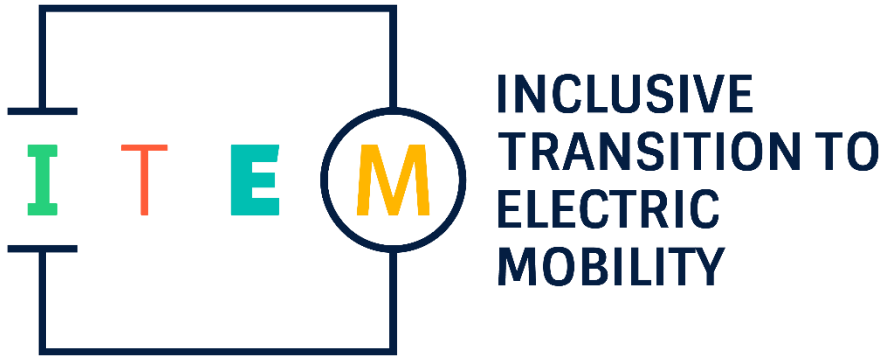
Policy perspectives on Electric Mobility transitions and innovations

Oxford Energy Day:
28 September 2023

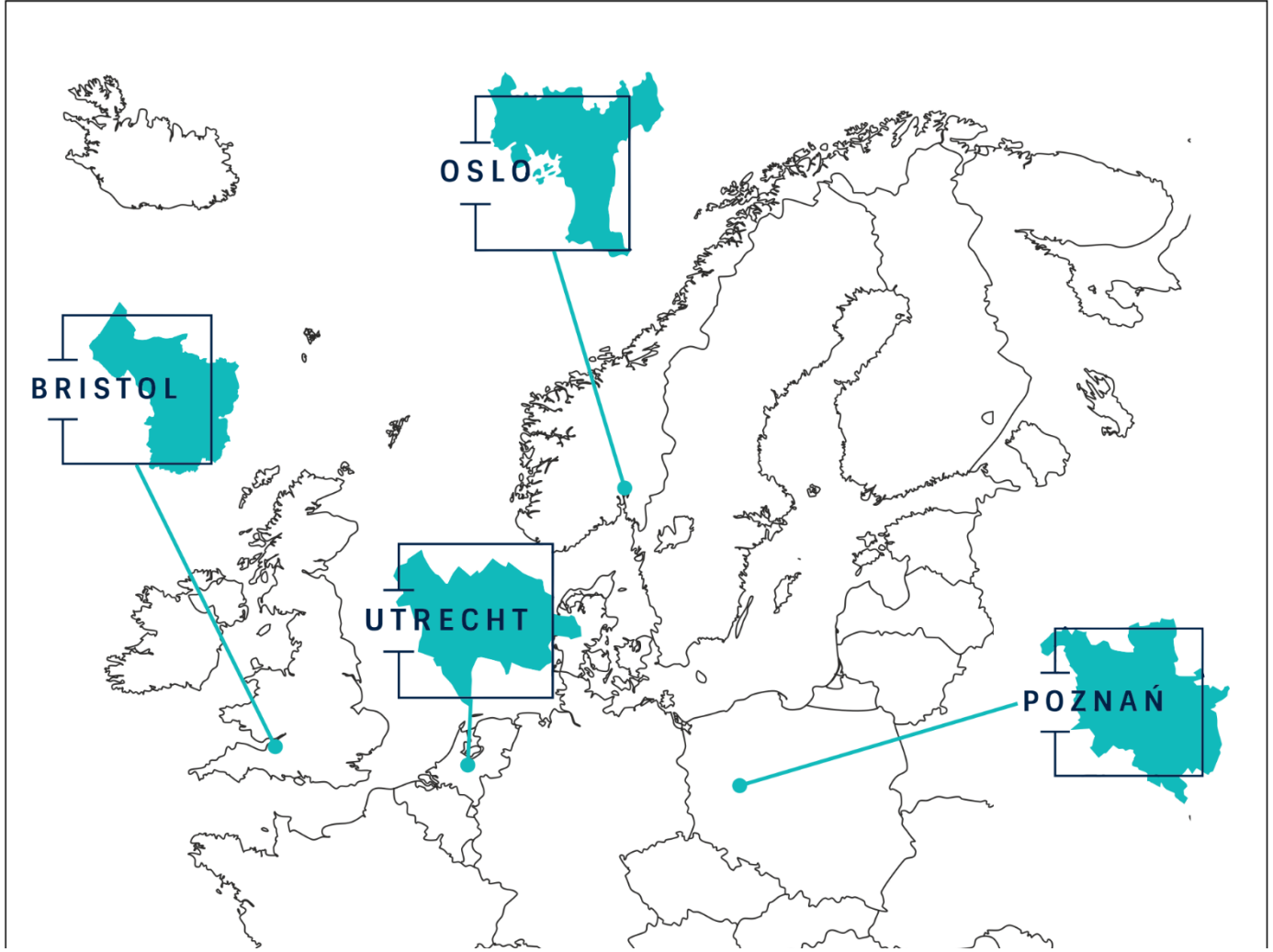
Research Question

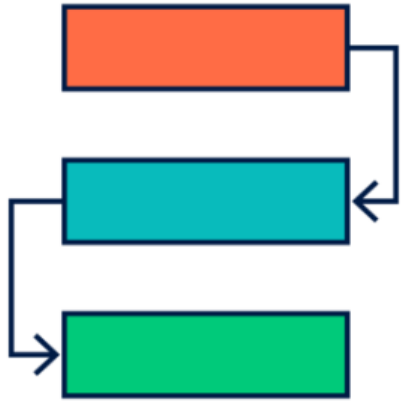
How innovative and inclusive is policymaking related to the transition to electric and sustainable mobility at the urban scale? And what prevents it from being more innovative and / or inclusive?



Order of Presentation

- ITEM project and context of research
- Socio-technical transitions and policy processes
- Innovation example: EV infrastructure
- The transition to electric mobility: EVs only?
- The transition / power dynamics of Clean Air Zones
- Inclusive innovation or missed opportunities?





Work Package 2: The Policy Perspective

Ways in which different dimensions of justice are taken into account in the ***policies*** and decisions that ***govern*** the EM transition

Partners: TØI (Norway), Utrecht University (NL), Heksagon & Adam Mickiewicz University (Poland)

ERANET - Urban Accessibility and Connectivity

Interview Participants' Role	Spatial Scale Discussed	Within Case Studies	Number of individuals
Local policymaker	City	Bristol, Oslo, Poznań	11
Intermediary	City	Poznań	2
Operator	City	Poznań	1
Electric mobility expert	City	Bristol	1
Policymaker	Metropolitan	Bristol, Oslo	4
Intermediary	Metropolitan	Bristol	2
Operator	Metropolitan	Bristol	1
National policymaker	National	Bristol, Poznań	3
Intermediary	National	Oslo, Poznań	5
Operator	National	Bristol, Oslo, Poznań	3
Electric mobility expert	National	Bristol, Oslo, Poznań	6
		Total	39

Socio-technical Transitions

- Neither singular, nor linear
- Spatially and temporally uneven
- Relational and contextual
- Geographic scales and transition levels assumptions

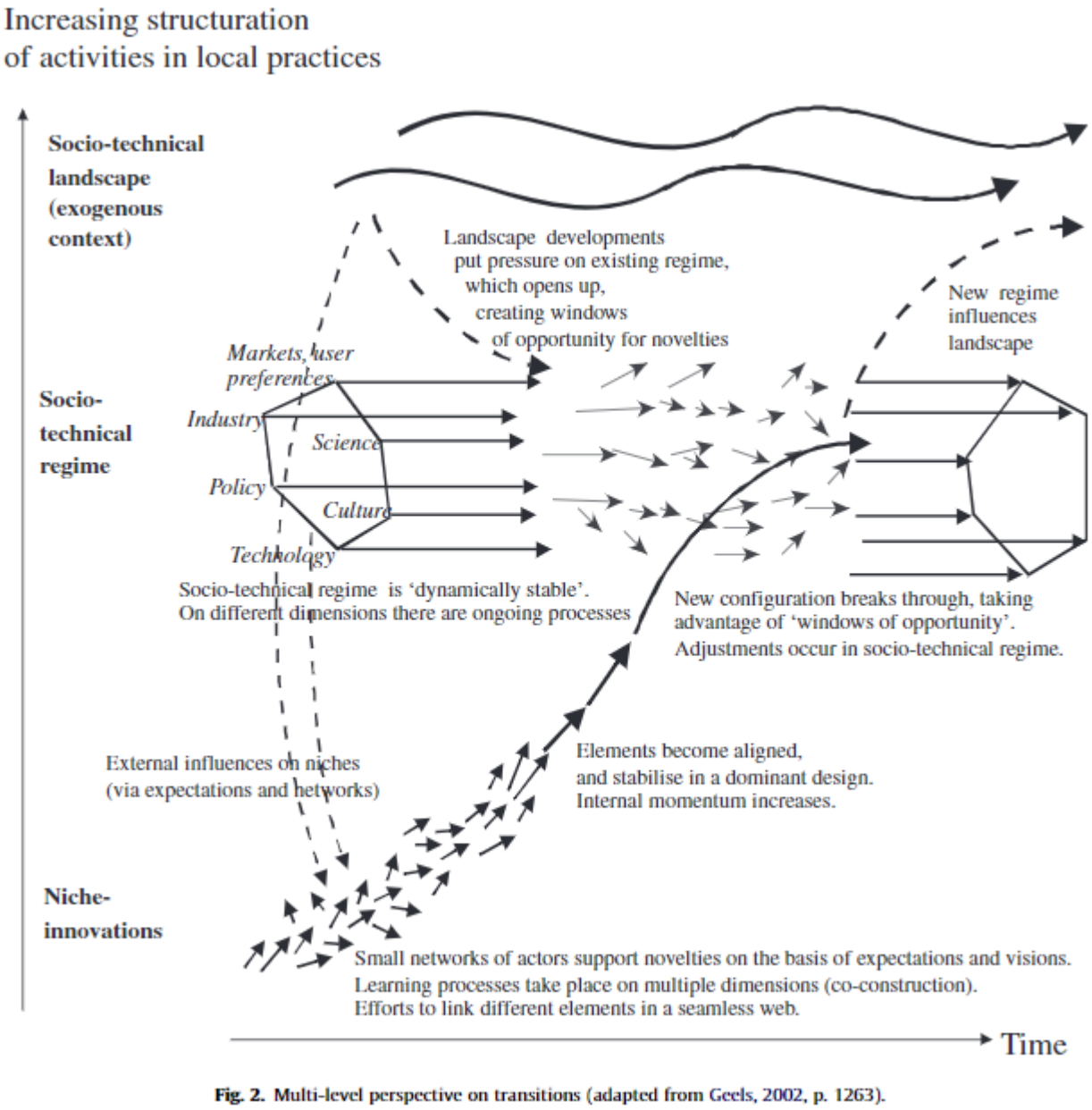
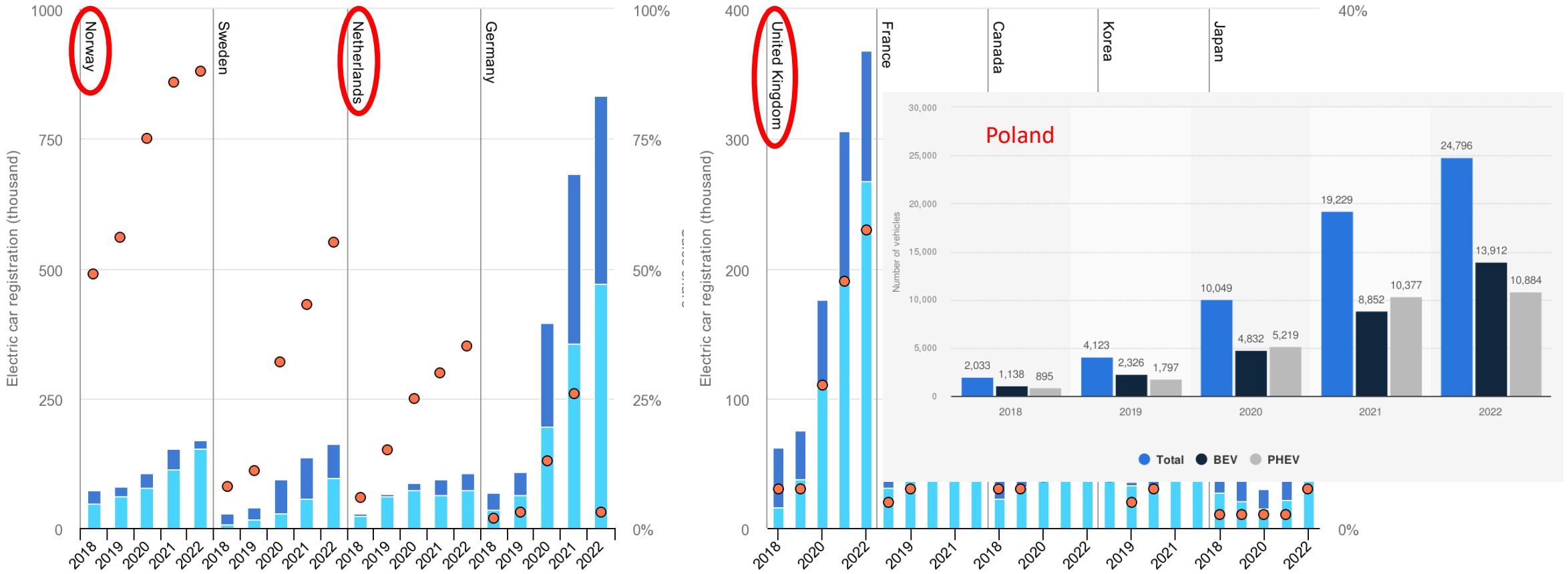


Fig. 2. Multi-level perspective on transitions (adapted from Geels, 2002, p. 1263).

Geels, F. W. (2012). A socio-technical analysis of low-carbon transitions: introducing the multi-level perspective into transport studies. *Journal of Transport Geography*, *24*, 471–482.

National legislation, targets, funding



IEA (2023), Global EV Outlook 2023, IEA, Paris https://www.iea.org/reports/global-ev-outlook-2023, License: CC BY 4.0

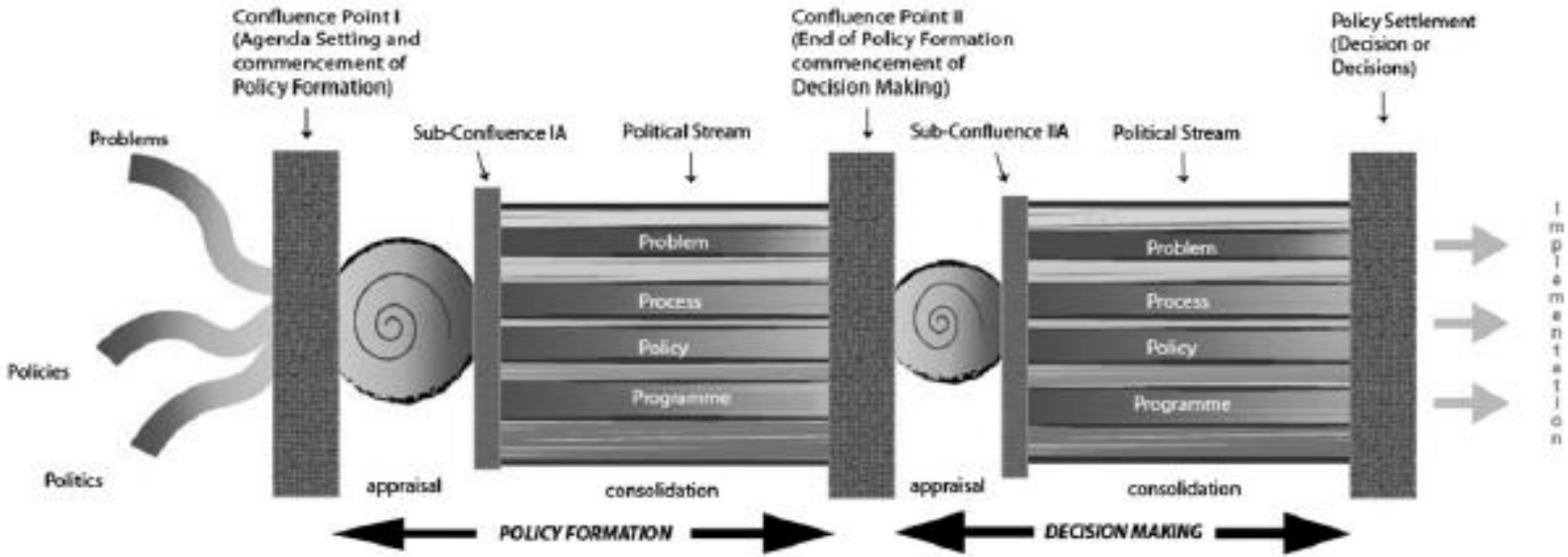
Urban responsibilities

"the planning of new charging infrastructure and also [our] *responsibility for the ecosystem"*
– Oslo policymaker

"coordinate all the activities related to electromobility in the city of Poznań"
– Poznań policymaker

"the local authority has a role in deciding whether… how much resource and time and effort it should put into promoting electromobility alongside other policy priorities" – Bristol policymaker

Process, Strategy, Techniques



Dean, 2009; Howlett et al., 2016; Rogge and Reichardt, 2016

EV charging infrastructure innovation

- New public service provision – locally accountable, make accessible, but needs to be commercial viable

revive
Vehicle charging network in the West of England

- National targets and funding for EV adoption, in-fill infrastructure – accelerate provision
- Technical / economic constraints on number, type, location

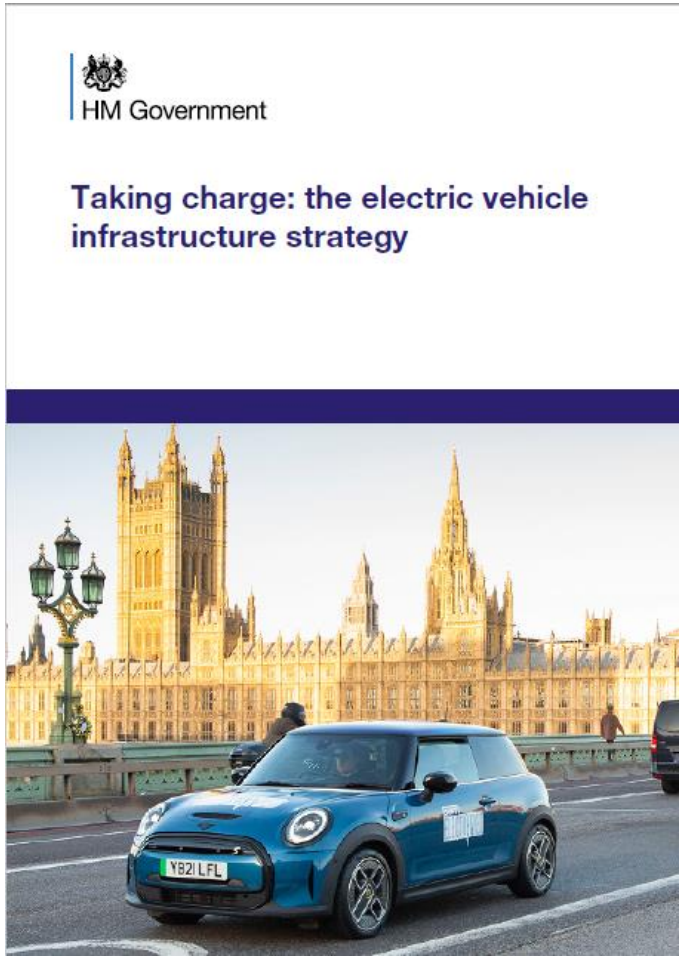
TRIAL AN ELECTRIC VEHICLE THAT SUITS YOU


Maxus E-deliver 3 and Maxus E-deliver 9

Renault Zoe

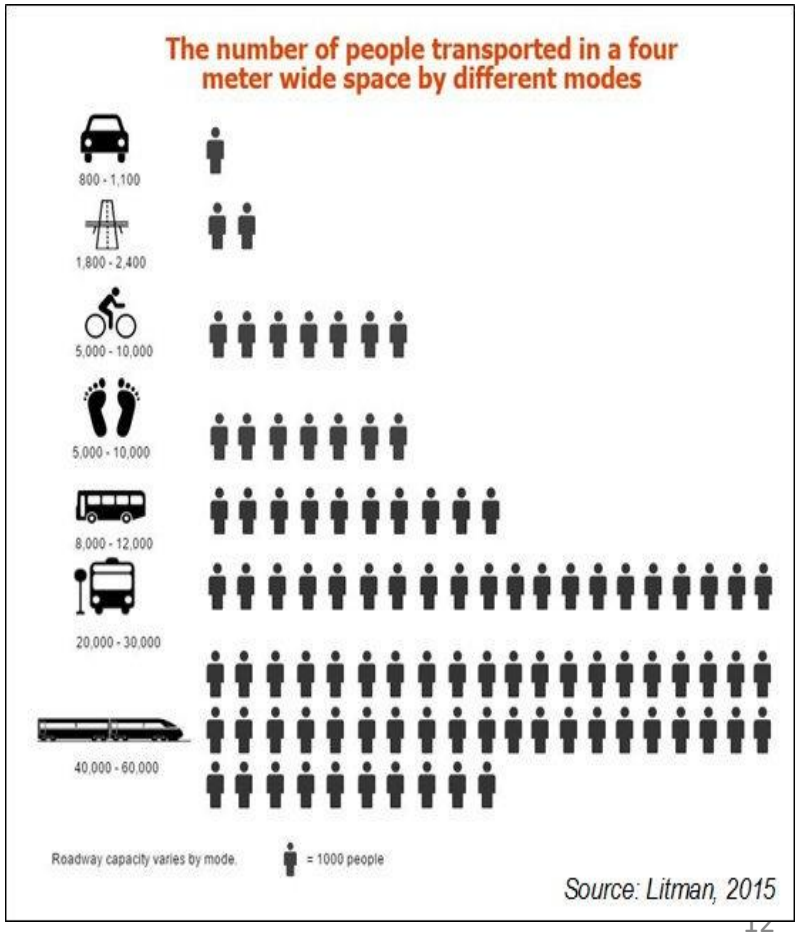
Are EVs sustainable urban transport policy at all?

- The "*electrification of private vehicles, it's the, probably the quickest and easiest route to meet our climate targets*" – Bristol policymaker
- It's "*still a car. It doesn't matter how it's driven*" – Poznań transport operator
- "*both goals of zero* [traffic] *growth in urban areas and zero emissions… linked to new car sales*" – Norwegian stakeholder



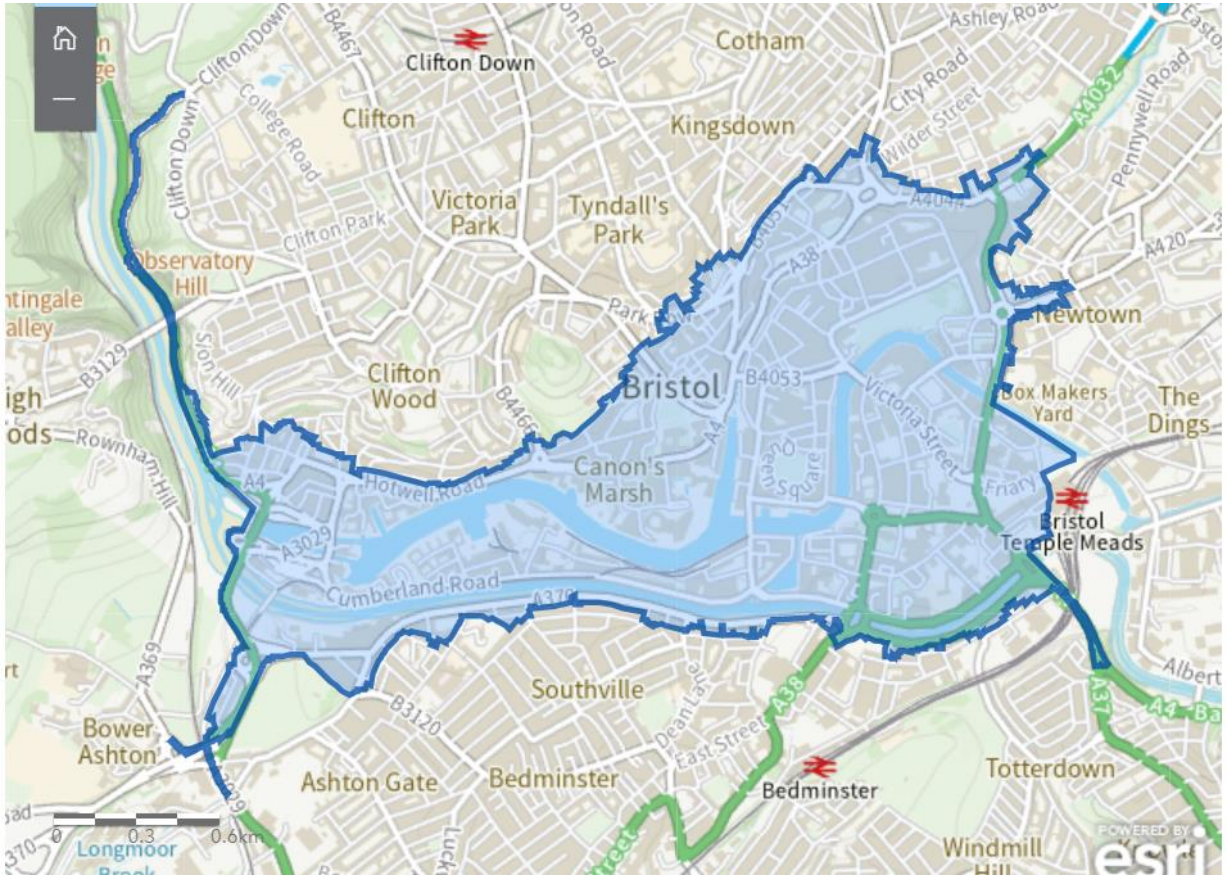
Modal Choice, Behavioural Logic

- Role of transport policymaking is to deliver *"a more efficient transport network that has, you know, clear identification for different modes."* – former Bristol policymaker
- *"The most important thing is… to change the very deep-rooted habits regarding the way we travel. …the most convenient and attractive means of transport is still the car. But… if we do not change this, in 10 to 15 years it will be physically impossible to get around in Polish cities"* – Polish stakeholder
- *"We don't just need to electrify, we… need to organize our society differently… to other forms of transport than passenger car traffic"* – Norwegian stakeholder



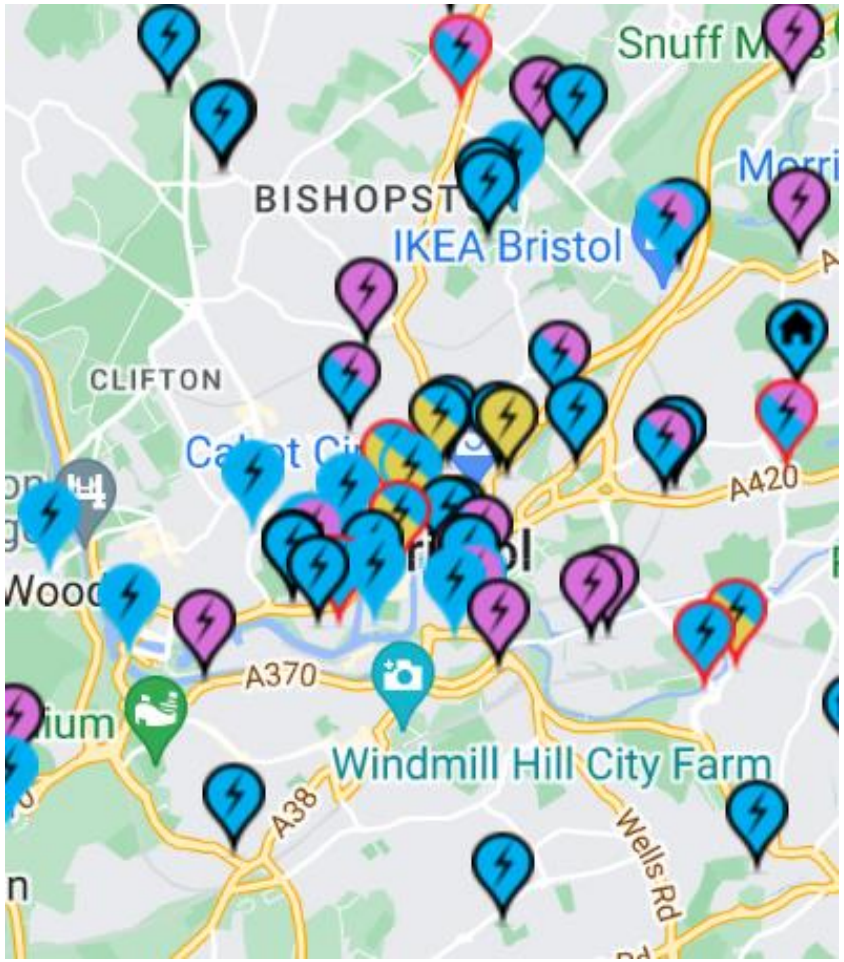
Clean Air Zones: transition dynamics and power relations

- Climate emergency vs public health messages
- Local government responsibility for air pollution mitigation
- Entry restrictions, financial penalties only way to meet national targets – but reorganises local space
- Conditional funding for exemptions, grants, and travel offers



Inclusive Innovation…

- Distributional focus: Who benefits from funding, locations – utilisation vs vehicle affordability and uptake
- Procedural: National political priority, but what about local priorities? Involve target user groups?
- Recognition: Packaging for diverse needs – charging types, sources of trusted information, user offers
- Epistemic: Learn from other cities? From early adopters? Or non-users?



Process, Strategy, Technique, Power

"We already have electric buses, it just still doesn't get through to us why the Ministry doesn't agree that this law should explicitly mention trams. In which the City of Poznań has been investing for years." – Poznań policymaker

"I am thinking… of a mixture of the regulatory instruments, but also facilitation. For example, when talking about zero-emission zones… it is difficult to switch to zero-emission taxis if the municipality does not make arrangements for it." – Oslo policymaker

A.Savin, WikiCommons, CC BY-SA 3.0

…or Missed Opportunities?

- Used by 7% of residents in WECA
- Mostly young, male, minorities and low income more frequent users?
- Different profile from cyclists – ungovernable? Where fit in modal hierarchy?
- Uncertainty of legislation, space allocation – locally-led opportunity?

Cover of *The safety of private e-scooters in the UK* research report for the Parliamentary Advisory Council for Transport Safety, March 2022.

A policy process perspective

As the authority "*responsible for… as the street owner, everything from parking* [to] *new forms of mobility and charging*," local policymakers should enable "*everyone… to take part in the green shift, somewhat regardless of financial income and where you live in the city*" – Oslo policymaker

Despite engagement, there is minimal "*translation from the willingness into action*" – Bristol civic society

"Cities can… create so-called clean transport zones, i.e. places where only electric cars can enter. But (…) an electric car is a very expensive thing…. if we introduce such bans, there will be the problem of whether we… create some kind of exclusion zones where only people who, let's say, are simply rich, will have access" – Poznań policymaker

Conclusions

Assumptions about urban governments' role in providing and facilitating transport alternatives reflected in developing electric mobility policy. Recognising differential demand for, use of, and interest in different electric mobility technologies by different groups of people can help change social norms and mobility practices.

> *How might this embed the transition in socially just and environmentally sustainable ways? (Kanger et al. 2019)*

Urban mobility policy too often is under-resourced and concerns with targets result in funding-led, market-led, and conditional interventions that suppress local priorities in terms of reorganising space, responding to feedback, and nurturing local capabilities.

> *How can more society-centric processes inform more transformative policy for electric mobility and a more successful socio-technical transition? (Karner et al. 2020)*

References

1. Corradi, C., Sica, E., & Morone, P. (2023). What drives electric vehicle adoption? Insights from a systematic review on European transport actors and behaviours. Energy Research & Social Science, 95, 102908.
2. Dean, Mitchell. (2009). *Governmentality : Power and Rule in Modern Society* (Second).
3. Geels, F. W. (2012). A socio-technical analysis of low-carbon transitions: introducing the multi-level perspective into transport studies. *Journal of Transport Geography*, *24*, 471–482.
4. Howlett, M., McConnell, A., & Perl, A. (2015). Streams and stages: Reconciling Kingdon and policy process theory: Streams and stages: Reconciling Kingdon and policy process theory. *European Journal of Political Research*, *54*(3), 419–434.
5. Kanger, L., Geels, F.W., et al., 2019. Technological diffusion as a process of societal embedding: lessons from historical automobile transitions in the Netherlands and United States for the future of electric vehicles. Transportation Research Part D, pp.1-20.
6. Karner, A., London, J., Rowangould, D., & Manaugh, K. (2020). From Transportation Equity to Transportation Justice: Within, Through, and Beyond the State. Journal of Planning Literature, 35(4), 440–459.
7. Rogge, K. S., & Reichardt, K. (2016). Policy mixes for sustainability transitions: An extended concept and framework for analysis. *Research Policy*, *45*(8), 1620–1635.

Thank you!

Dr Hannah Budnitz, Research Associate, TSU
hannah.Budnitz@ouce.ox.ac.uk
www.itemresearch.org