

Ihminen toimenpideportfolion muodostajana

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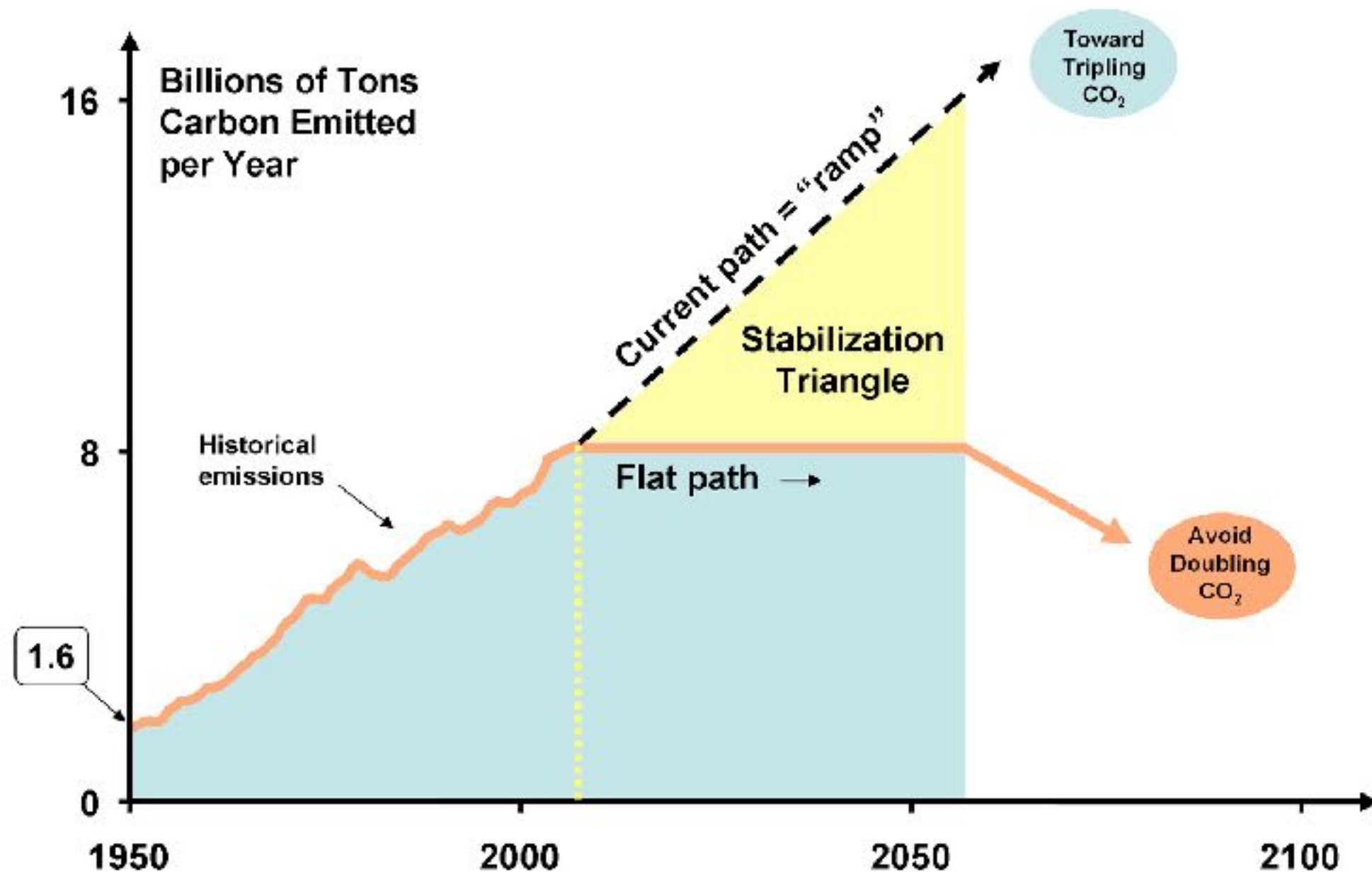
Portfoliopäätöksenteko

- Pyrkimys: mahdollisimman hyvä toimenpidekokoelma (= portfolio) annettujen arvokriteerien ja rajoitusten puitteissa
- Portfoliopäätösanalyysi (*Portfolio Decision Analysis, PDA*) tutkii portfoliopäätöksenteon teoriaa, menetelmiä ja prosesseja (Salo et al. 2011)

Päätöksenteon ilmiöitä

- Ankkuroituminen
- Näkökulman tai referenssipisteen merkitys
- Polkuriippuvuus

Esimerkki: Princeton University - Stabilization wedges game



3. Efficiency - Buildings		Increase insulation, furnace and lighting efficiency	... using best available technology in all new and existing buildings	\$	House size, consumer demand for appliances
4. Efficiency – Electricity		Increase efficiency of power generation	... raising plant efficiency from 40% to 60%	\$	Increased plant costs
5. CCS Electricity		90% of CO ₂ from fossil fuel power plants captured, then stored underground (800 large coal plants or 1600 natural gas plants)	... injecting a volume of CO ₂ every year equal to the volume of oil extracted	\$\$	Possibility of CO ₂ leakage
6. CCS Hydrogen		Hydrogen fuel from fossil sources with CCS displaces hydrocarbon fuels	... producing hydrogen at 10 times the current rate	\$\$\$	New infrastructure needed, hydrogen safety issues
7. CCS Synfuels		Capture and store CO ₂ emitted during synfuels production from coal	... using CCS at 180 large synfuels plants	\$\$	Emissions still only break even with gasoline
8. Fuel Switching – Electricity		Replacing coal-burning electric plants with natural gas plants (1400 1 GW coal plants)	... using an amount of natural gas equal to that used for all purposes today	\$	Natural gas availability
9. Nuclear Electricity		Displace coal-burning electric plants with nuclear plants (Add double current capacity)	... ~3 times the effort France put into expanding nuclear power in the 1980's, sustained for 50 years	\$\$	Weapons proliferation, nuclear waste, local opposition
10. Wind Electricity		Wind displaces coal-based electricity (10 x current capacity)	... using area equal to ~3% of U.S. land area for wind farms	\$\$	Not In My Back Yard (NIMBY)
11. Solar Electricity		Solar PV displaces coal-based electricity (100 x current capacity)	.. using the equivalent of a 100 x 200 km PV array	\$\$\$	PV cell materials

Koeasetelma - Kiilapeli

- Portfolio muodostetaan kahdella tavalla
 - **Lisäten** yksitellen ”ostoskoriin” 8 haluttua vaihtoehtoa
 - **Karsien** vaihtoehtoja kunnes 8 jäljellä

- Hypoteesi: Muodostamistapa vaikuttaa lopputulokseen (= polkuriippuvuus)

Toteutus

- Kyselytutkimus verkkoapplikaation muodossa
- Kerätään talteen vastausaika, annetut vastaukset, valintajärjestys ja muutokset

Wedges game

[Home](#) · [Reduce](#)

Create a portfolio of 8 wedges

Remove wedges by clicking them.

You need to remove 6 more.

Transport Efficiency

Transport Conservation

Building Efficiency

CSS Hydrogen

CSS Synfuels
Capture and store
CO2 emitted during
synfuels production
from coal

Remove from the list

Close

Fuel-Switching for
Electricity

Nuclear Electricity

Wind Electricity

Solar Electricity

Wind Hydrogen

Biofuels

Forest Storage

Soil Storage

Removed wedges

These are the wedges that you have already selected out. You can put restore wedges by clicking them.

~~Efficiency in Electricity
Production~~

~~CSS Electricity~~

Lähteet

- Salo et al. 2011
- Lahtinen ja Hämäläinen 2016
- Hämäläinen ja Lahtinen 2016
- <http://cmi.princeton.edu/wedges>