

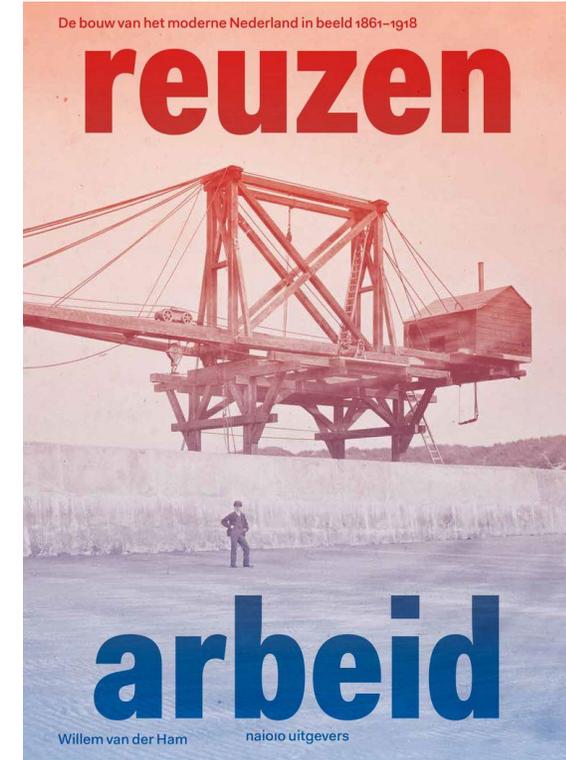
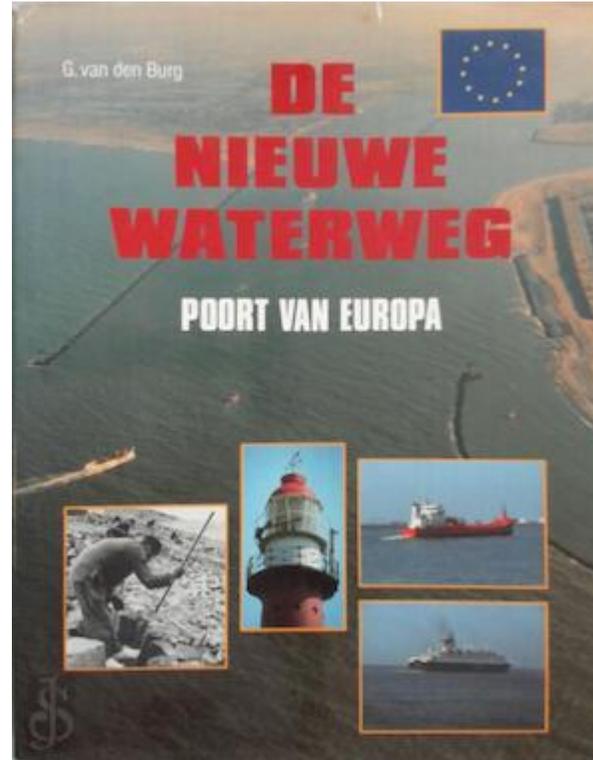
Economic Perspectives Nieuwe Waterweg: 'The Big Revearsal'

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Economic perspectives: 'the big reversal'

- The past: Nieuwe Waterweg crucial for the emergence of the 'fossil port cluster' from 1950-2015.

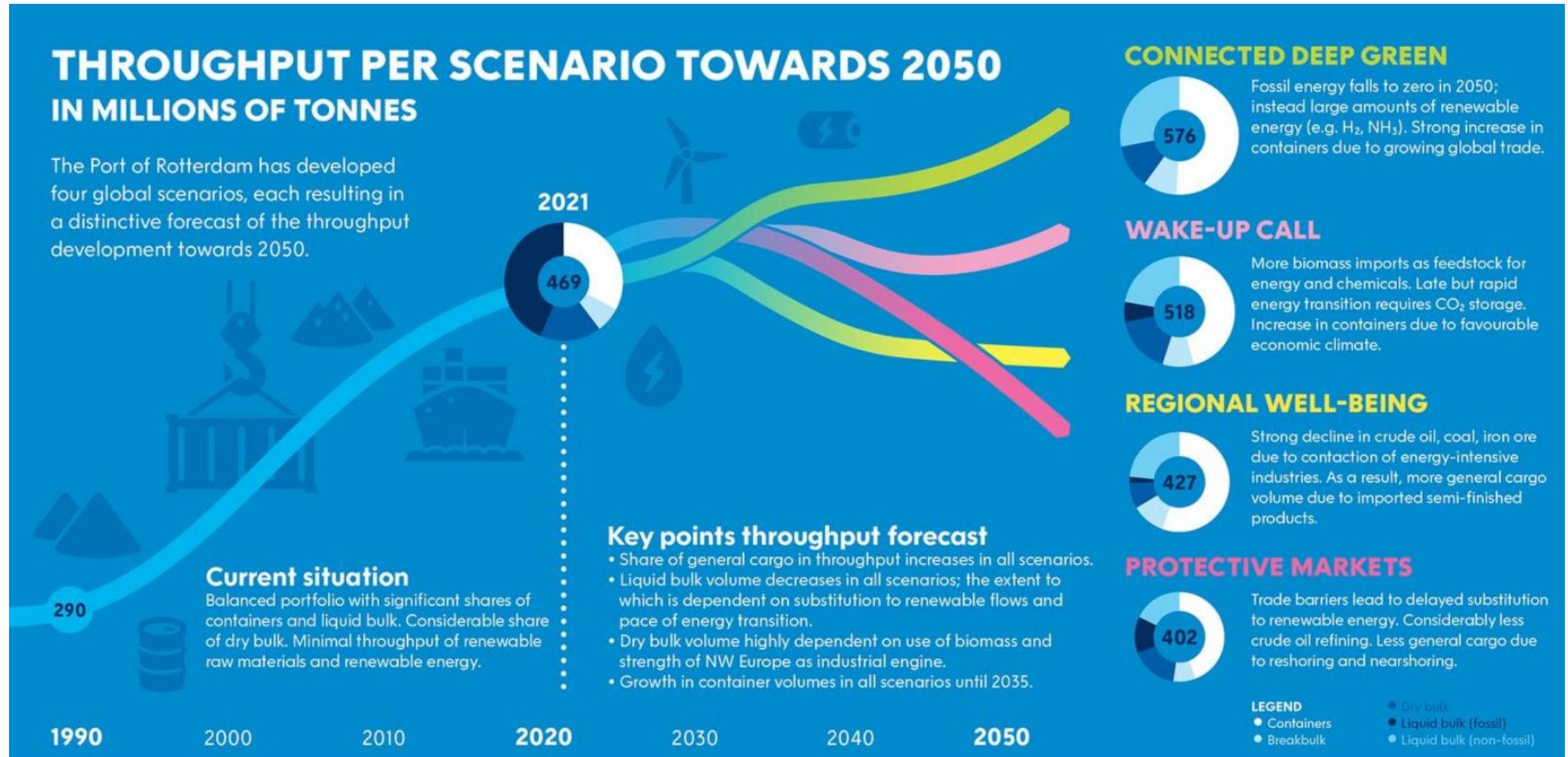


Economic perspectives: 'the big reversal'

- The past: Nieuwe Waterweg crucial for the emergence of the 'fossil port cluster' from 1950-2015
- The future of the Nieuwe Waterweg is dedicated to:
 - Circular economy: large impact; flows from Hinterland towards port by inland shipping,
 - Energy transition: fossil good flows are disappearing in the port,
 - Transition from rail and inland waterway to pipeline infrastructure for H2 and other feedstocks and energy flows,
 - Regionalization of economic organization: more intra-European flows, also increasingly coming from the Hinterland of the port,
 - Port of Rotterdam: facilitating export 'Made in Holland/Europe' instead of 'Made in China' - from Mainport and transit flows to Dutch export facilitation.

Energy transition results in declining good flows

Long term scenario's Port of Rotterdam September 2022



HYDROGEN ECONOMY IN ROTTERDAM STARTS WITH BACKBONE

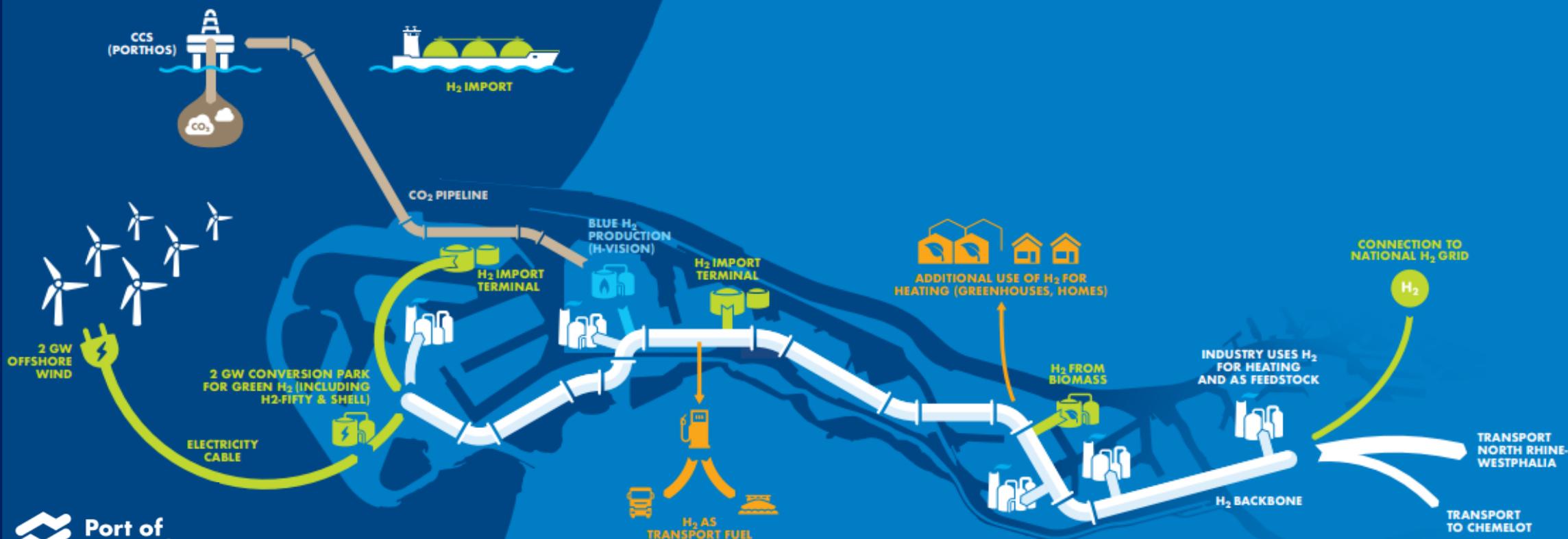
Hydrogen system

The port of Rotterdam will have a hydrogen system that combines production and use, particularly in industry, but also imports and transit flows of hydrogen to other parts of the Netherlands and Northwest Europe. The Port Authority and Gasunie are working on an initiative to have a backbone for hydrogen running through the port as early as 2023.

This main transport pipeline will supply companies with hydrogen produced at conversion parks in the port. The backbone will be connected to Gasunie's national infrastructure throughout the Netherlands and to corridors leading to industrial areas in Chemelot in Limburg, and North Rhine-Westphalia. In time, there are also plans for a terminal to facilitate imports of hydrogen.

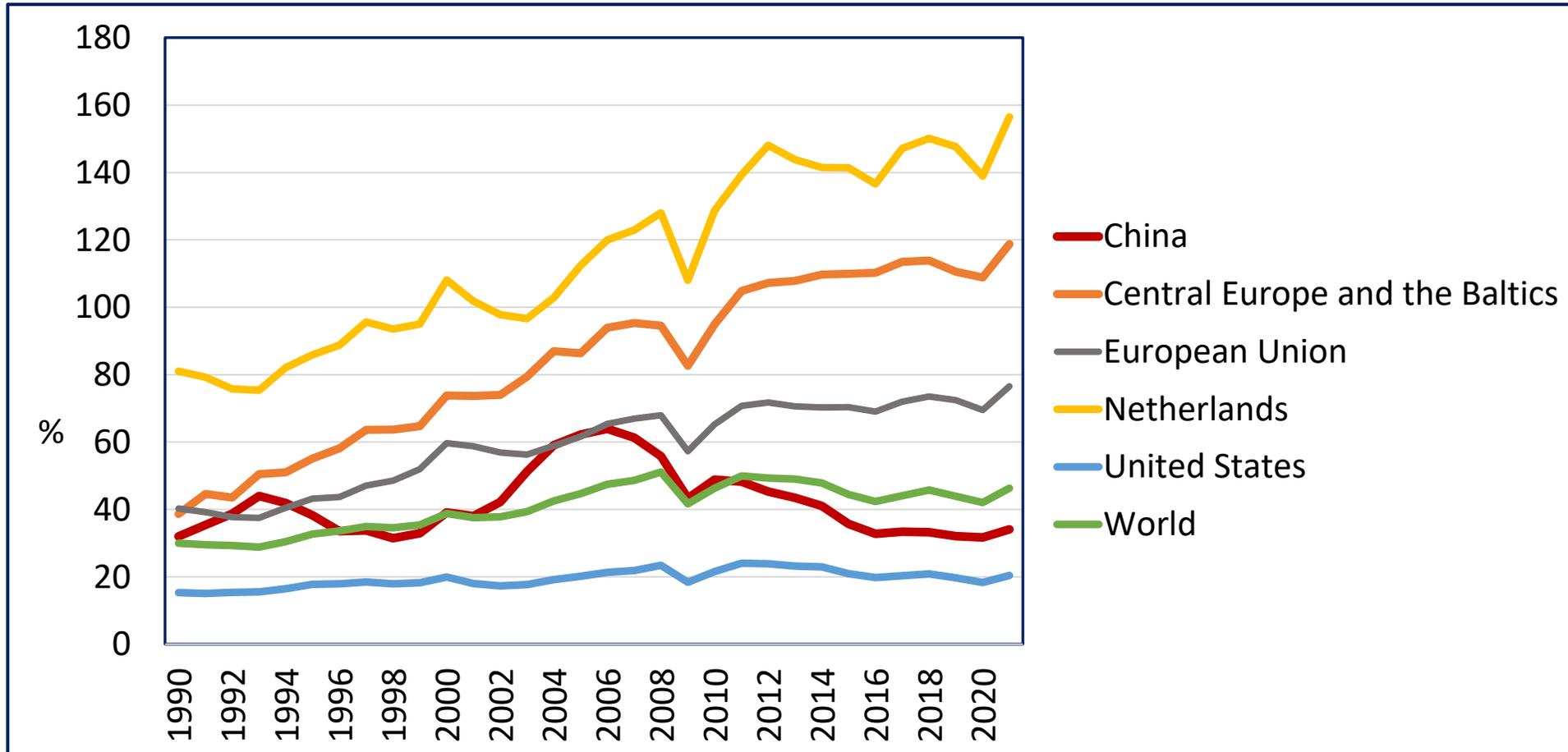
Earning power

This will give Rotterdam a leading infrastructure in the field of hydrogen that will stimulate market development. In addition to making an important contribution to the national climate targets, a hydrogen system of this kind will also boost the earning power of the port complex, whilst maintaining the important role of the port for the Dutch economy in the future.



Global trade stabilizes; retreat of China

Merchandise trade as share of GDP, 1990-2021



Source: Worldbank

Economic impact port of Rotterdam is especially related to export of Dutch product via Rotterdam instead of facilitating transit flows

	Added value/bln€	Employment/1.000fte
Economic activities in de port area: shipping & industry	13.3	75.9
Backward linkages: suppliers of firms in the port	7.4	86.5
Advanced maritime service providers: legal, financial, IT	1.0	9.6
Backward linkages: suppliers of Advanced Maritime Services Prov.	0.4	5.0
Correction: conceptual differences and double counting	-1.2	-8.4
Total 'location function'	20.8	168.5
Related to transport to and from the port	6.1	59.1
Backward linkages: suppliers for transport companies related to the port	2.4	36.2
Correction: conceptual differences and double counting	-0.1	-1.2
Total 'logistics node function'	8.4	94.1
Related to export 'Dutch product' via port of Rotterdam	38.8	322.1
Related to Dutch re-export via port of Rotterdam	4.8	46.4
Related to 'quasi-transit' via port of Rotterdam	0.4	4.8
Related to transport transit via port of Rotterdam	1.6	17.4
Correction: conceptual differences and double counting	-11.6	-89.6
Total 'trade-flow function'	34.0	301.1

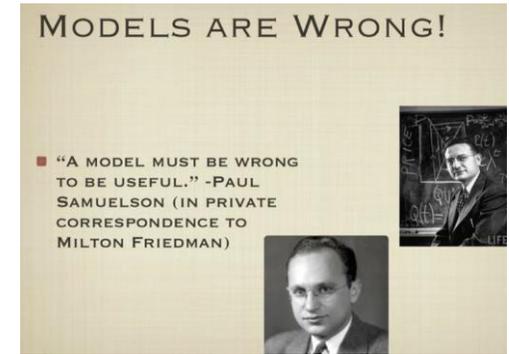


Source: CBS & Erasmus UPT

'The big reversal' – (r)evolution?

Role of science:

- Mapping the trends,
- Mapping the stakeholders, investments, markets, policies and governance,
- Determining costs and benefits of these (welfare and well-being),
- Analyzing regionalization and reshoring (expensive),
- Collecting proof and arguments for evolution and/or revolution (moonshots)?
- Designing futures and showing frictions and trade-offs.

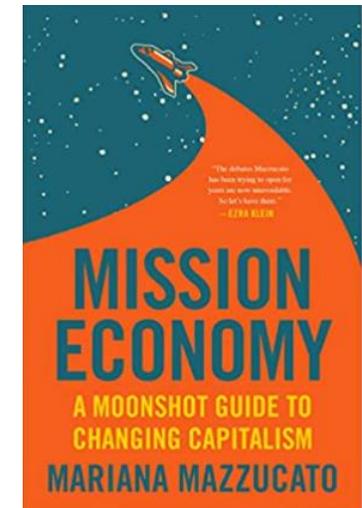


nrc

7 september 2021

'Haalbaar en betaalbaar' is wél een argument, Sigrid Kaag

Klimaat Veel Nederlanders steunen klimaatbeleid, als de lasten niet te zwaar drukken, schrijft *Rens van Tilburg*.





Future studio NL 2100

Goods & raw materials

CRa RADEMACHER/DE VRIES

PRESENT



AFTER THE FRUGAL TURN



DO NO HARM



EARTHSHOT



Conclusion: Nieuwe Waterweg has new potential towards 2050

- Facilitating circular flows *from* the Hinterland,
- Facilitating new energy and feedstock flows: H2 also transport via inland waterway transport,
- Growth of fossil cargo flows from the Maasvlakte is less important: less traffic on Nieuwe Waterweg *to* the Hinterland,
- The tide for moonshots is positive, yet costs and benefits are still important on various spatial scales,
- Tipping points, government and market dynamics condition change: short term necessity (evolution), long term vision,
- The future of the port of Rotterdam is anyway more green!

Thank you for your attention!