

SDSN
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A few comments about sustainability

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Biographical note:

- **Training:** technology – economics – political economy
- **Fields:** energy, economics, environment, climate policy, political economy
- **Impact:** halt Belgian atomic power expansion (1981-1989); closure coal mines (1989); state-of-the-environment reporting & policy planning (1988-1998); water sanitation in Flanders (1999-2001); IPCC (1998-2014), EU & UN energy & climate policies and politics

EU Energy Policy: official

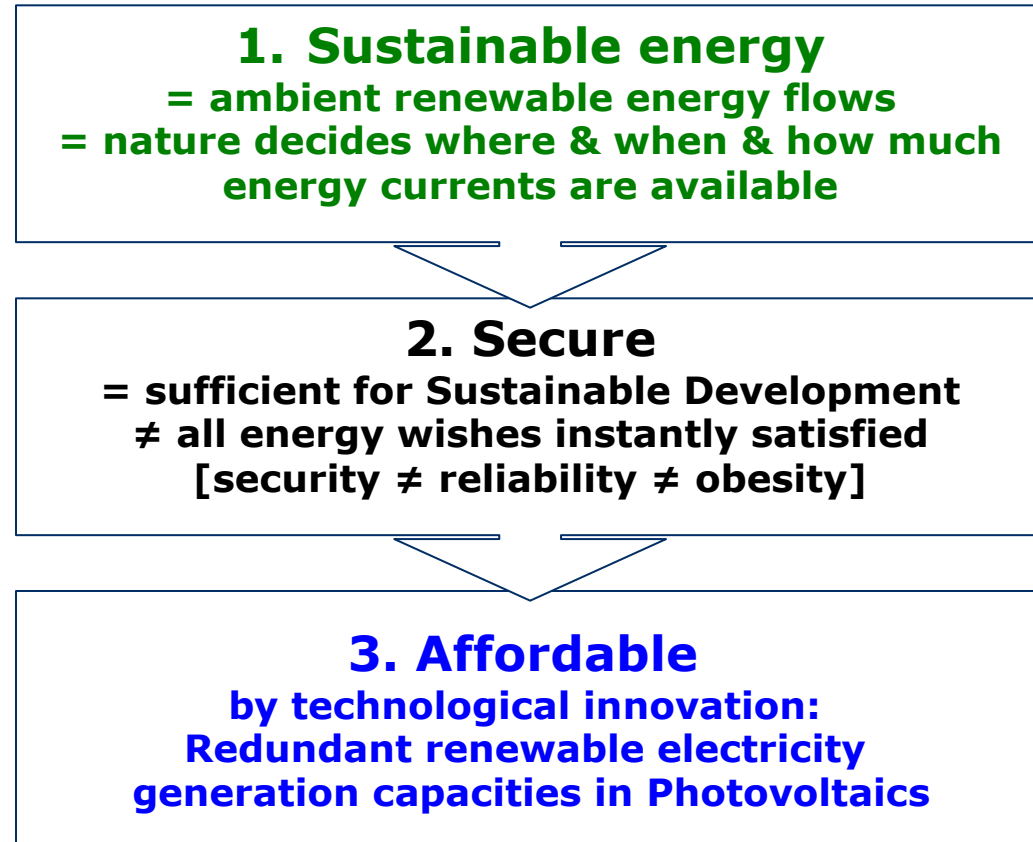
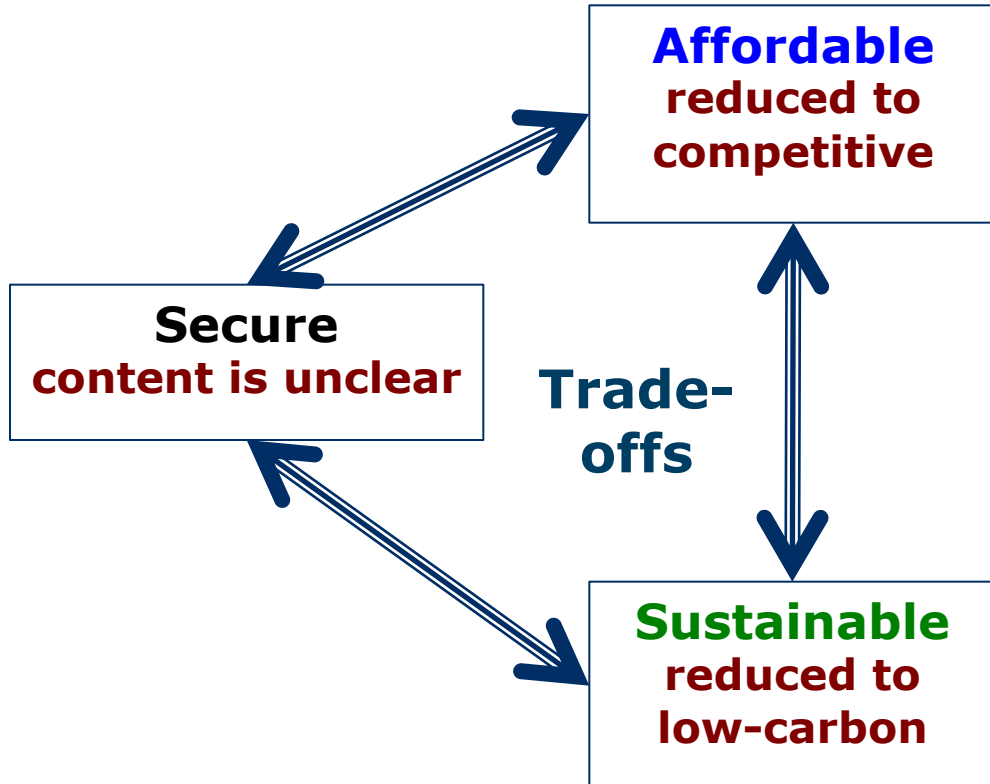


sustainability vision

Policy goals framed as
TRILEMMA



Actual CASCADE



Sustainable Development: Goal & Substance

GOAL statement towards Sustainable Development

quotes from Our Common Future (WCED, 1987)

Humanity has the **ability** to **make** development sustainable – to ensure that it meets the needs of the present generations without compromising the ability of future generations to meet their own needs (p.8)

Growth control (limitations, p.43):

- Demographic developments in harmony with the changing productive potential of the ecosystem (p.44; p.55-57)
- Consumption standards that are within the bounds of the ecological possible and to which all can reasonably aspire (p.44)

Redistribution (overriding priority to the essential needs of the world's poor, p.43):

- Many problems arise from inequalities in access to resources (p.48)
- Economic and social justice within and amongst nations (p.49)
- **Economic growth for the alleviation of poverty (p.51)**

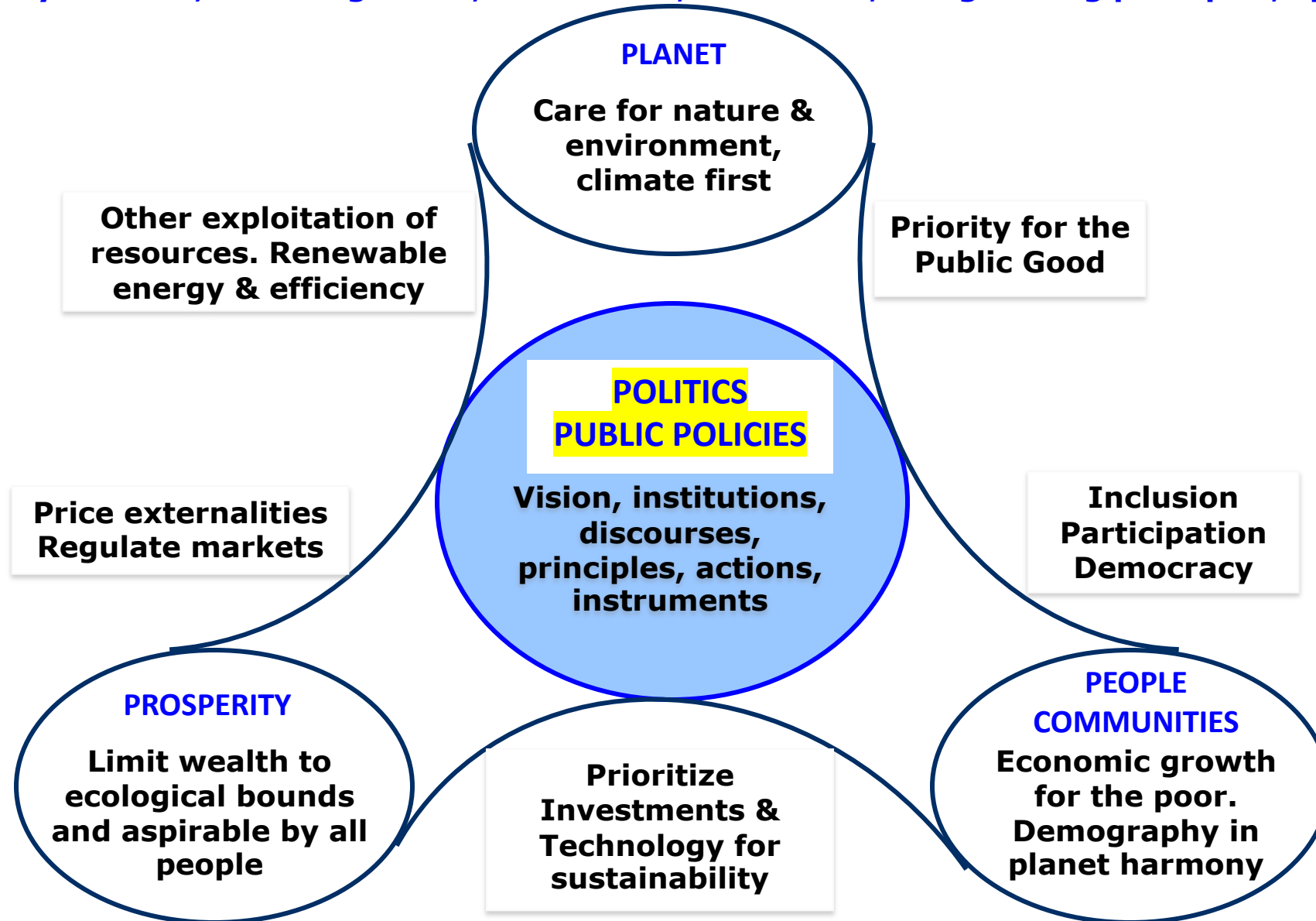
Processes of change in Political, Economic, Social, Ecological systems (p.9, 46, 65)

In case:

- Exploitation of resources
- Direction of investments
- Orientation of technological development
- **Institutional change; the real world of interlocked economic and ecological systems will not change; the policies and institutions concerned must (p.9)**

Sustainable development holds 4 main dimensions.

Politics stays central, moulding vision, institutions, discourses; safeguarding principles; spurring action



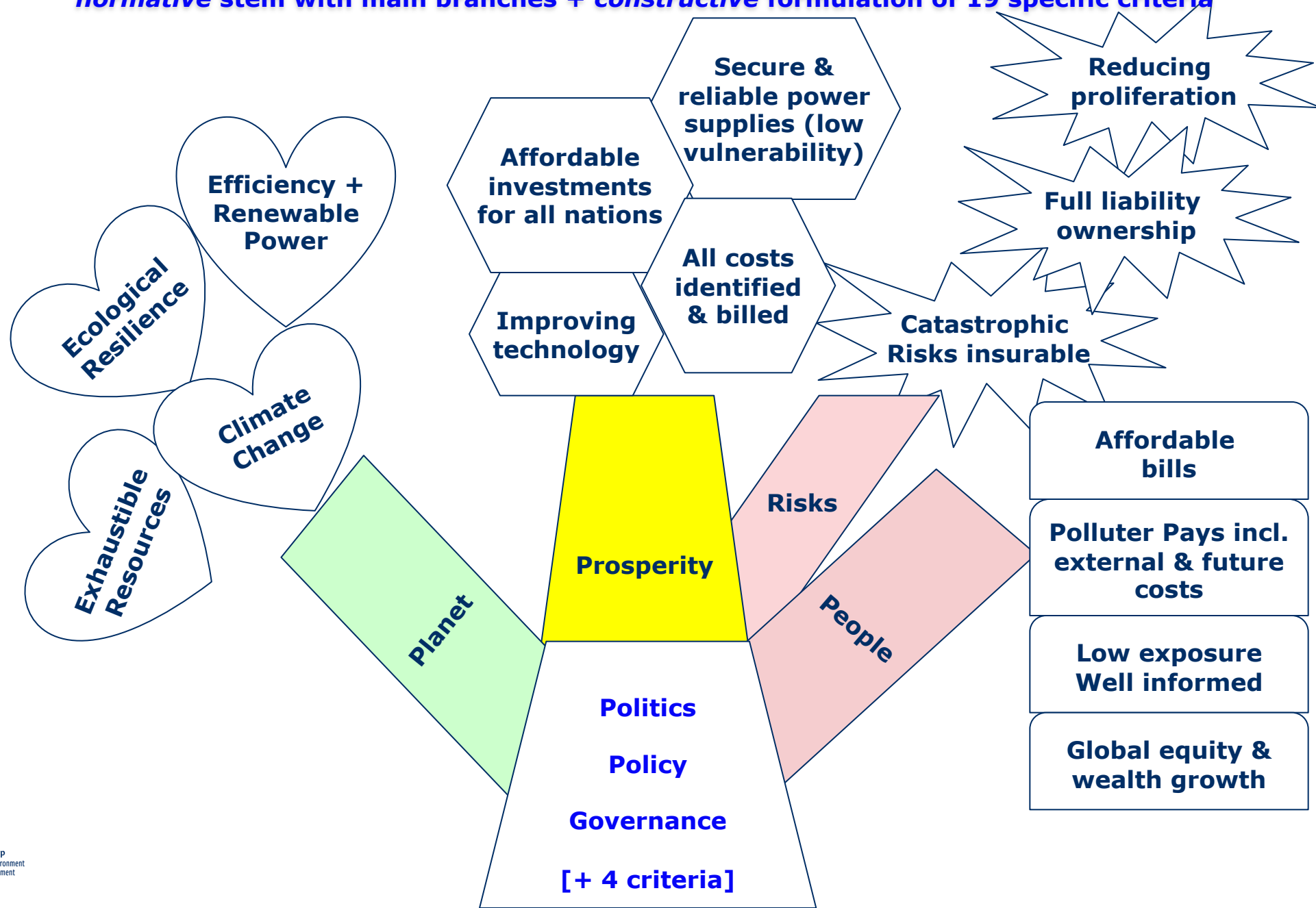
UN World Commission on Environment and Development (WCED) Brundtland et al. 1987 *Our Common Future* (OCF)

- **Sustainable Development (SD) concept**
 - **NOT** vague
 - **YES** concrete, hands-on
 - Clear goals / constraints (limits)
 - Specific action programs are political-societal constructs (**many in communities**)
- **Make Sustainable Development operational**
 - **NOT** talk, **voluntary ex-post** SDGoals
 - **YES ex-ante sustainability assessments** of technologies, projects, events like COP29
 - Identify criteria (= attributes to own, results to obtain)
 - Our Common Future provides a *normative* frame 4P (Politics-People-Planet-Prosperity)
 - Specific assessments add own *constructed* criteria

Sustainability Assessment Criteria (attributes to hold, results to obtain)

Nuclear Power case study tree:

normative stem with main branches + constructive formulation of 19 specific criteria



Human Civilization is built on a Substrate of Energy



Civilization

Lock-in

- Paradigm economic growth
- Discourses (myths; fake news)
- Institutions (norms, institutes)
- Interests, small to giant

Reversal feasible

⌘ politics, social constructs, rebellion, massive migration

ENERGY USES

=

**ENERGY SOURCES
X
TECHNOLOGY**

Substrate

Lock-in

- Infrastructures
- Habits (!mobility)
- Vested interests (oil&gas, electricity, atomic power, multinational corporations)

Reversal feasible

⌘ inventions, innovations, knowledge & technology

Energy and Societal transformations for the public good: Sustainable Development based on 100% renewable energy

