

› DESTROYING THE CIRCULAR ECONOMY IN ORDER TO SAVE IT

Three challenges that emerged in recent studies | Elmer Rietveld (TNO), David Peck (TU Delft)

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WHY IS SOCIETY SO KEEN TO HEAR THE MESSAGE?

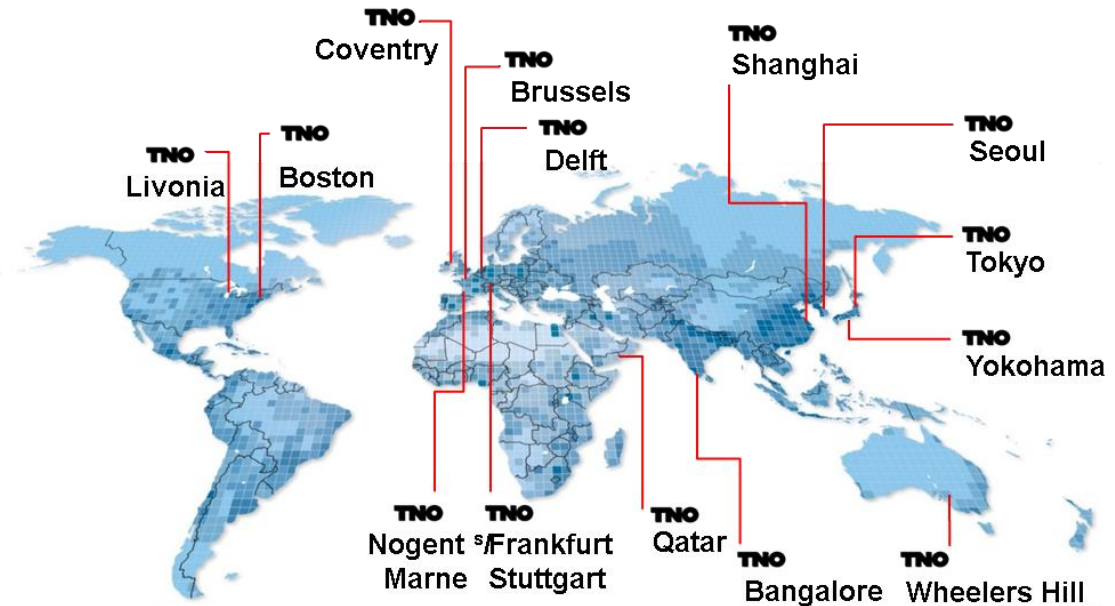
We all want to contribute to a transition of the global economy allows our planet to sustain it. How do we explain increased attention of private and public decision makers?

Good research should be treasured, but a strong analytical framework even more. Salvation might be needed.

Conflicting or misguided interpretations of circular economy are acceptable, taking advantage is not. Destruction might be needed.

ABOUT TNO

- › Research and Technology Organization
- › Aim: solve major economical and societal problems
- › Product and process innovation
- › Independent NGO
- › >3500 professionals with highly diverse and complimentary expertise
- › Personal background: civil engineering, SCBA, spatial economics



ABSTRACT PRESENTATION, CONCRETE PROJECTS

CRM_ InnoNet: European Network on substitution	FP7 / CSA 13 partners (o.a. CEFIC, SusChem, FhG, div. RTOs)	2012-2015
Circular opportunities in the Netherlands	Dutch national government	2013
Regions for Resources	Regional Network / CSA, Haven Rotterdam en Green Campus	
POLFREE (Policy for resource efficiency)	FP7	2012-2016
Value From Waste (AERTOS)	EARTO Network	2012-2014
Sustainable Portfolio Assessment: financial	ING, Rabobank, Robeco	2014-2016
Sustainable Portfolio Assessment: LCA	DSM, Akzo Nobel, Solway, Bayer	2015
RECLAIM	FP7	
Supply of raw materials for Dutch Economy, vulnerability assessment	Dutch national government	2014-2016
City material flow, assessing circular opportunities	Amsterdam, Rotterdam, Glasgow, Hong Kong	2014-2016
CREEA	FP7	2011-2014
EIT KIC Raw Materials, ETP-SMR, EIP Raw Materials (KIC), SusChem, Ramintech		

WHAT AGAIN IS THE PROBLEM?

Circular Economy as a concept and analytic framework can be discredited.

Typical research questions

How circular are we? How can we assess the level of circularity of companies or client portfolios? How should we account for external effects of economic activities? To become more circular, is financial compensation, or delay of stringent legislation, acceptable to allow established enterprises to catch-up with Best Available Technologies (BAT)? How is Research and Development and Innovation (R&D&I) policy related to the transition towards circular economy? How can we prioritize between different feedback loops of the CE framework in public investment decisions?

If answers for these questions are not provided, CE can not claim to induce benefits. Others will.

1ST CHALLENGE, WE DON'T KNOW WHAT'S GOING ON

Yes. Eurostat, Ecoinvent and all other (quasi) public sources offer better data than ever.

Micro data is unbalanced. Macro data is too aggregated.

EIOLCA, PSUIOT, EE-IO: meeting in the middle is possible but uncomfortable.

Decision makers are convinced! But too often not by quantifications based on real data.

2ND CHALLENGE, WE DON'T KNOW HOW TO MEASURE OURSELVES

Decision maker in business need to be convinced. Policy makers need to be convinced. Quantifications are essential. But they're still all over the place.

Claiming that a circular transition will always benefit any particular company of region will not suffice. Evidence shows that losers can arise from a circular transition. For instance from product lifetime extension.

LCA methods and corresponding methods seem to often too hard to be understood, reducing the opportunity to claim reduced negative external costs as benefits. Most importantly: everybody cares about the planet but few care about the planet.

3RD CHALLENGE, WE DON'T KNOW WHAT'S GOOD FOR US

What is good for society as a whole? A classic welfare economic problem.

Personal utility still beats general utility. How many people give up personal desires or are willing to jeopardize their professional KPI?

Array of complicating aspects: rebound effects, creative destruction, risk aversion, IP ownership, path dependencies, privacy needs, value chain interdependencies

HOW TO FACE THESE CHALLENGES?

Data? Increase mandate and budget of statistical offices

Indicators? Consider functional units and use of “circular” services (repair, waste treatment, R&D, lease and renting)

Greater good? Adopt SCBA methods and shadowprices (and demand small but consistent attempts to improve taxation and legislation)

› **WILL WE HAVE CIRCULAR
ECONOMY FACULTIES,
GOVERNMENT DEPARTMENTS,
RESEARCH PROGRAMS IN 2020?**

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