

# ENERGY: A GLOBAL AND GROWING PROBLEM

The planet Earth, our place to live, is a finite system that has entered a new epoch, the Anthropocene, as revealed by the great acceleration of socioeconomic changes and earth systems trends since the late 1950's (Steffen et al. 2015a).

Energy is the master determinant of most that happens on Earth (Hall 2018). As such, it seems to push our civilization in a non-virtuous cycle linking economic growth to ever-increasing energy consumption with associated resources uptake and environmental damages, resulting in earth systems degradation as we are reaching (or even exceeding) planetary boundaries (Steffen et al. 2015b) (Fig. 1).

The concept of a transition, consisting of replacing the current fossil fuel-based system by a renewable one on one hand, and on the other hand, that climate technologies and geoengineering would sequester GHG from the atmosphere, simply ignores the Earth planetary boundaries as shown by Lade et al. (2020). Moreover, it hardly seems achievable (Fig. 2)!

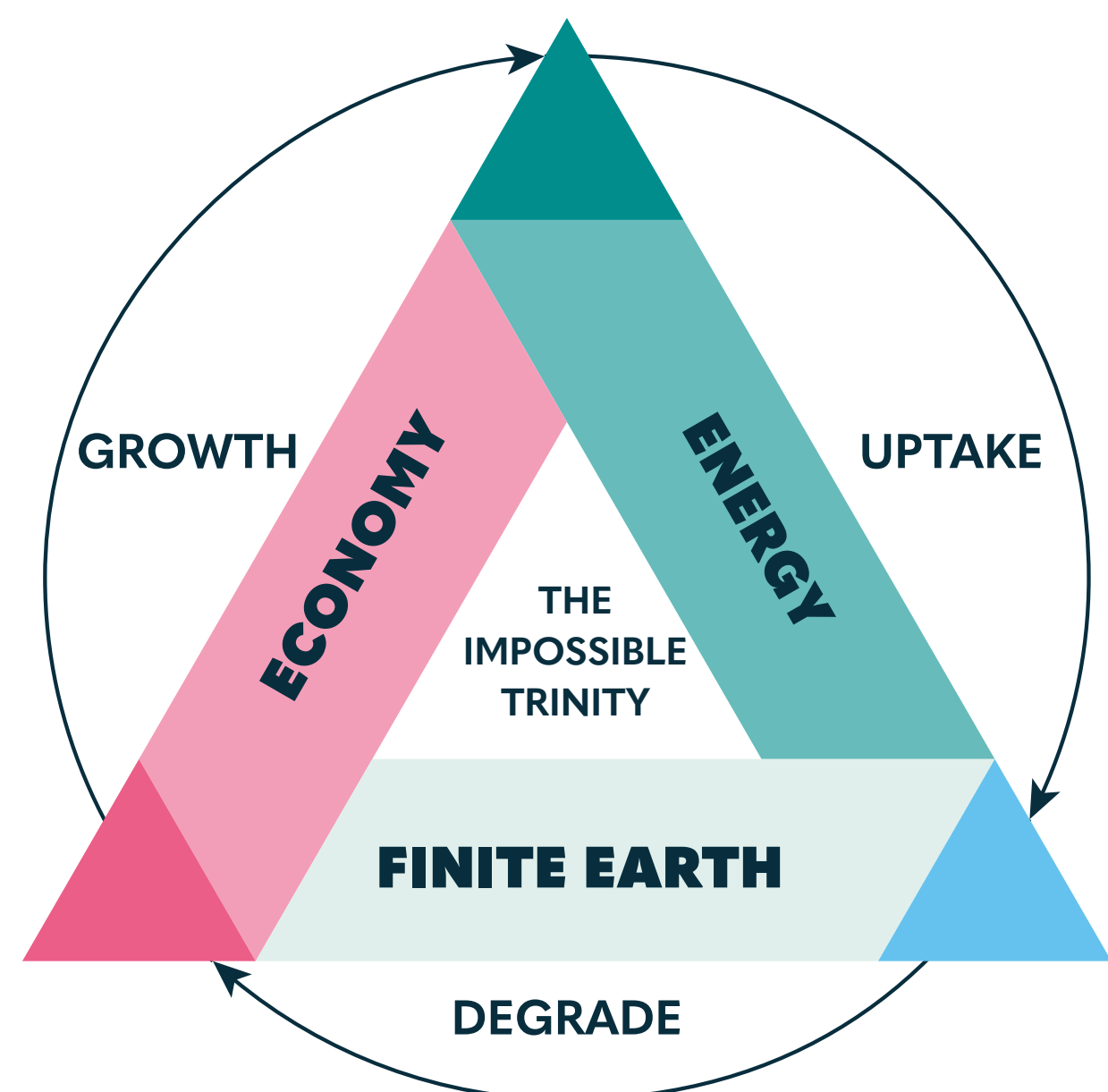


Fig. 1

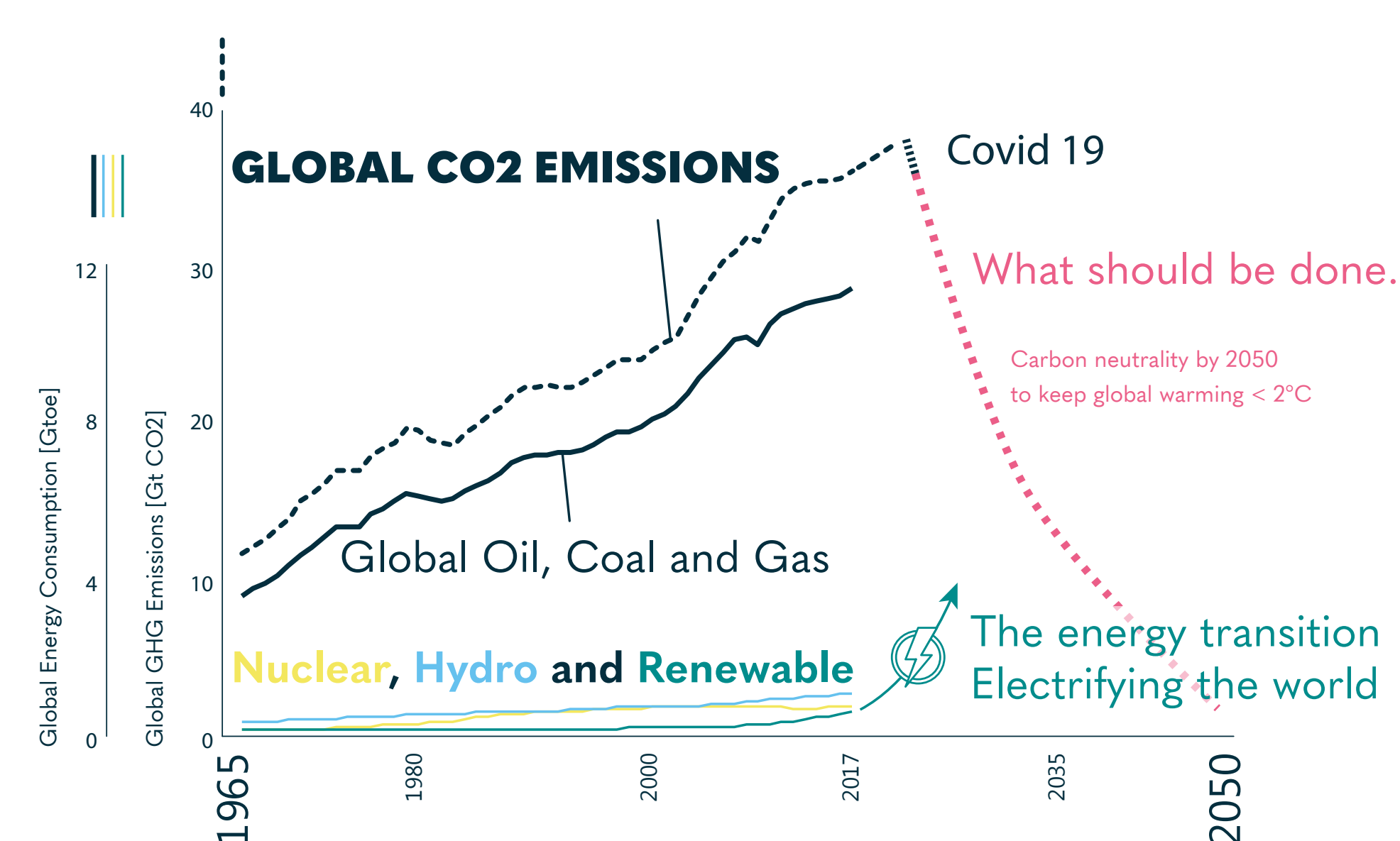


Fig. 2

## MISMATCH BETWEEN HOPE AND REALITY AT THE ENERGY-CLIMATE NEXUS



# PHILTHEGAP: FEEL THE GAP TO FILL THE GAP

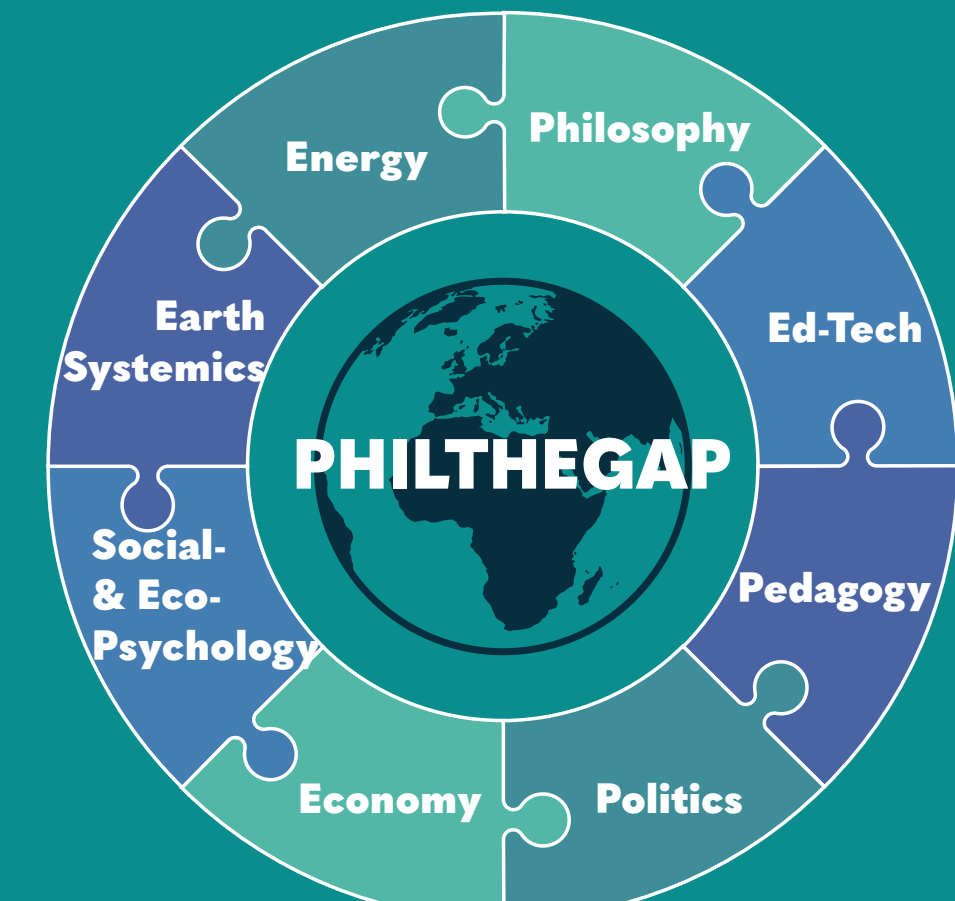
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### COOPERATION PARTNERS

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**ABSTRACT** Mainstream energy policies define energy security as the uninterrupted availability of energy sources at an affordable price. Concepts of rational use of energy are preferentially marginalized, and renewable energy often assimilated to sustainability without justification. **Our world is in fire**, the litany of cataclysms already engaged is well known; alas, we don't act. Why? PhilTheGap gathers competences in environmental and social sciences, philosophy, psychology, pedagogy,

finances, economics and political economy as well as in town planning. It will develop and experiment innovative pedagogical tools for energy-climate knowledge dissemination to laypersons as well as for iteration with specialized audiences. Contextualized outreach resources, designed to face people with a reality that is here and will last, will be mobilized in workshops implementing practices of philosophy and psychology and supported by digital applications allowing for discussion structuration,

monitoring and dissemination. The project aims at (1) clarifying those gaps between parallel discourses for (2) empowering people for informed decision-making. **Shouldn't the lion share of the transition be found in energy reduction?** PhilTheGap provides a platform for creating a shared language to collaboratively imagine and set the foundation of a resilient society capable of scaling back its energy consumption and managing it in a genuinely sustainable manner.

## PHILTHEGAP SOCIAL AND EDUCATIONAL TOOLS



### TARGET AUDIENCES

#### LAYPERSONS (Ages 13-99)

- Schools
- Youth parliaments

#### DECISION AND POLICY MAKERS (Specialists, Businesses, Communities)

- Natural, social, technical sciences
- Economy, MBAs, Finance, Politics
- PME
- Multinational Corporations
- UrbaPlan & CSGE transition kit for communities and townships

### PRACTICE OF PHILOSOPHY (PP) WORKSHOPS

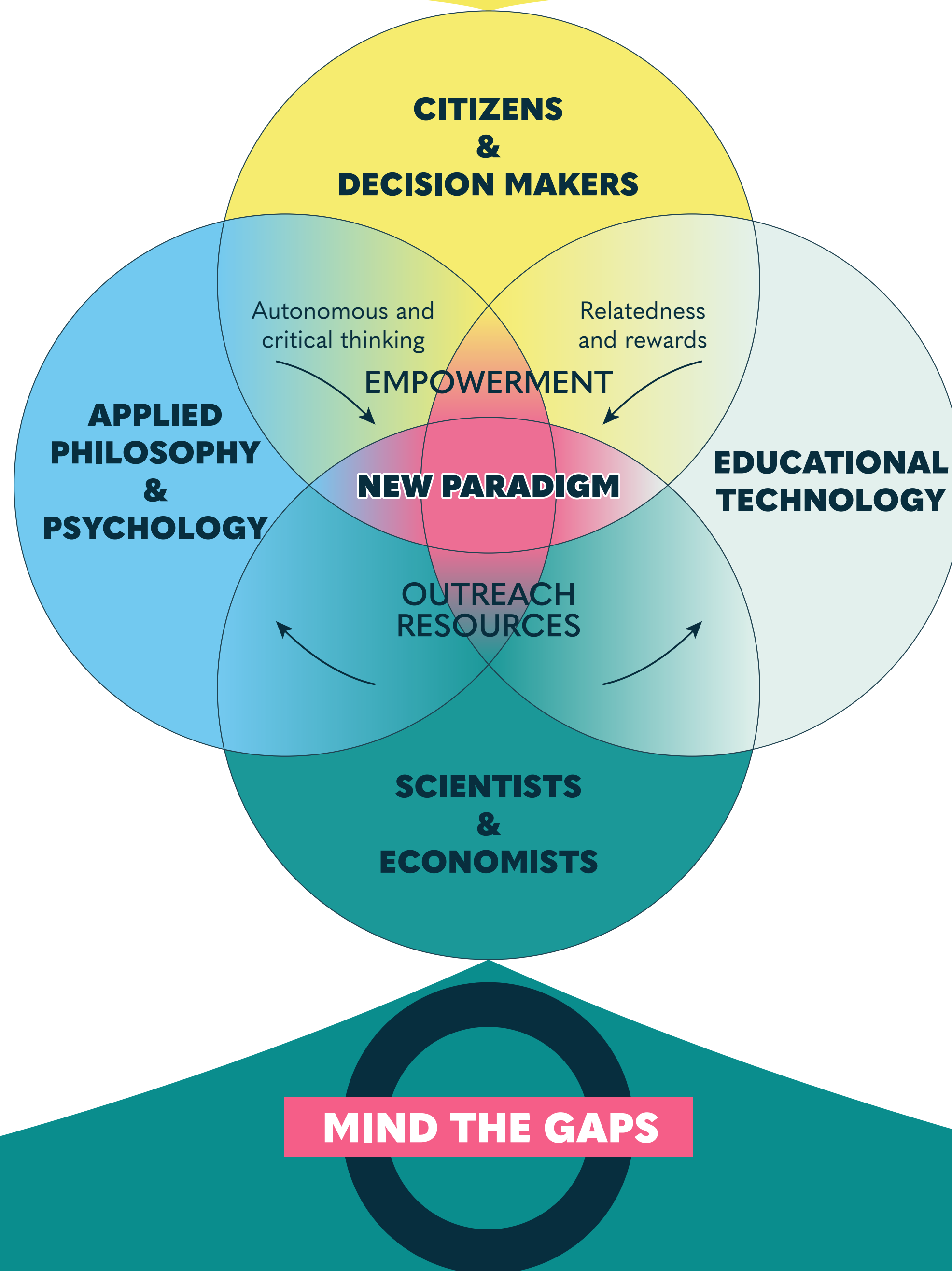


PP is recognized by UNESCO to serve the intellectual and moral solidarity of humanity by providing the conceptual principles and values on which World peace depends. PhilTheGap will create a conducive context to address the complexity of the reflections surrounding climate change and energy transition, while providing a framework within and through which nuanced and informed decision-making will be possible by implementing Enhance Philosophy for Children (EP4C) methodology, elements of islands of rationality and non-violent communication (NVC) into PP workshops cycles.

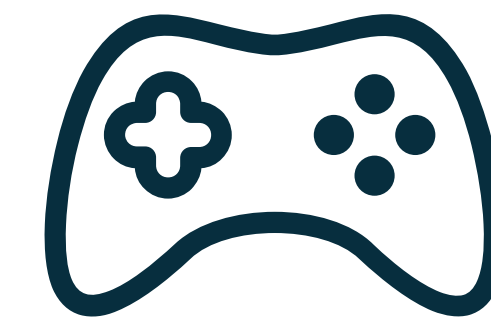
### AROUND THE BALLOT BOX - abb



As PP dissemination has been hampered by oral-only interaction-mode, lack of technological support, and no structuring of information sources. These factors will be addressed by abb, a multimedia synchronized digital application, enabling PP workshops participants to access PhilTheGap resources, and handle facts, ideas, hypotheses as building blocks; ultimately providing a tool to structure, measure, catalog, monitor and disseminate over time input and outputs of the PP workshop's discussions.



### PHILTHEGAP SERIOUS GAME

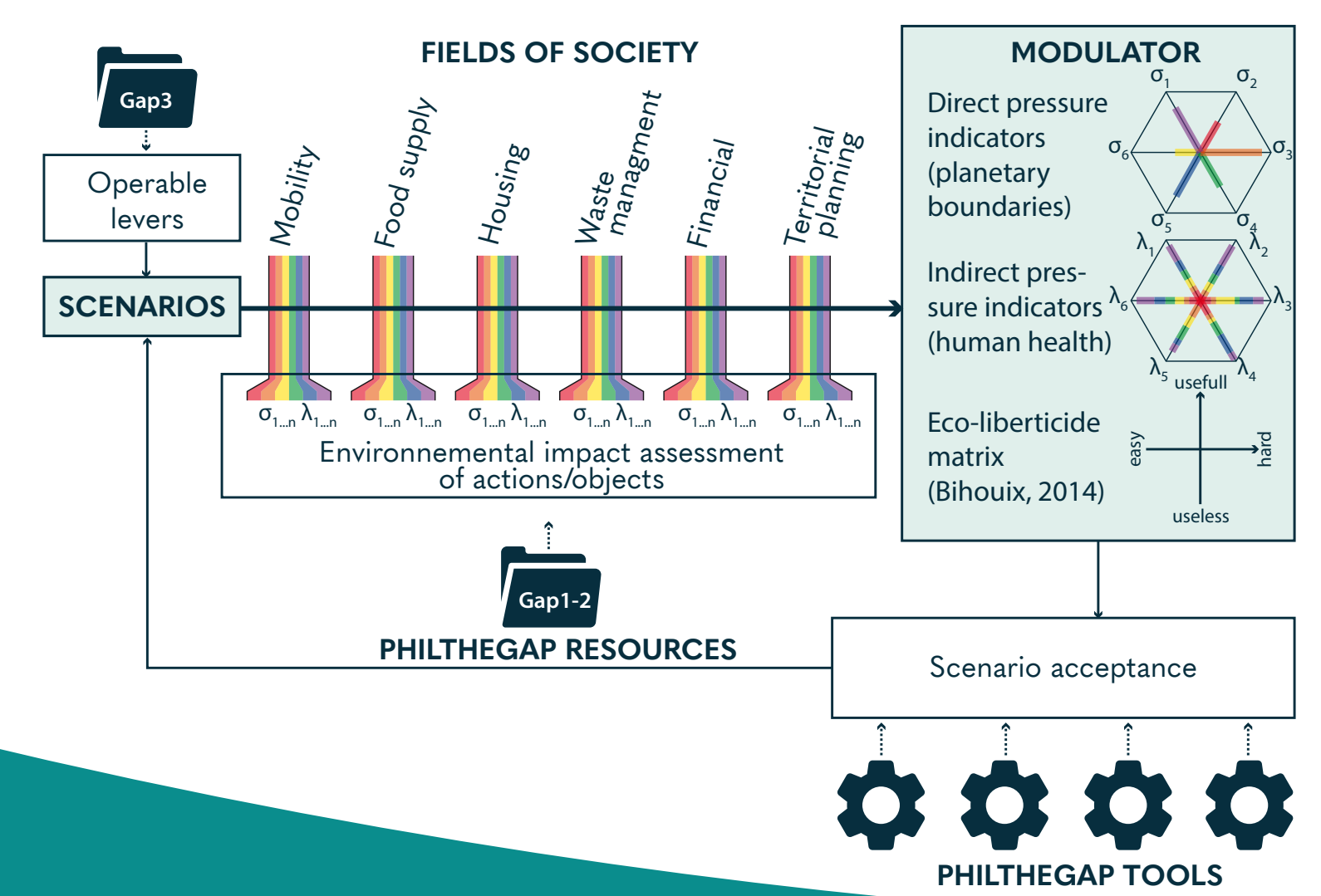


Digital games have become an integral part of our lives. With the aim to reach and commit a wider audience, PhilTheGap resources will be conceptually incorporated in a serious game serving self-determination and behavioral change in the energy-transition and net-carbon destination.

Based on educational models that have recently emerged, the game bets on a playful and narrative approach to inspire climate action.

### RESILIENCE AND MITIGATION MODULATOR

PhilTheGap modulator will generate chains of explanations for selected sectors of the Swiss economy, simulating environmental impacts of various levers (i.e. individual actions and consumer choices, political decisions, new policies...), providing key inputs to the serious game.



### GAP 1

#### TIME versus QUANTITIES OF ENERGY/EMISSIONS

At current emissions rates, the remaining carbon budget for a 1.5°C global warming will be reached in less than 8 years.

In 2019, global oil, coal and gas consumption exceeded 492 EJ (BP Energy Outlook 2019). This can be translated into a global capacity of about 15'600 GW. Substituting that amount of energy would take close to 43 years by installing each day, day in and day out, a 1 GW plant (i.e. a plant with the capacity of a large nuclear reactor).

What are we willing to keep in a net carbon destination where emissions of GHG must be reduced to 1 tCO2/capita/yr (i.e. 2.75 kgCO2/capita/day) by 2050?

REFERENCES  
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### GAP 2

#### RENEWABLE IS NOT ENOUGH: SUSTAINABILITY IS A MUST

The complexity and multiplicity of methods for measuring sustainability result in blurred visions. Life Cycle Sustainability Assessment (LCSA) frameworks have given rise to a virtually infinite number of sustainability indicators used as proxy measures of multidimensional concepts.

The most common indicator is GHG accounting, commonly referred to as carbon footprint (CFP). By becoming the main focus of many sustainability policies among companies and authorities, it brings the risk of shifting problems, when reduction in CFP are obtained at the expense of increasing other environmental/societal impacts.

A deeper understanding of sustainability indicators, their boundaries, their interferences, and their relationship with economy is needed for informed decision making in the deployment of the future Swiss energy mix.

### GAP 3

#### PSYCHOLOGICAL AND SOCIAL BARRIERS

Despite growing environmental awareness and broad support among global public opinion for limiting emissions, behavioral changes towards more sustainability are occurring too slowly at all levels of society and in the economy. One common explanation is rooted in human psychology, which shows that the complex and abstract nature of climate change poses significant challenge to human cognitive mechanisms.

Locating the barrier at the psychological level may be insufficient and the broader psychological tendencies should be considered within the complex interplay of social relations and social structures: Societal and political actors most relevant for the formulation of energy-climate policies should be identified, their underlying objectives and assumption spelled-out and the context determining how a certain objective matters for each actor determined, for achieving a successful political economy transition framework.

## PHILTHEGAP OUTREACH RESOURCES: SUPPORTS TO BRIDGE THE GAPS