Sustainability, Ethics and Technology

Lecture 2 out of 2

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Sustainability, Ethics and Technology


This lecture is about

Sustainability in energy discussion

Rather than an adjective, sustainability is as an ethical framework

The three key questions of sustainability

- Sustaining what?
- Why?
- For Whom?

Sustainability in energy discussions

Recall: the two dimensions of sustainability

- Social justice in a spatial sense
- Social justice in a temporal sense

Spatial & temporal Tragedy of the Commons

- Depleting non-renewable resources
- Affecting the environment

Focusing on conflicting interests

We must first be clear on the definition

- How do we interpret sustainability?
- How do we cope with conflicting interests?
- Both spatially and temporally

Considering sustainability as a moral value

- From which we can derive other underlying values
- Addressing the interests of different generations
- …and their conflicts

Values at stake in sustainability

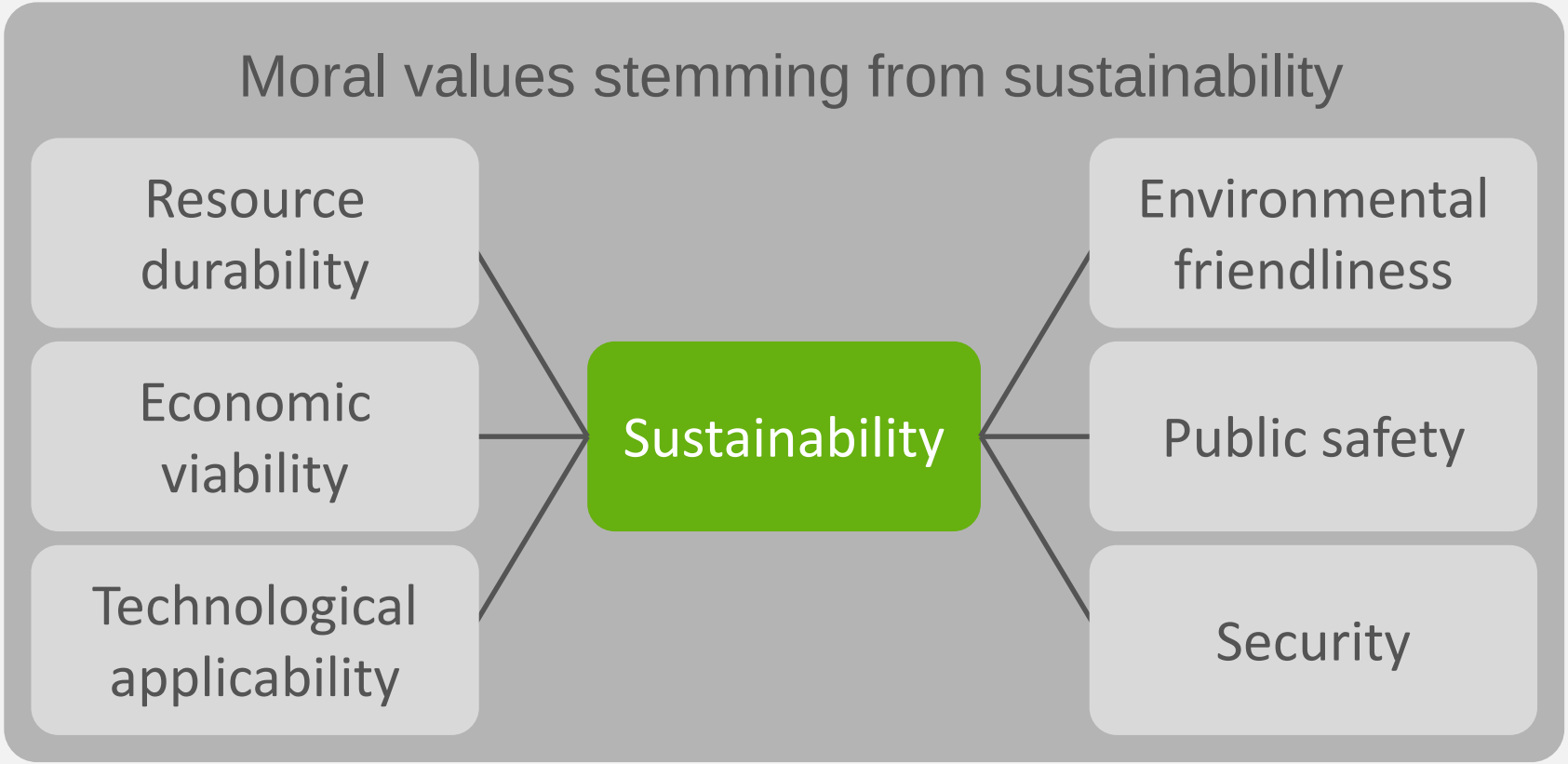
The very first question is **sustaining what?**

Sustaining environment and human kind's safety

- Leaving the nature no worse than we found it
- Protecting public health

Sustaining human well-being

- Resource durability or availability of non-renewable resources
- Economic durability



Source: Taebi, B. and A. C. Kadak. 2010. Intergenerational Considerations Affecting the Future of Nuclear Power: Equity as a Framework for Assessing Fuel Cycles. Risk Analysis 30 (9): 1341-1362.

Sustaining the environment

Why should we care about the environment?

- Does it have an **intrinsic** value? Non-anthropocentrism
- Should it primarily serve human interest? So it only has **instrumental** value: anthropocentrism

Unreasonable to expect no change in environment

- How to repair/compensate for inevitable changes
- E.g. climate change and toxic waste

Sustaining health and safety

We should not jeopardize safety of future people

How far in the future should we offer such protection?

- Is it feasible to offer exactly the same level of protection?
- Is it desirable?

Should we distinguish between different future people?

- The relevance of this questions goes beyond philosophical discussions

Radiological protection

The next 10,000 years: 15 millirem per year (current level)

Beyond that period: 350 millirem later adjusted to 100 millirem p/y

Rem **is a unit for measuring health impact of radioactivity also referred to as *radiotoxicity.* In Europe we use Sievert (1 Sv = 100 rem)**

Sustaining natural resources

Sustainability is interpreted here as durability (resources)

- Obviously we can't stop using non-renewable resources
- So we should provide compensation for depletion (Barry)

Debate on the moral relevance of the status quo

- The status quo is conservative as it neglects population growth, which is a main issue in sustainability discussions
- Whose responsibility is it if the population keeps growing?

Economic durability

For an energy source to be sustainable

- It must be economically durable

Durable *for whom*

- Whose interest are we taking into account? For what period?
- Are future interests as important as the present ones?
- Economist introduce here the concept of *discounting*
- Very relevant for discussion on cost-benefit analysis

In sum

In energy two aspects are very relevant

- Availability of resources
- How it affects the environment and public health

Both aspects have a spatial and temporal dimension

Sustainability could be very useful notion

- If we manage to identify interest at stake
- And address conflicts of interests properly



There is no such thing as sustainable energy

Sustainability should be seen as an ethical framework to assess different aspects of energy systems


Thank you for your attention!