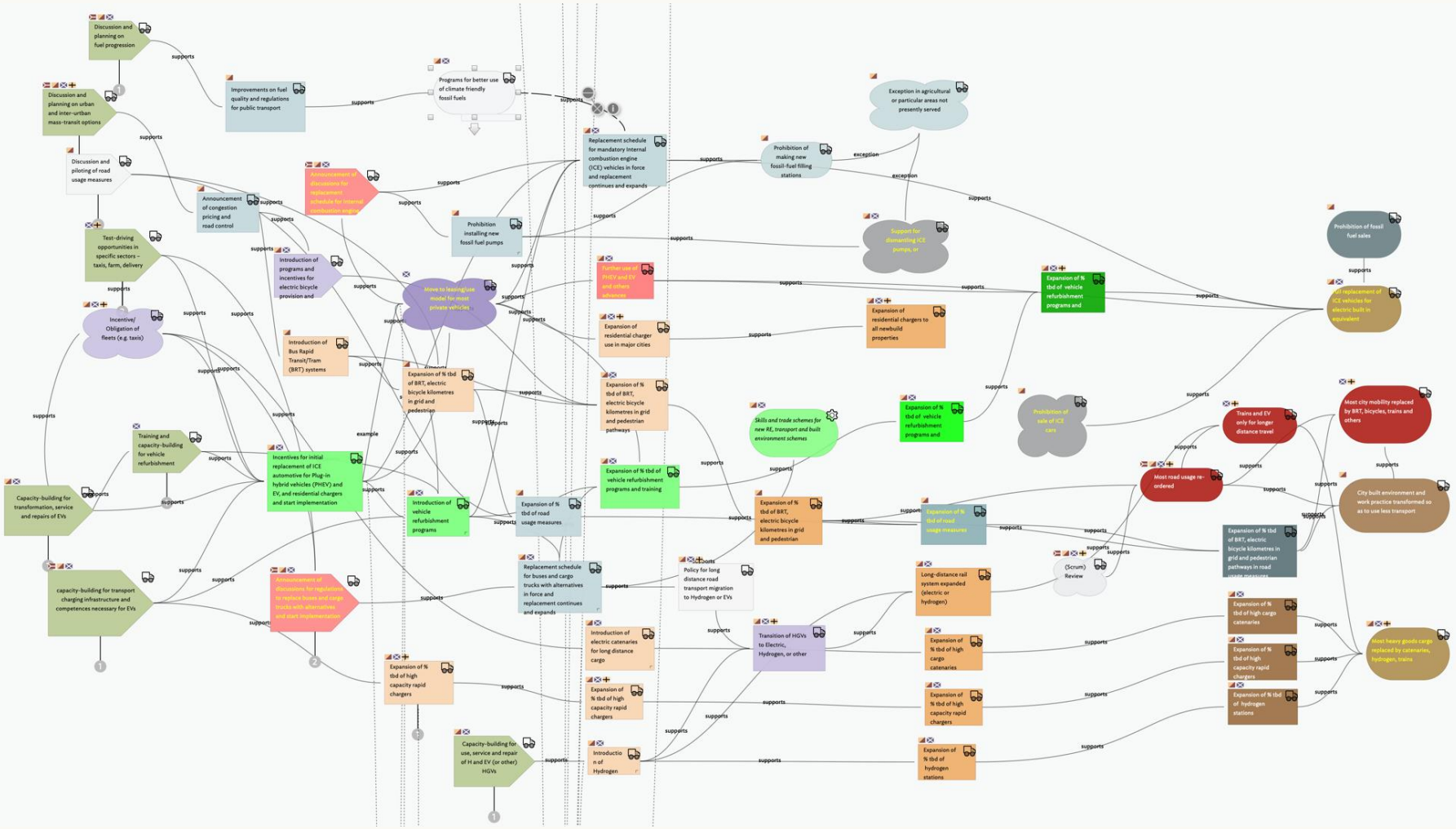
Transition of a Transport Sector



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Other sectors…

Energy

- Transition of Electricity Generation
- Grid and Energy Infrastructure
- Distributed Power Generation
- Energy Efficiency

Food and AFOLU

- Forestry Conservation and AFOLU
- Agricultural and Agro-industry Practices
- Food, Food Waste
- Rural Adaptation and Resilience

Other Sectors…

Waste / Circular Economy

- Importation and Manufacturing Regulation
- Waste Sites and Waste Management
- Circular Economy Capacity and Infrastructure Waterfall

+Built Environment

Finance

- Development of Banking System
- Sensibilization of Private Financial Services Sector
- Development of Leasing and Financial Instruments
- Carbon Taxes and Carbon Budgets

+Industry

Building blocks for (sub)sectors

- Orientation
  - Understanding new processes or technologies
- Facilitation
  - Cognitive, and financial support
- Bottom-up
  - Supports economic inclusivity
  - Allows for innovation and spread
  - Makes the measures digestible
  - Broader creation of opportunities
  - Has agent Motivation
- Generate examples of success
  - “Role models”
  - Success stories
- Successes in Transition
- Success in delivering a “Good Life”
  - 2-1.5˚ trajectory
  - Husbandry of Nature
  - Attractive: “wellness with dignity”

El Arte de Comunicación

Trayendo el proceso a tierra.

The visions

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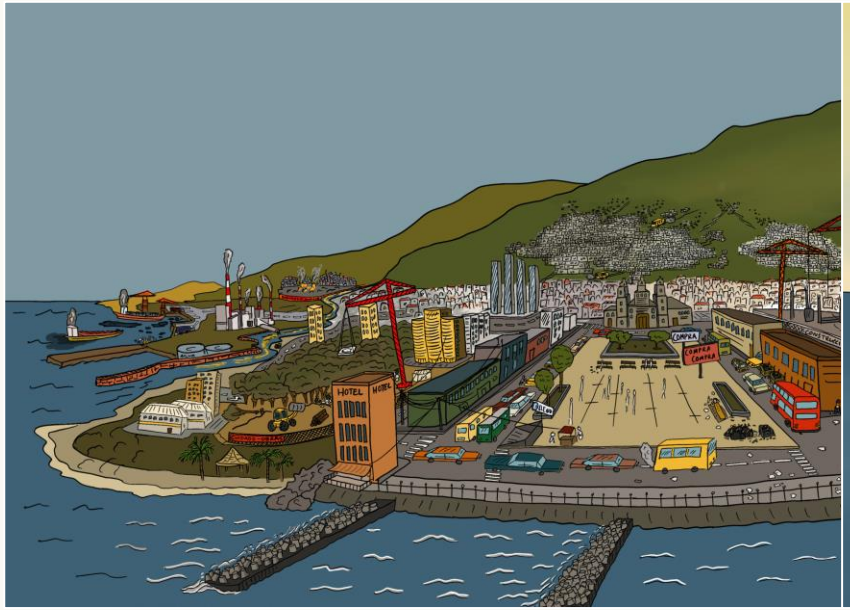
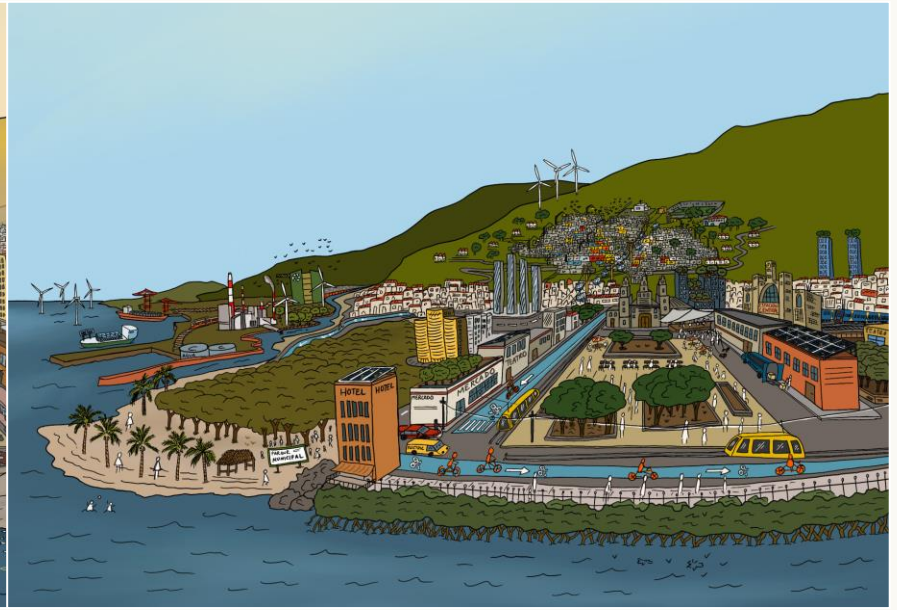
The visions

Present



Dystopia

Eutopia



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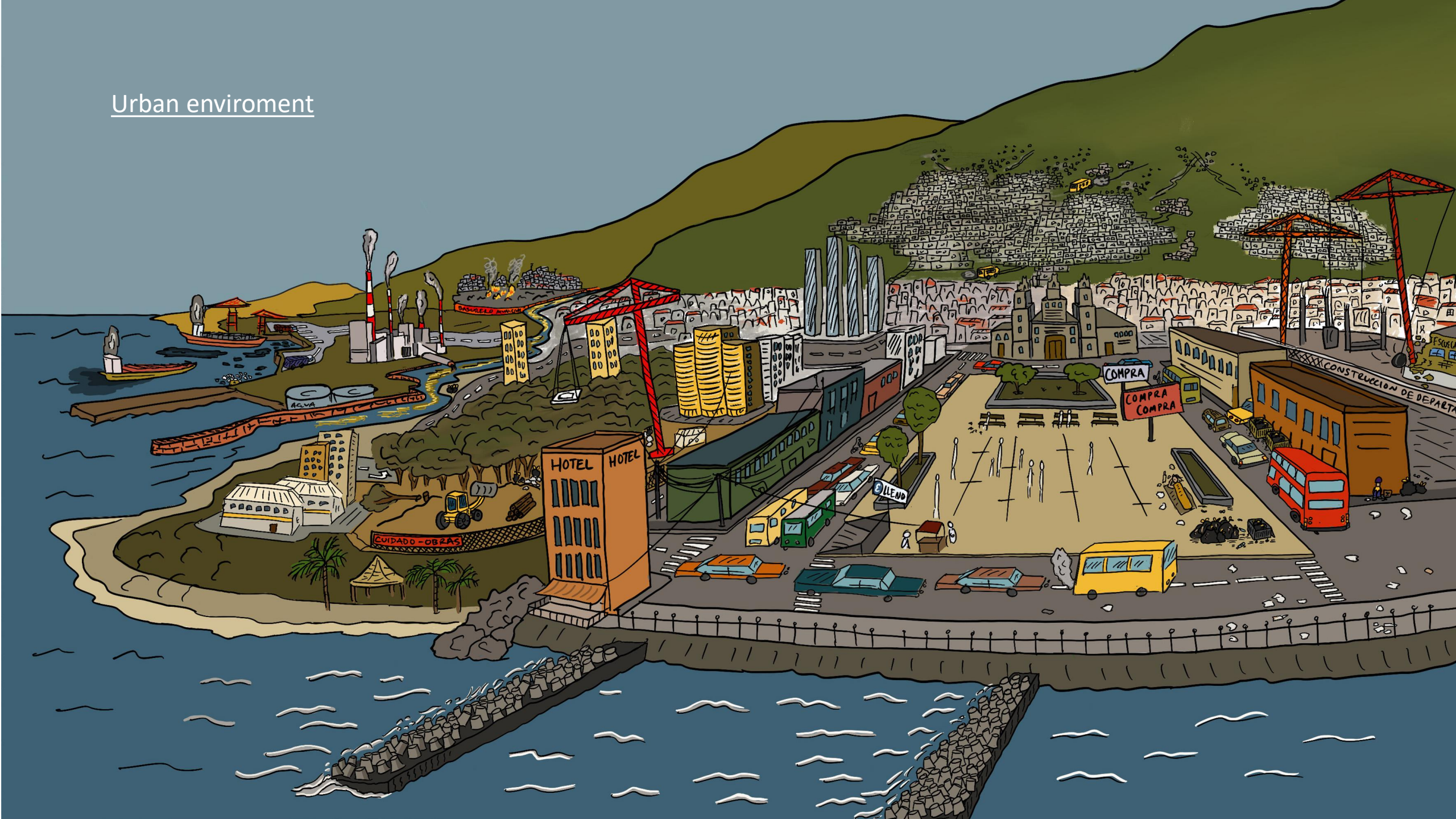
Rural enviroment

Urban enviroment



Direction and Position in a complex journey

- Describe what is actionable bottom-up, so as to capture co-benefits and focus governance
- **Goal is of a "Good life" for each sub-sector**.
- **Orientation** – **Facilitation** – **Inflection** – **Effect**, at sub-sectoral levels, with various stakeholder-actors.

Thank you.

Gilberto Arias, Energeia.