Systems Engineering applied on Energy Research Proposal

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Abstract

Today it is difficult to set an Energy Research Policy. The proposals and publications are heavily polluted with window dressing to score high in the selection process. At the same time actual research quite often loses focus on the original research intention.

We propose to use Systems Engineering methods and techniques to help policy makers as well as researchers.

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logo
TBD

Problem Statement

Policy:

Research proposals are heavily *polluted* by *exaggerated claims* and the use of *well scoring key words* .

What is the frame of reference for assessing research proposals and to come to decisions that support the overall energy agenda?

Researchers:

How to write a proposal that *survives* in the middle of *inflated competing proposals* .

Research easily *derails* in interesting areas that are *not* necessarily *relevant* to the *original intent* .

How to establish *research questions* that can *focus research* and can help in *writing* a *research proposal* ?

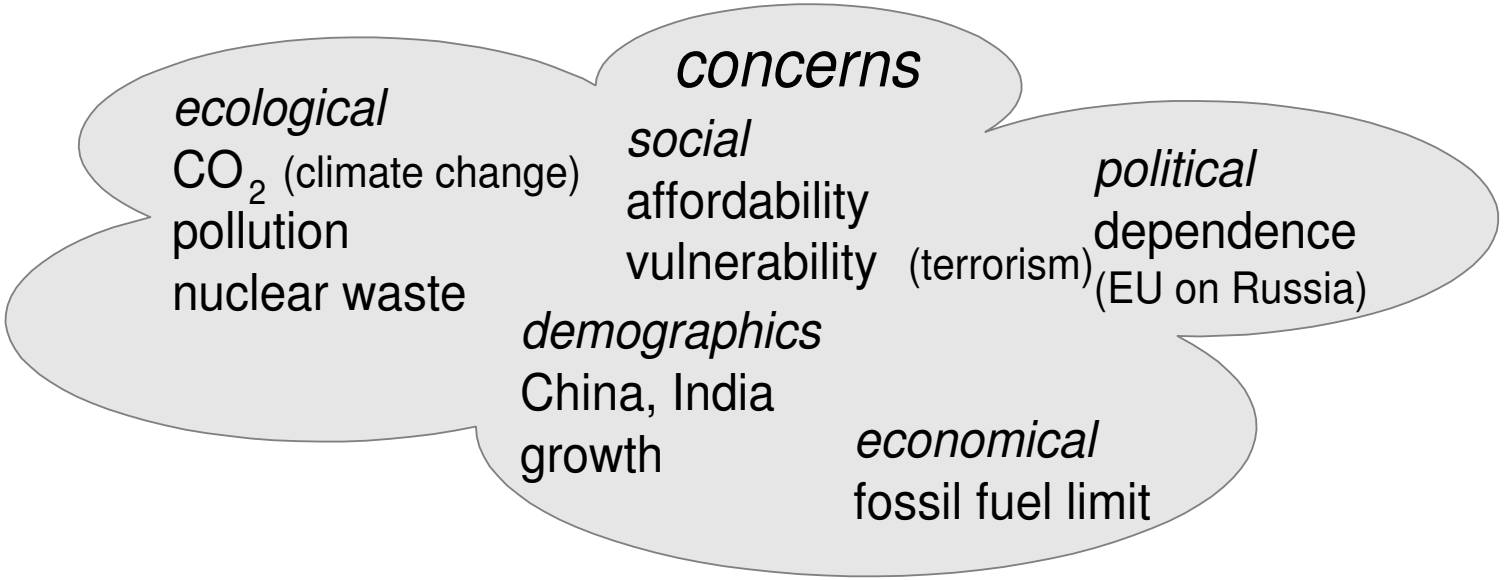
Proposition to apply Systems Engineering

SE methods and techniques can help both policy makers and researchers.

Specific SE methods and techniques:

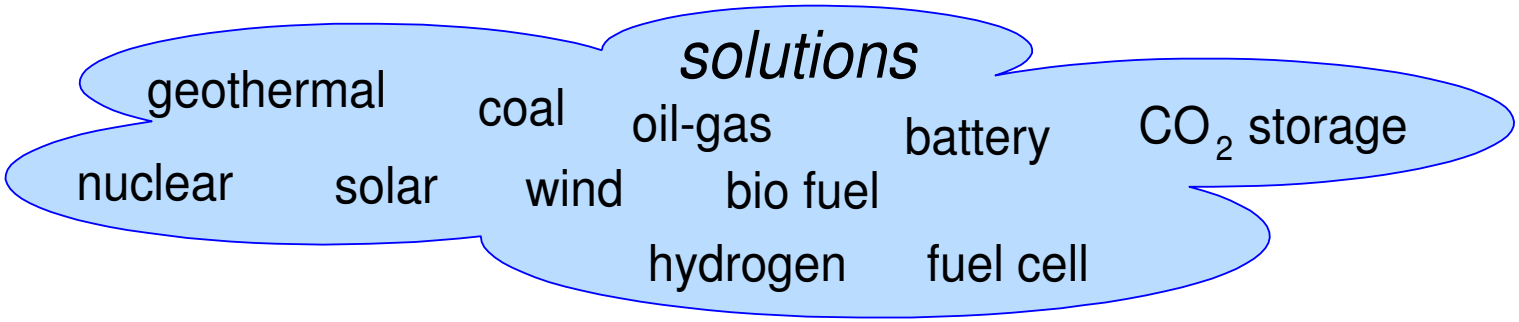
- Modeling of problems and solutions
  - functional modeling
  - quantified modeling
  - key drivers
  - stakeholders, needs and concerns, relationships
- Relating
  - problems, needs, concerns to
    - solutions, technology options, research questions
  - breadth (holistic, big picture) to
    - depth (specific applications, technologies, properties)

Playing Field

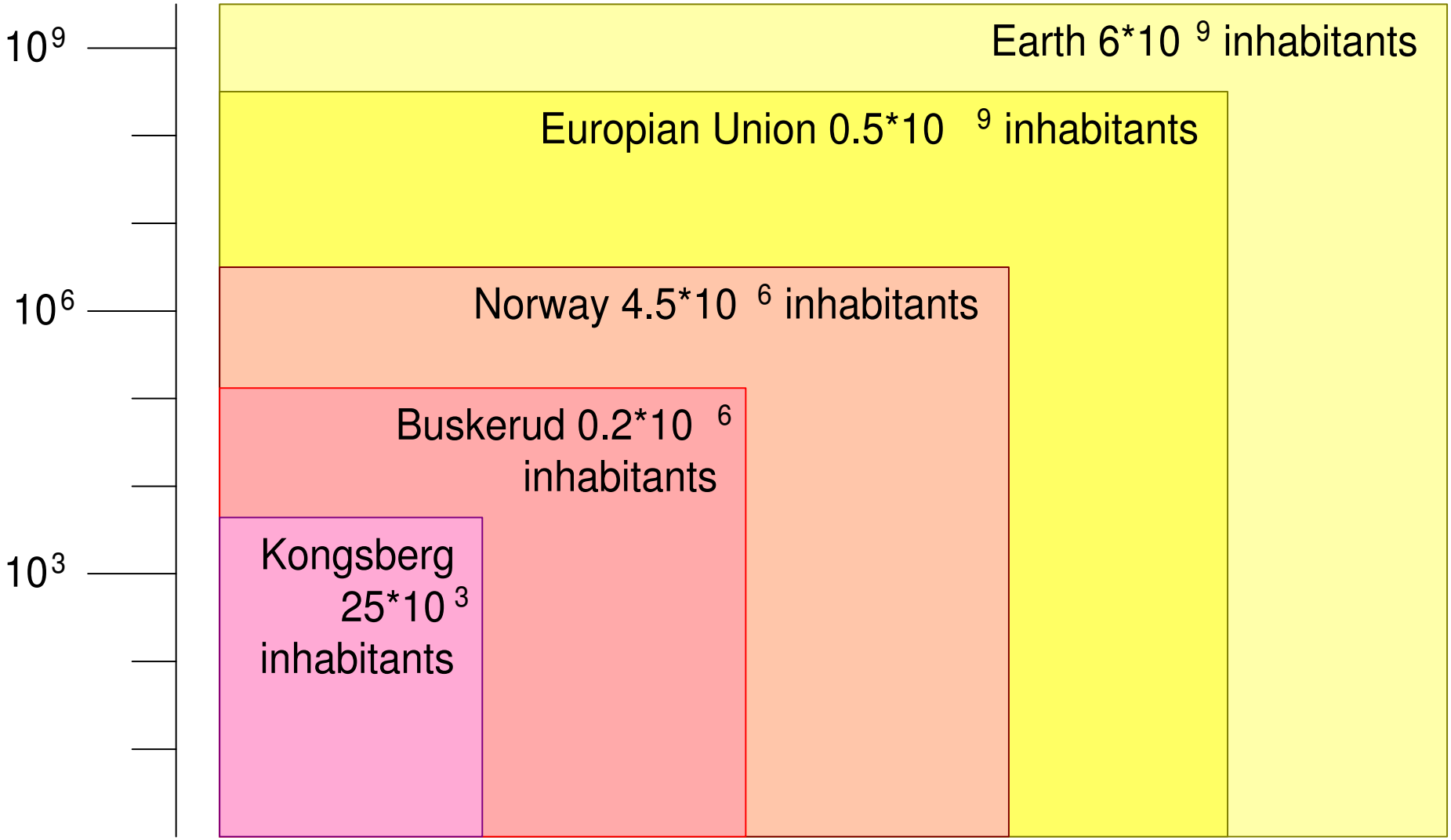


when, where, cost, impact

harvesting, conversion, storage, transport, deployment



Policy Making Bodies



Major Challenge: Distance