SUSTAINABILITY

“Sustainability” can only be realized by developing a …

“balance between three pillars”
A LONG HISTORY

SOCIOLOGY
- Social Change
- Social Revolution
- Environmental Sociology
(+ Paradigm Shift by T.Kuhn (1962))

ECONOMICS
- [Great Transformation] by K.Polanyi (1944)

TECHNOLOGY/ENGINEERING
- Innovation

BUSINESS
- Market Innovation
- More market

NATURAL SCIENCE
- Evolutionary theory by C.Darwin (1859)

水滴石穿
Water will eventually wear away stone by 老子 (4th century BC)

A LONG HISTORY

SUSTAINABLE TRANSITIONS
If transitions are technically driven it needs to be environmentally and socially

Trigger fundamental change in social structure, culture and practice
Offer technical institutional alternatives
Satisfy the societal need

SUSTAINABLE TRANSITIONS
If transitions are technically driven it needs to be environmentally and socially
TRANSITIONS THEORY

There are several branches of theory

All focus on technology but some have additional focus..

MULTILEVEL PERSPECTIVE

Niche development
- Small scale projects
- Learning process
- Expansion of actors

Regime change
- Regulations
- Finance
- Markets
- Culture
- Science

Landscape change
- Infrastructure
- Societal values
- Beliefs
- Macroeconomic trends

Sunk investment

User patterns

Cultural values

Barriers to change

Vested interests

Sustainable transition
NOT ALL TRANSITIONS ARE INITIALLY SUCCESSFUL

ELECTRIC VEHICLES IN THE 1900S

SOME TRANSITIONS ARE NOT ENVIRONMENTALLY SUSTAINABLE

THE FORD MODEL T
CITIES PROVIDE A GOOD PLACE FOR TRANSITIONS

BUS RAPID TRANSIT - CURITIBA BRAZIL

CITIES IN ASIA CAN SHED LIGHT ON SUSTAINABLE TRANSITIONS

Kitakyushu, Dokai Bay, Today

Kitakyushu, Sea of Death, 1960s
KEY DISCUSSION POINTS FOR TODAY

1) what triggers incremental or rapid change?
2) who are the key actors in the process?
3) are experiences unique or can it be replicated and scaled?