

Community action & climate change

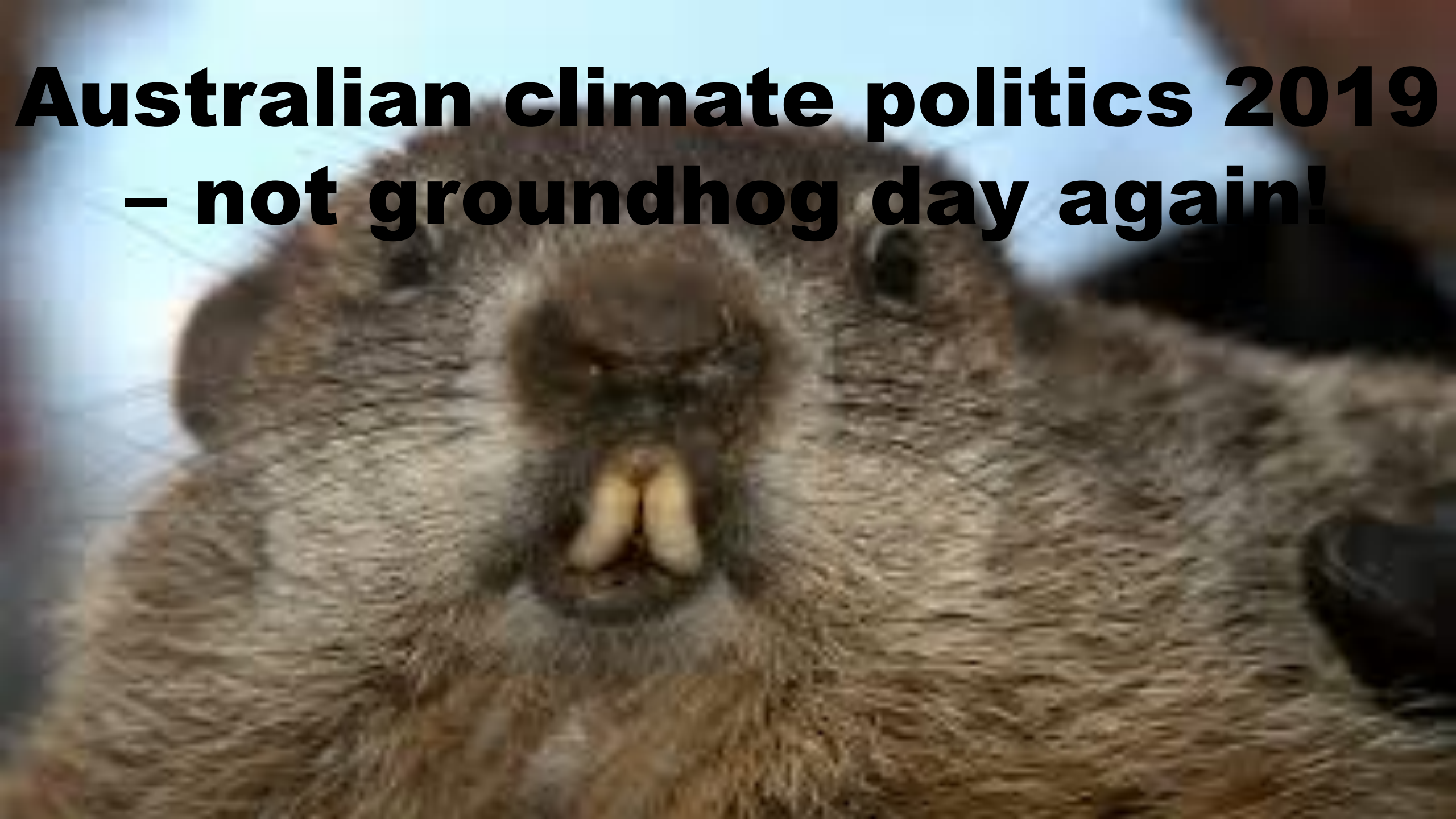
Dr Jennifer Kent

27th February 2019

Acknowledgement of Country

I acknowledge the Bedegal people who are the traditional custodians of the land we are meeting on and pay my respects to their elders past, present and future. I also acknowledge that sovereignty was never ceded over this land.

**Australian climate politics 2019
– not groundhog day again!**



Be Climate Clever: I can do that!

<http://youtu.be/02fGSN7aPhQ>

Key concept 1

The Anthropocene

The Anthropocene

The Anthropocene, popularised by Crutzen & Stoermer (2000) refers to a proposed new geological age, separate to the Holocene (the last 11,700 years stable geologic period where humankind has flourished) and representing a new period where for the first time humans represent the major force shaping the Earth's environment.

Key concept 2: Polycentrism



ELINOR OSTROM

2009 Nobel Laureate
in Economic Sciences



Economic theories of collective action

Tragedy of the commons (Garret Hardin, 1968):

Self interest will lead to the exhaustion of a common resource to the detriment of all (now & into the future).

- Implies requirement for external regulation by some global authority to monitor actions & apply sanctions.

Polycentrism (Elinor Ostrom, 2009):

Nobel prize winner Ostrom demonstrated that collective groups can be self regulating to allow the common resource to be shared & maintained.

- Consist of polycentric spaces that can be at national, regional or local scale. Key is cooperation, trust & reciprocity & face-to-face interaction.

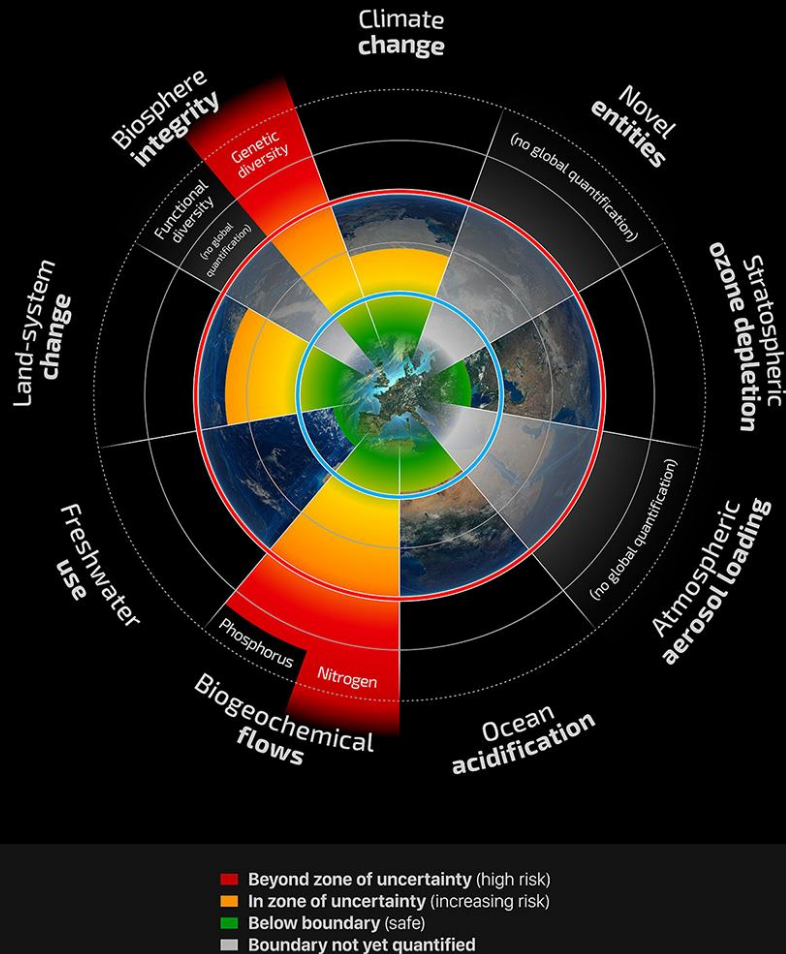
Key concept 3

Planetary Boundaries

(Steffen et al. 2015)

Planetary Boundaries

A safe operating space for humanity



Source: Steffen et al. Planetary Boundaries: Guiding human development on a changing planet, *Science*, 16 January 2015.
Design: Globalia

The 9 planetary boundaries

To keep Earth hospitable, we need to live within 9 specific limits. Here's how we're doing in 2015.

	BOUNDARY	WHERE WE ARE TODAY
1. Climate change	Atmospheric concentrations of carbon dioxide at no more than 350 ppm	Carbon dioxide levels are at 400 ppm and climbing
2. Lost biodiversity as species become extinct	Maintain 90% of biodiversity	Biodiversity has dropped to 84% in parts of the world such as Africa
3. The addition of phosphorus, nitrogen (and other elements) to the world's crops and ecosystems	Worldwide use per year of about 11 teragrams (Tg) of phosphorus and 62 Tg of nitrogen	Up to about 22 Tg per year of phosphorus and 150 Tg of nitrogen
4. Deforestation and other land use changes	Maintain 75% of the planet's original forests	Down to 62%
5. Emission of aerosols (microscopic particles) into the atmosphere that affect climate and living organisms	Global boundary unknown, but regional effects (such as on the South Asian Monsoon) occur when Aerosol Optical Depth (AOD) is more than 0.25	Up to 0.30 AOD over South Asia, but probably well inside (or below) the boundary over most of the globe
6. Stratospheric ozone depletion	Less than 5% below pre-industrial level of about 290 Dobson Units (DU)	Still safely inside the boundary except over Antarctica during spring, when levels drop to 200 DU
7. Ocean acidification	When the oceans become acidic enough that the minerals sea creatures need to make shells, such as aragonite, begin to dissolve	Still within the boundary, which won't be crossed if we can stay within the climate boundary of 350ppm of CO ₂ in the atmosphere
8. Freshwater use	Can use up to 4000km ³ of freshwater a year	We use around 2600 km ³ of freshwater per year
9. Dumping of organic pollutants, radioactive materials, nanomaterials, micro-plastics, and other novel or man-made substances into the world's environment	Unknown	Unknown

The planetary boundaries framework first published in 2009, introduced us to the possibility of distilling a complex Earth system – of land, oceans, atmosphere and life – into 9 global-scale dimensions responsible for keeping the Earth in its current hospitable state

The bottom line:
Big change is happening fast

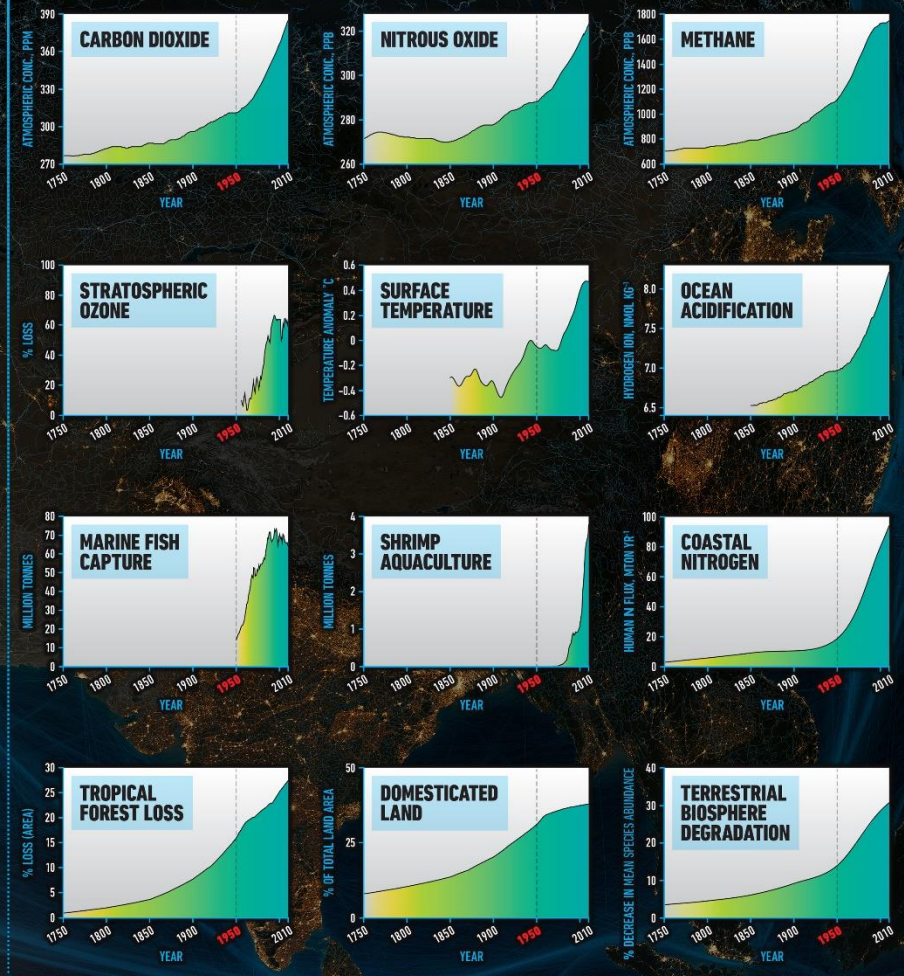
“The Great Acceleration” (Steffen 2015)

THE GREAT ACCELERATION

SOCIO-ECONOMIC TRENDS



EARTH SYSTEM TRENDS



REFERENCE: Steffen, W., W. Broadgate, L. Deutsch, O. Gaffney and C. Ludwig (2015). The Trajectory of the Anthropocene: the Great Acceleration, Submitted to *The Anthropocene Review*.
 MAP & DESIGN: Félix Pharand-Deschênes / Globaia

The bottom line: Big change needs to happen fast

Transformative change required

Need to disrupt/ destroy existing fossil fuel hegemony (Geels 2014)



Issues of individual responsibility

Influence/ change individual behaviour.

However scale of action taken does not match what's required. Easy lifestyle changes are readily adopted whilst most difficult are not.

Issues of individual responsibility

Expected that consumers make rational choices based on their beliefs.

Jackson (2005, p. 35) states three assumptions that underlie RCT: “1) that choices are rational; 2) that the individual is the appropriate unit of analysis in social action; and 3) that choices are made in the pursuit of individual self-interest”.

Issues of individual responsibility

Value-action gap

People's environmental values and the actions they are willing to take often don't match = 'value-action gap' (Kollmus & Agyeman 2002). People feel that they have little or no control over complex global issues of sustainability, such as climate change (Ashworth et al. 2011).

Issues of individual responsibility

Technological innovation needs to be considered within its social & cultural contexts

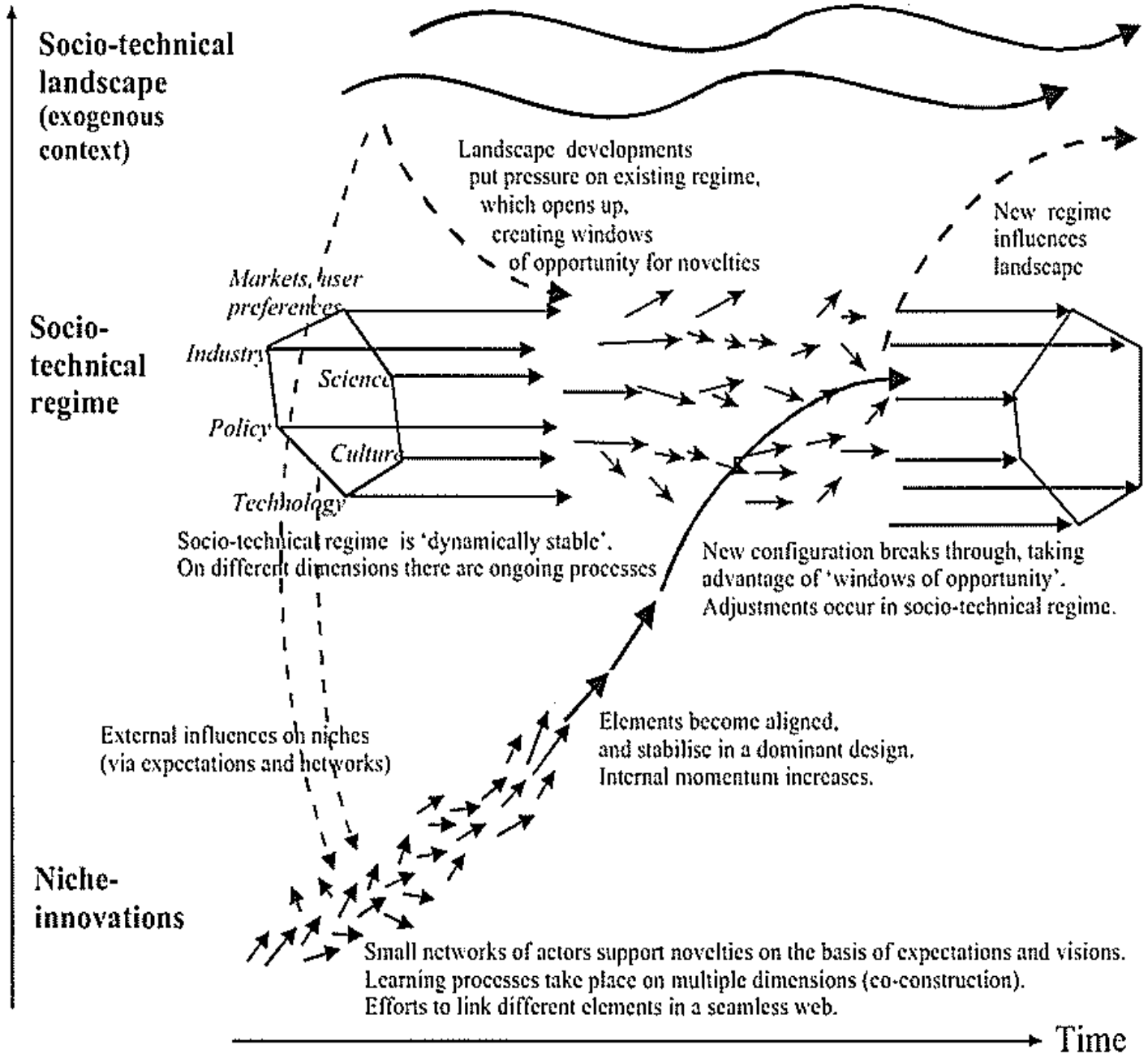
For e.g. “hidden” power usage of appliances as standby power is now contributing to about 10% of household energy usage. Understanding power usage in the context of social practices – such as surge in energy use when every one puts on the kettle for a cup of tea after popular soapie finishes

Sustainability Transitions Theory

(Grin et al. 2010)

Increasing structuration of activities in local practices

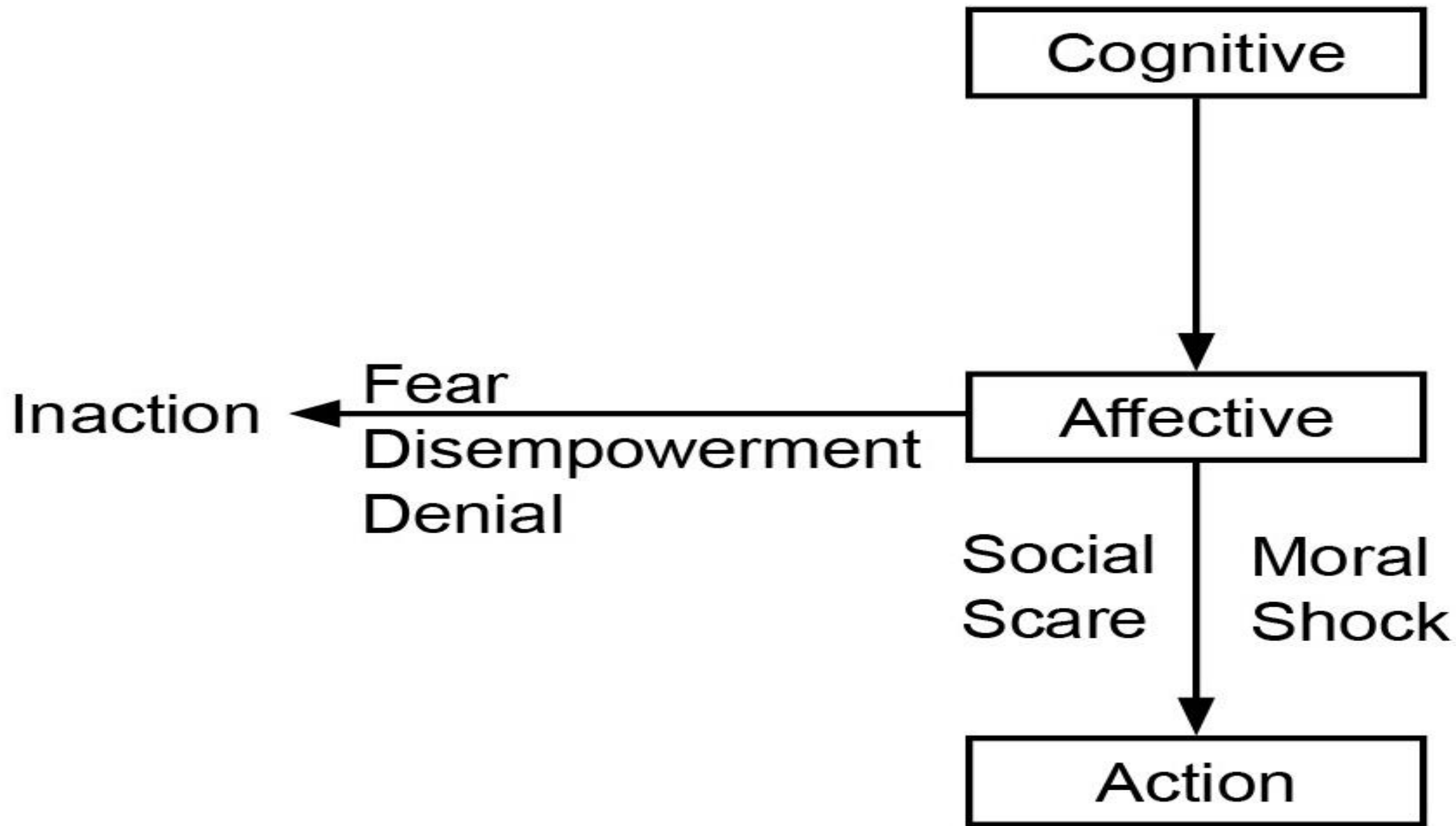
- Recent shifts from applying STT to socio-technical innovations to consider social change from the bottom up (Grassroots Innovations)
- Multilevel Perspective (MLP) – Geels 2002, 2005, 2011 – key influence
- Provides an avenue for exploring the complex spatial architecture of climate change governance (across vertical & horizontal scales)

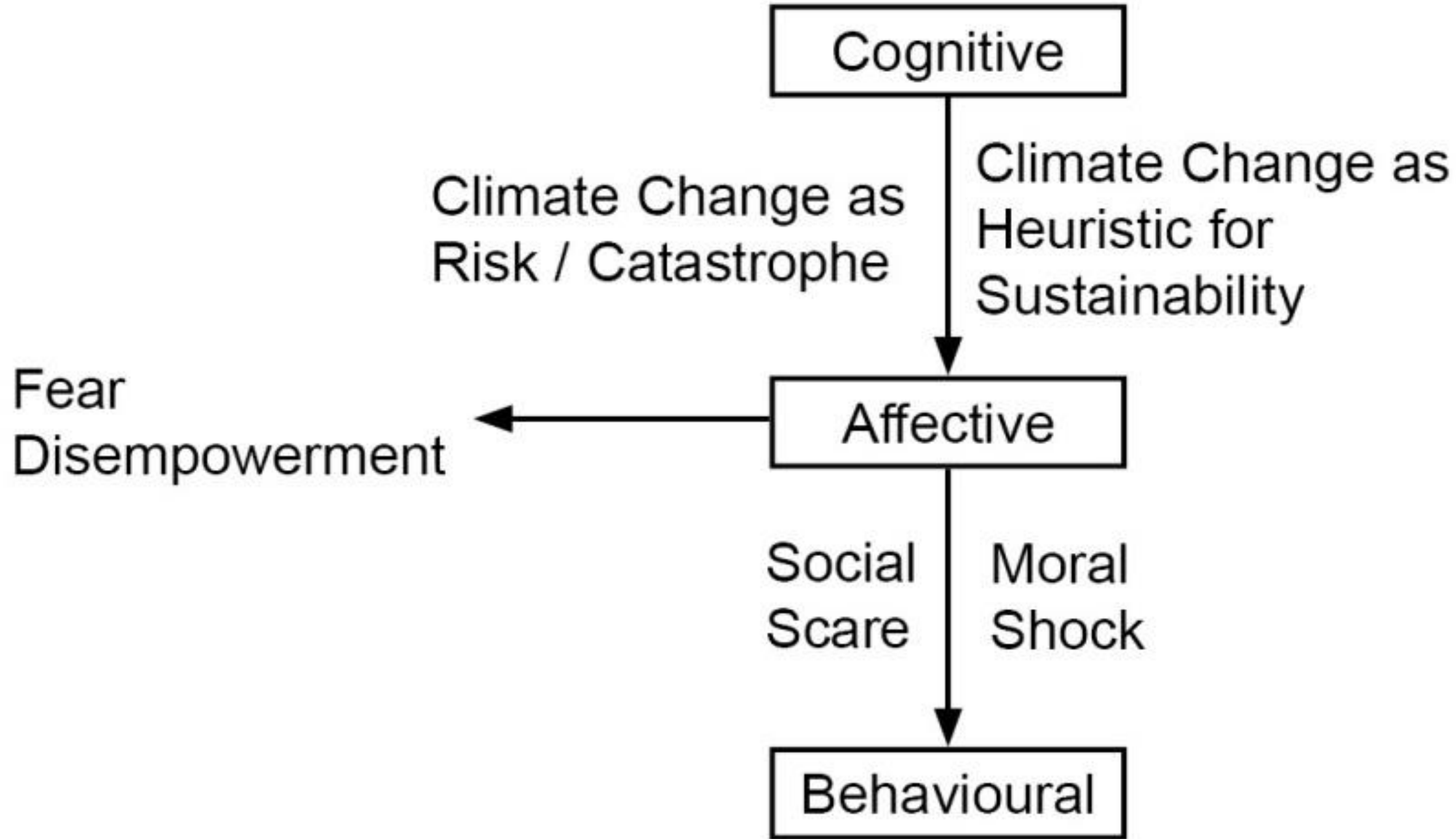


Grassroots Innovations

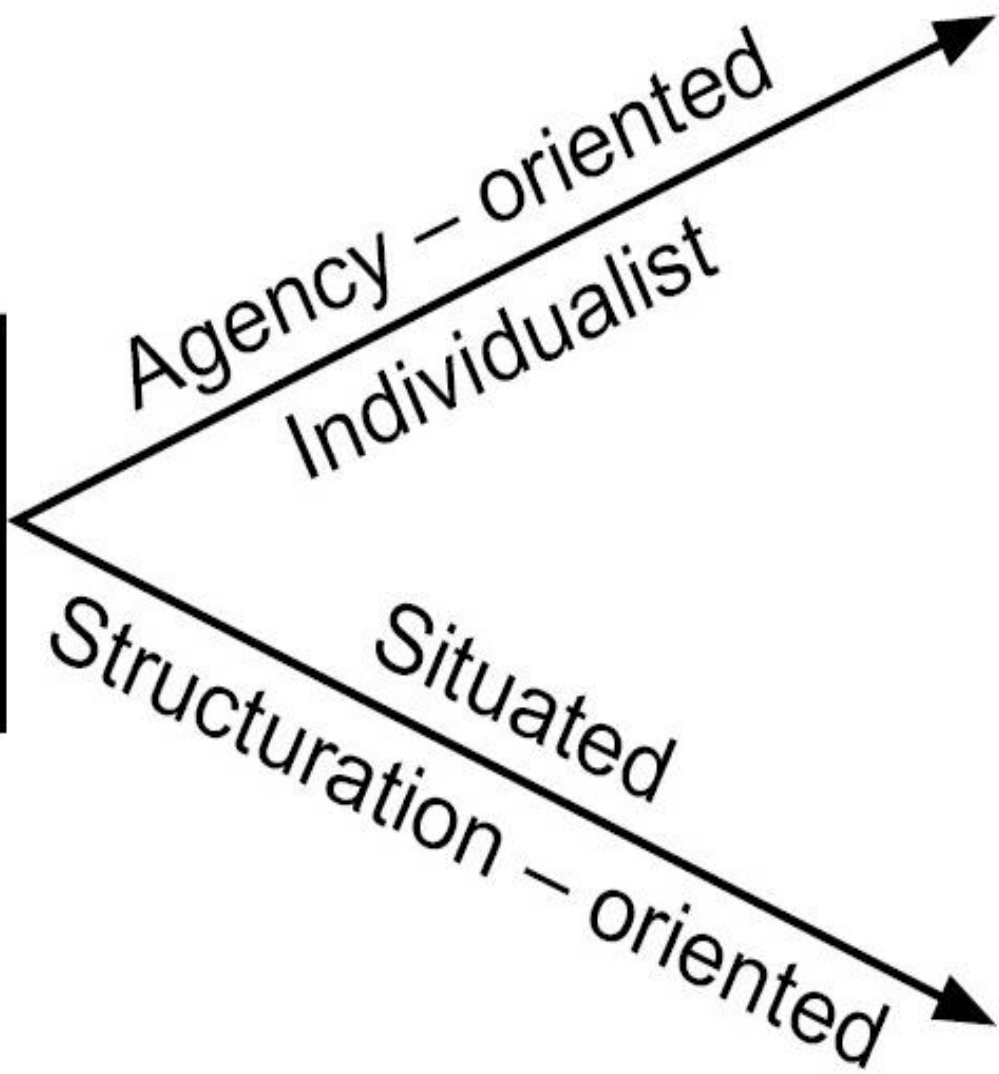
“Networks of activists and organisations generating novel bottom-up solutions for sustainable development; solutions that respond to the local situation and the interests and values of the communities involved”

(Seyfang & Smith 2007, p. 585).



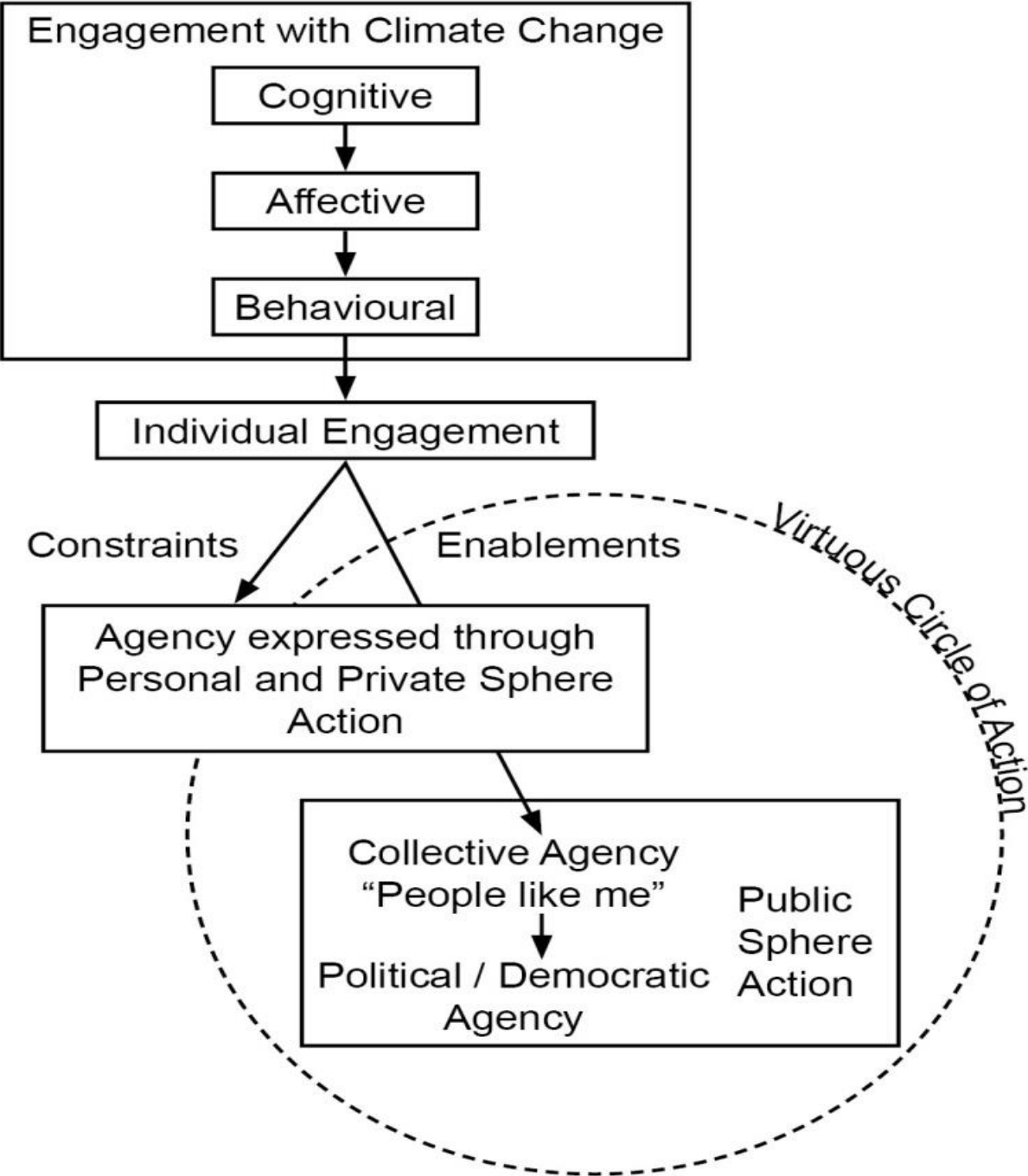


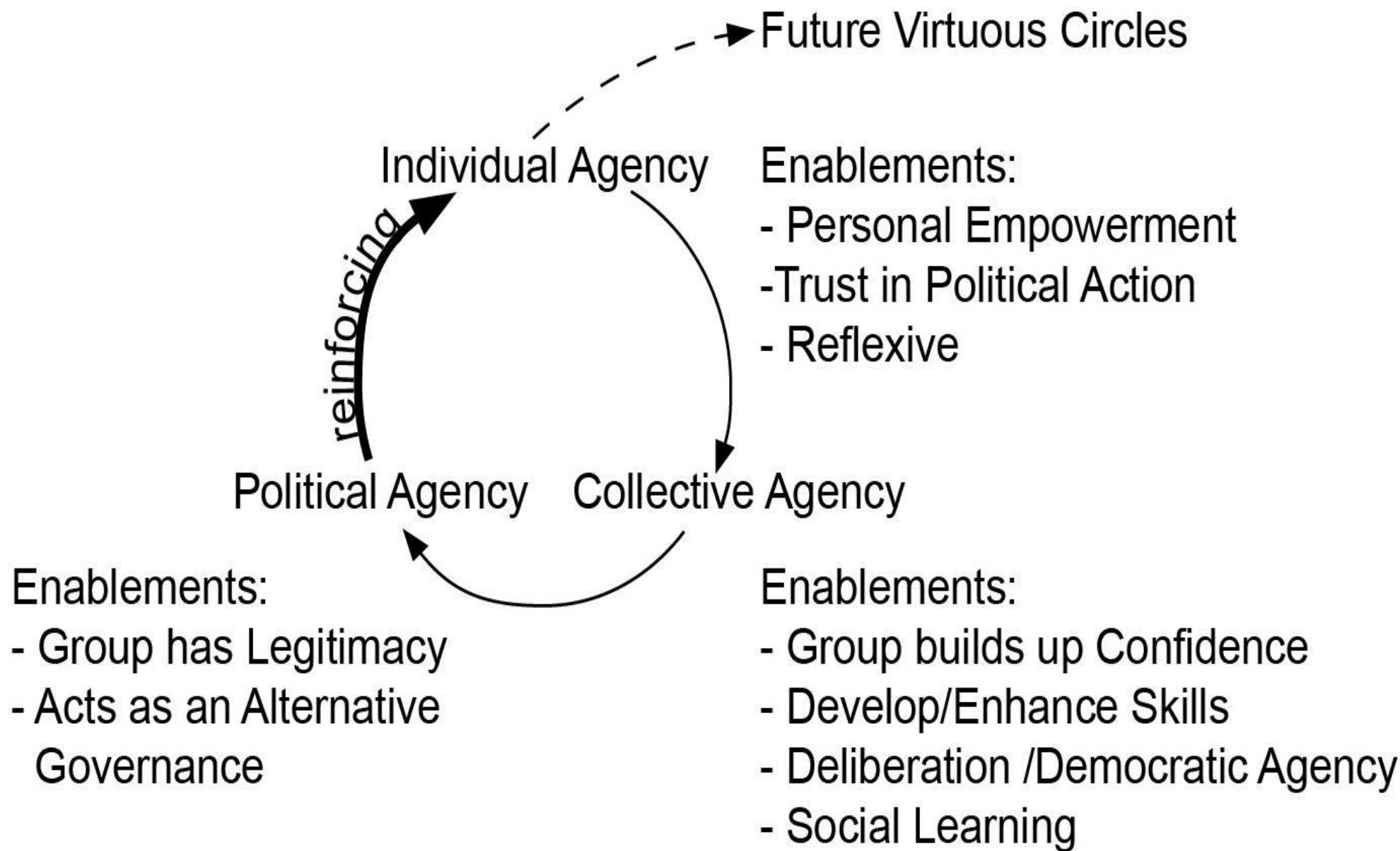
Individualisation
of
Responsibility



Personal and
Private Sphere
Action

Public Sphere
Action





Sustainability Transitions Theory

- ✓ Explains behaviour change from a collective or social perspective
- ✓ Explains how innovations emerge and translate across scales (niche-regime-landscape) (Geels)
- ✓ Supports radical forms of change (step-change rather than incremental) based on social learning (Seyfang et al. 2010)

X *doesn't address the role of civil society*

Deliberative Democracy



Social innovations as citizen-led transformations



Activating Agency

- Re-balancing responsibility from an individualised focus to a shared one – through a social contract between states & their citizens
- Implies greater democratic deliberation between states & their publics
- Shift of power from governments and global institutions to civil society