

Energy supply/ demand policy asymmetry

A meta-narrative review for a systems explanation

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Background

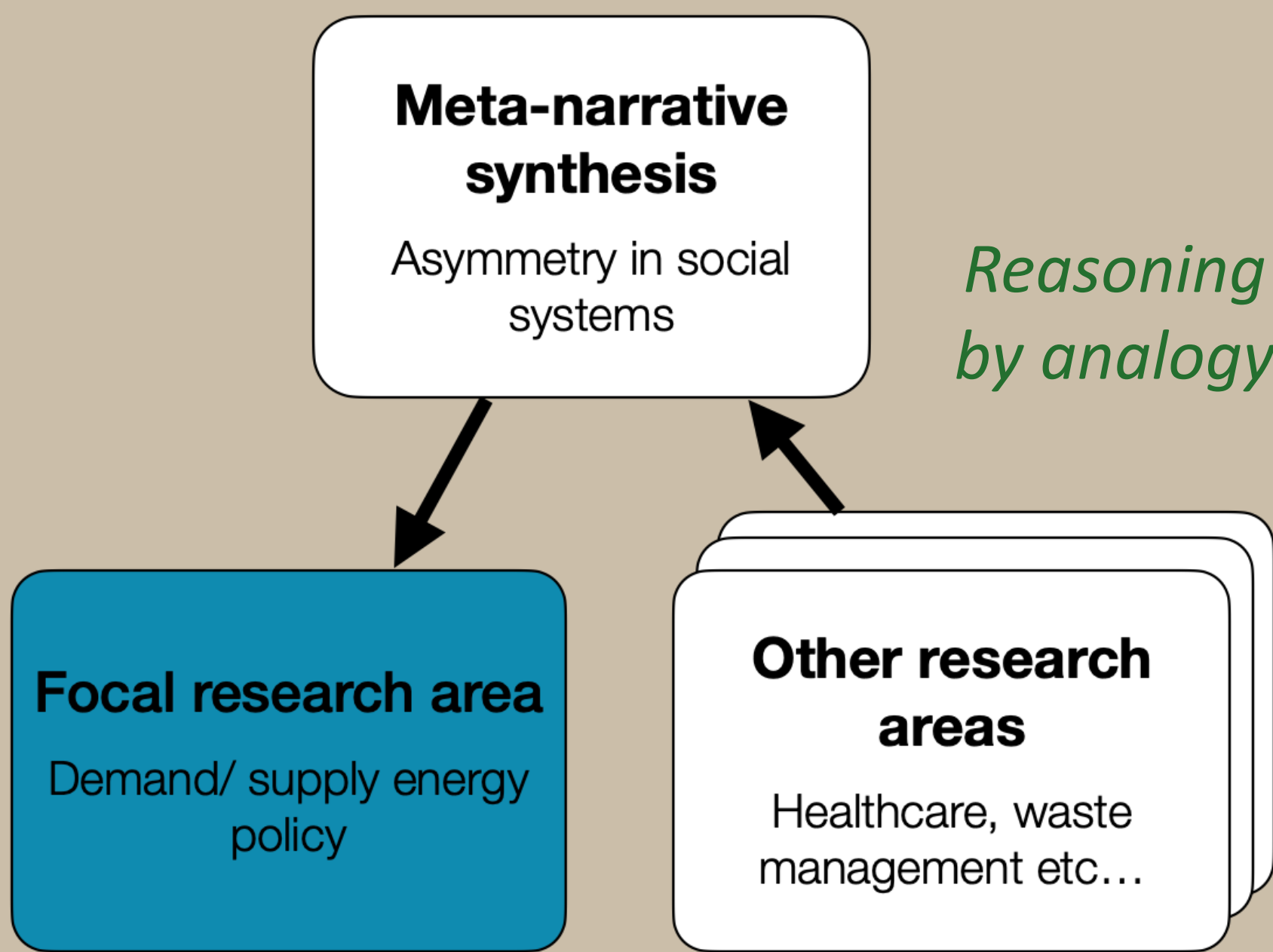
Asymmetry in energy supply/demand policy is persistent, as governments around the world develop detailed plans to decarbonise energy supply, but comprehensive plans to reduce energy demand are missing.

Theoretical lens

Such policy asymmetry is a **systemic** problem, and as such is manifest in many human systems, e.g., asymmetry in healthcare between curing illnesses and investing in preventive healthcare. The corresponding **systemic explanations** in the respective domains of application may be transferable by analogy to the energy supply/demand system of interest.

Methods

Meta-narrative **systematic** review.



Preliminary results

Preliminary results are presented on the right grouped in the following themes: **(i) examples of shifting the burden** to the intervener archetypical structure; **(ii) nested system capabilities** and corresponding **solution strategies** (explains the persistence of short-termism); **(iii) system goals and corresponding system rules**; **(iv) ever increasing system size**. The work is ongoing on seeks to further identify relevant mechanisms.

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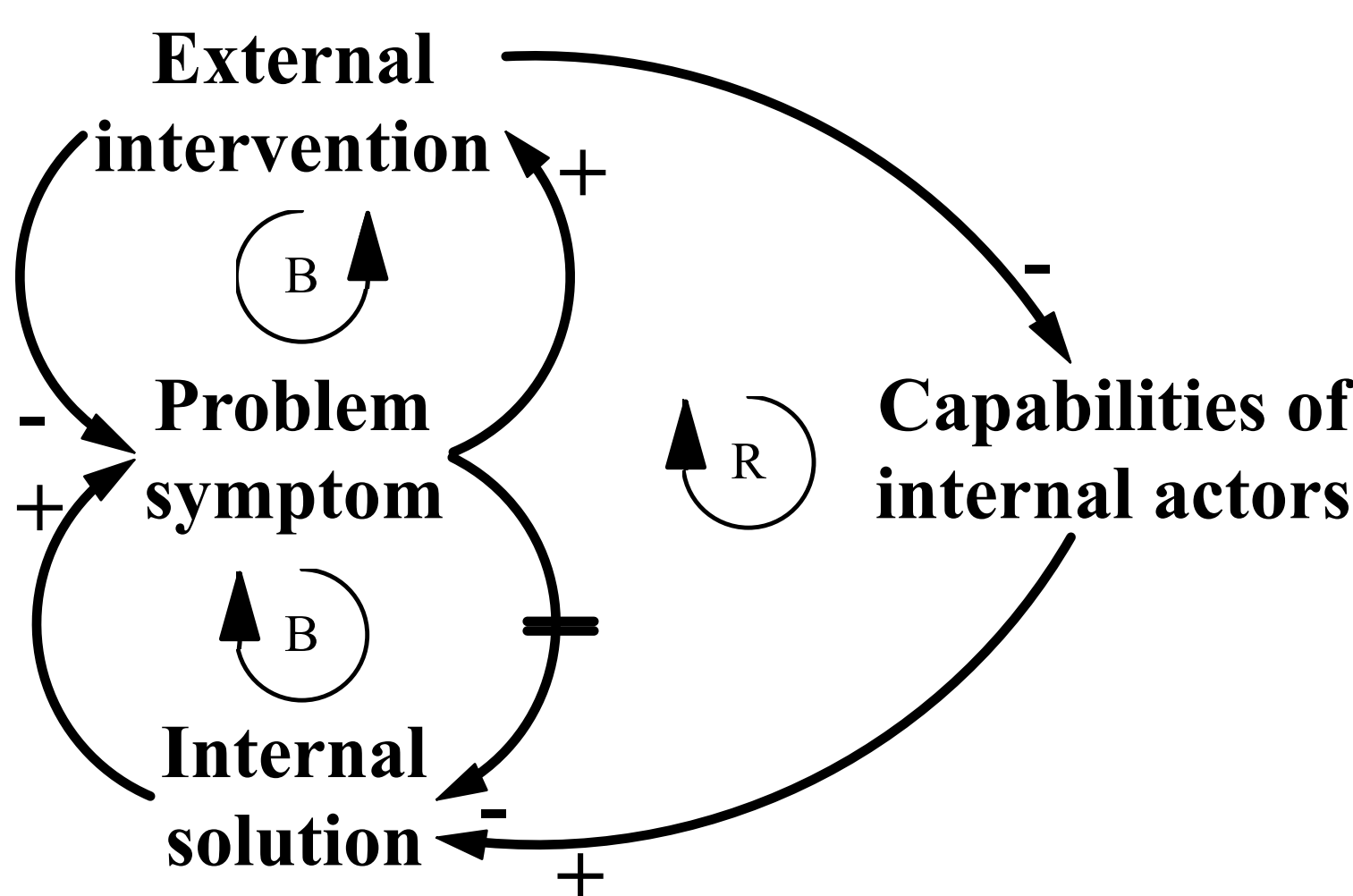
References (theoretical lens and methodology):

Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., Kyriakidou, O., & Peacock, R. (2005). Storylines of research in diffusion of innovation: A meta-narrative approach to systematic review. *Social Science & Medicine*, 61(2), 417–430.

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i. Shifting the burden examples



Addiction	Using alcohol, drugs, etc. to relieve stress and not facing the actual problem itself
Gov. aid	Attempts to solve pressing problems only to foster dependency and need for increasing aid
Social support system	Reduces personal savings and encourage the breakup of the extended family
Energy policy	guaranteed energy provision reduces the role of actors agency

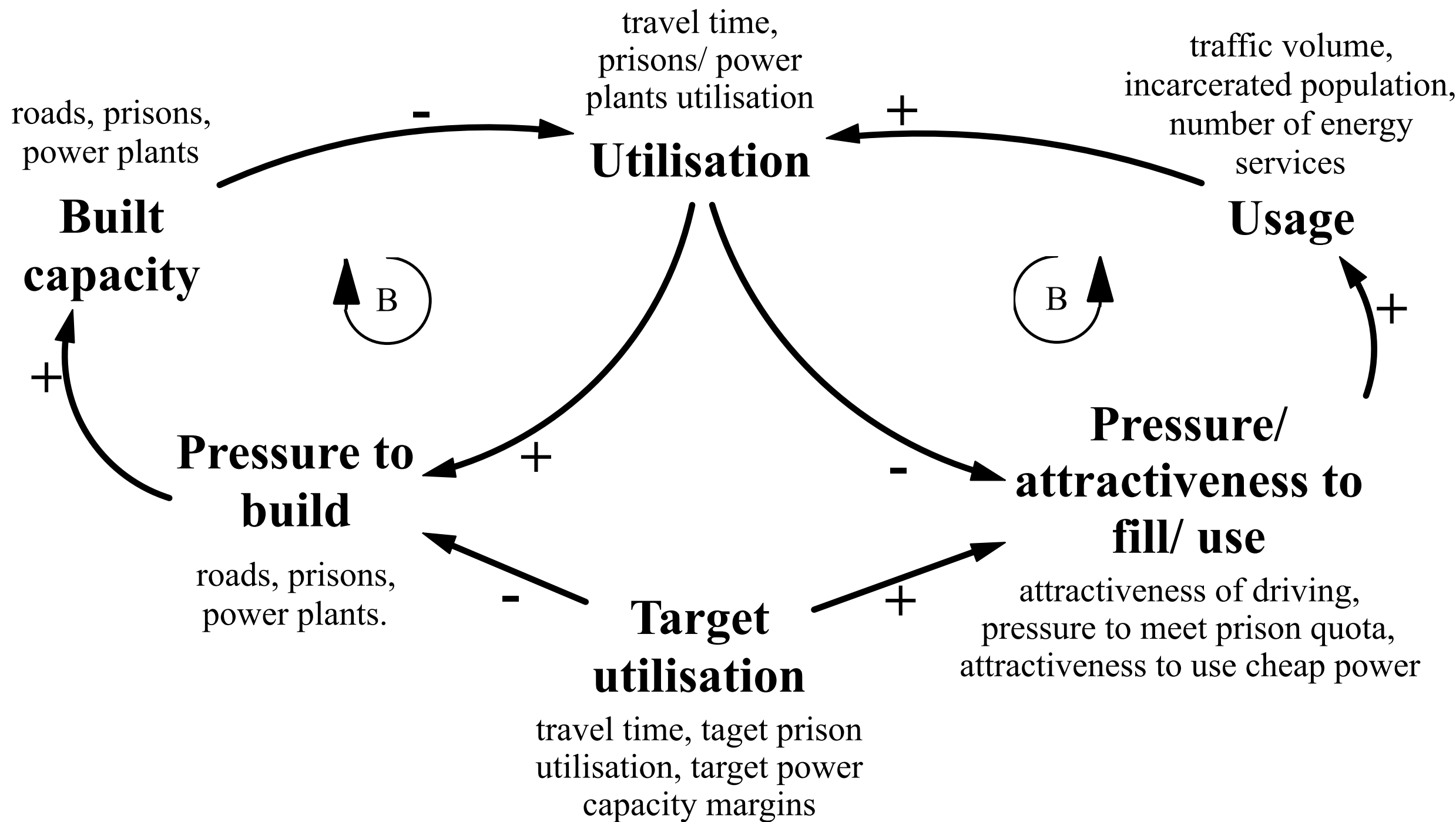
ii. Nested system capabilities and solution strategies

Infrastructure	expansion → renewal → proactive maintenance → reactive repair
Waste management	reduce → reuse → recycle → recovery → landfill
Food waste	prevention → redistribution → animal feed/ compost → energy recovery → disposal
Biodiversity	avoidance → minimisation → restoration offset
Healthcare	primal and primary prevention → secondary prevention → tertiary prevention
Energy policy	Sufficiency → efficiency → renewable → carbon sink

iii. System goals and corresponding system rules

	Goal: system productivity	Goal: system resilience
Org. process improvement	goal: Increase performance/ output rule: Work harder/ quicker	goal: Adhere to company vision rule: Work smarter (e.g. invest in training)
Infrastructure	goal: Increase performance/ output rule: Longer times for infrastructure use	goal: Maintain the quality of service rule: Pro-active maintenance
Pollution control	goal: Minimise harm rule: End-of-pipe treatment	goal: Mirror the law of nature rule: Upstream solutions
Healthcare	goal: Population health rule: Cure/ treat the problem	goal: Population health rule: Health promotion
Foster care	goal: Reduce N of children in care system rule: Solve cases quicker	goal: Maximise child welfare rule: Give quality time for each case
Population control	goal: Increase population rule: Abortion ban	goal: Support people to have their desired family size rule: Free contraceptives and abortion; easier divorce laws, support for families in need, investment in education and healthcare.
Energy policy	goal: Provide secure, cheap and sustainable energy to meet demand rule: Predict demand and provide net-zero carbon energy	goal: Provide energy to services required to fulfil societal functions rule: Shape demand and keep in equilibrium the energy need for services to fulfil societal functions

iv. Ever increasing system size



Traffic control	Number of roads and traffic
Criminal justice	Number of prisons and incarcerated population
Energy policy	Number of power stations and demand for energy services