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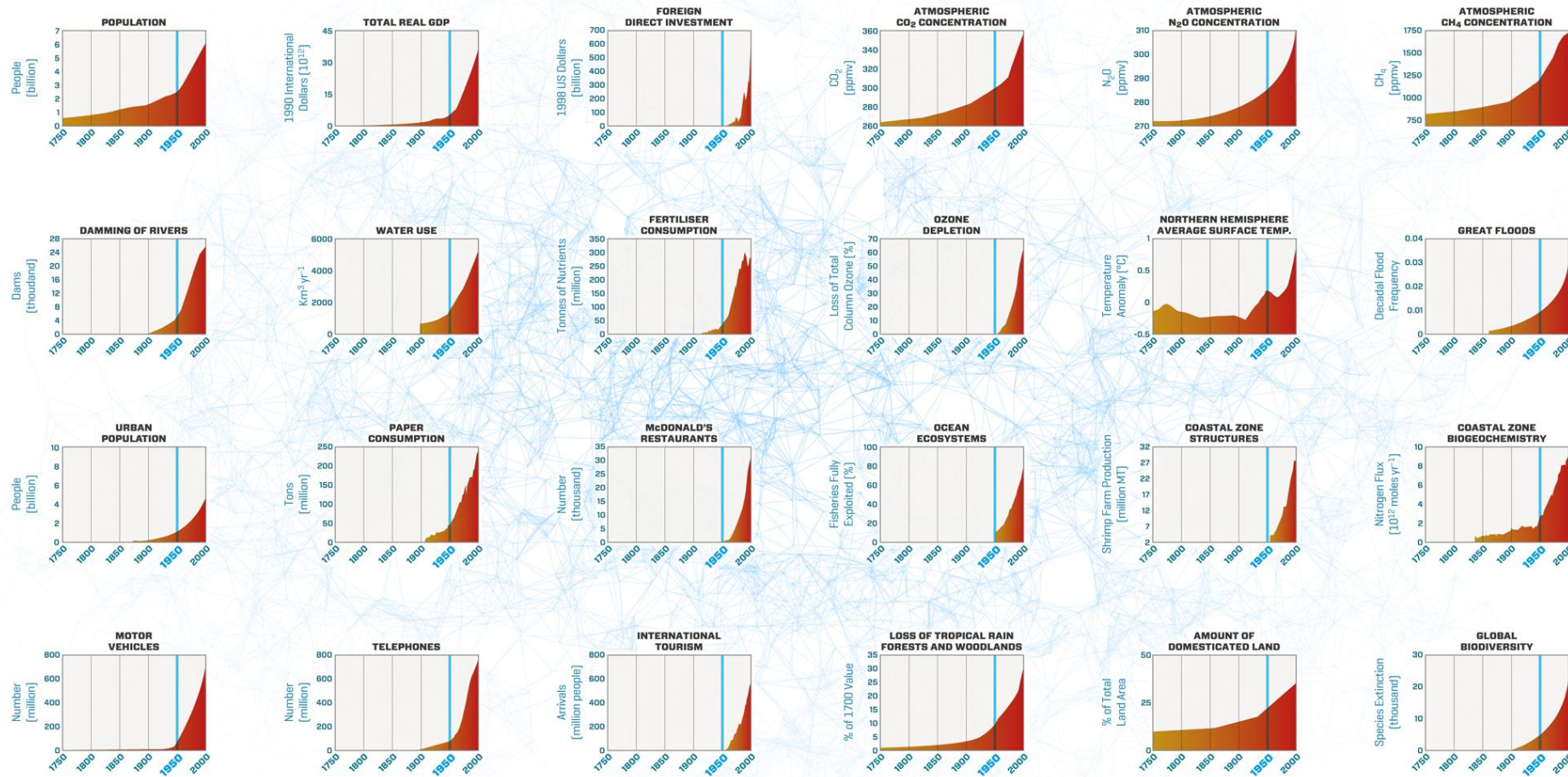
Sufficiency as a necessary strategy in the circular economy

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More of everything – is this possible?



Source: https://anthropocenejournal.files.wordpress.com/2013/05/fig-1-great_acceleration_small.jpg (based on Steffen et al. 2015)

Call for action

- We don't do enough → Experiment
- What we do might not be good enough → Sufficiency

Ways I've addressed this in my research

→ Experiment

→ Sufficiency



Journal of Cleaner Production
Volume 142, Part 4, 20 January 2017, Pages 2663-2676



Developing sustainable business experimentation capability – A case study
Ilka Weissbrod ^a,  , Nar



Environmental Innovation and Societal Transitions
Volume 28, September 2018, Pages 79-95



Original Research Paper
Experimenting with a circular business model: Lessons from eight cases
N.M.P. Bocken ^{a, b},  , C.S.C. Schuit ^c, C. Kraaijenhagen ^c

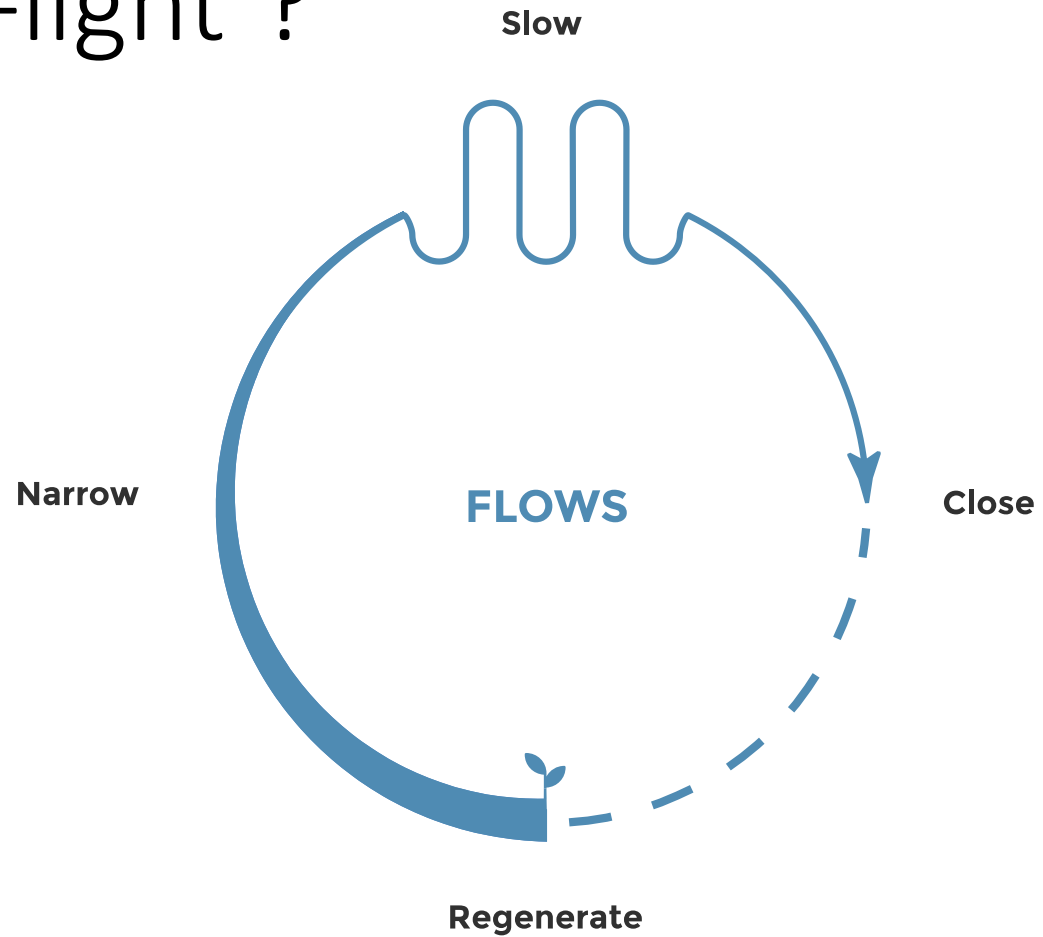


Environmental Innovation and Societal Transitions
Volume 18, March 2016, Pages 41-61



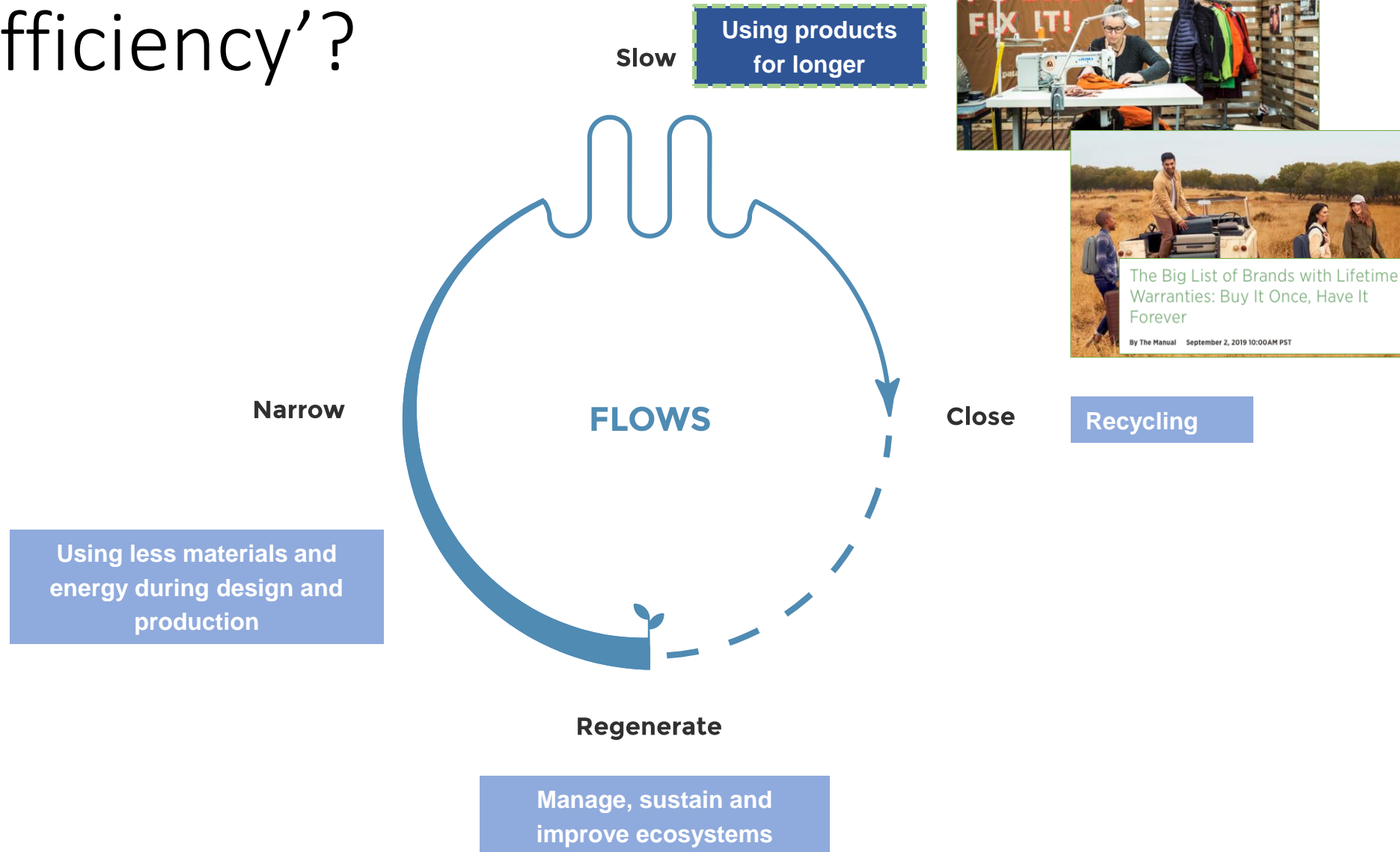
Towards a sufficiency-driven business model: Experiences and opportunities
N.M.P. Bocken ^{a, b},  , S.W. Short ^b

What is 'resource-light'?



(own figure, based on McDonough, W.; Braungart, 2002; Stahel, 2008; Bocken, Bakker and Pauw, 2016; Geissdoerfer et al., 2017)

What is 'sufficiency'?



(own figure, based on McDonough, W.; Braungart, 2002; Stahel, 2008; Bocken, Bakker and Pauw, 2016; Geissdoerfer et al., 2017)

What can business do?

- Build strategies to slow, close, narrow and regenerate resource loops
- Slow the loop and apply a sufficiency strategy: business approach focused on moderating consumer demand and making do with less
 - From: *"How can the waste stream of plastic packaging be recycled to reduce waste to landfill and plastic pollution?"*
 - To: *"How can we reduce and ultimately eliminate the need and demand for disposable plastic packaging altogether?"*
- Aim: to reduce absolute resource consumption per person

Viable sufficiency business strategies

Promoting quality over quantity

- E.g., higher pricing to cover the full or real price of the product (durability, life extension, repair etc.)

Focusing on service; not products

- E.g. pay per use, like an hour of car usage or paying per wash

Giving products a 2nd (and 3rd, 4th etc..) life

- E.g. through second hand markets or business strategies to collect, curate, prepare and sell used products

Lower cost frugal innovations

- E.g., simple solutions focused on low tech, low resource solutions

Different forms of consumption

- E.g. making the sustainable alternative more appealing

Source: Bocken, N.M.P.
*Circular Economy: Slowing
resource flows and
increasing value.* In:
Circular Economy in the
European Union. Ed.: S.
Eisenriegler, Springer
Nature, Switzerland.

Experimentation with new business models

- Practices to design and trial new resource-light business models
- Identifying the best business models in start-ups PLUS identifying new internal processes in established businesses
- Targeting resource preservation, while delivering superior customer value and societal and economic benefits

- Experiments cannot easily be controlled in a business environment
- They have a fast-paced learning cycle and low resource requirements

**Think big, start small, but start:
Just do it!**

Source: Bocken,
N., Schuit, C.,
Kraaijenhagen, K.
(2018)J. Clenaer
Production



Experimentation with new business approaches: HOMIE pay per use example



washing machine!



A cold wash costs €0.75 (incl. VAT)

A 30°C wash costs €1.00 (incl. VAT)

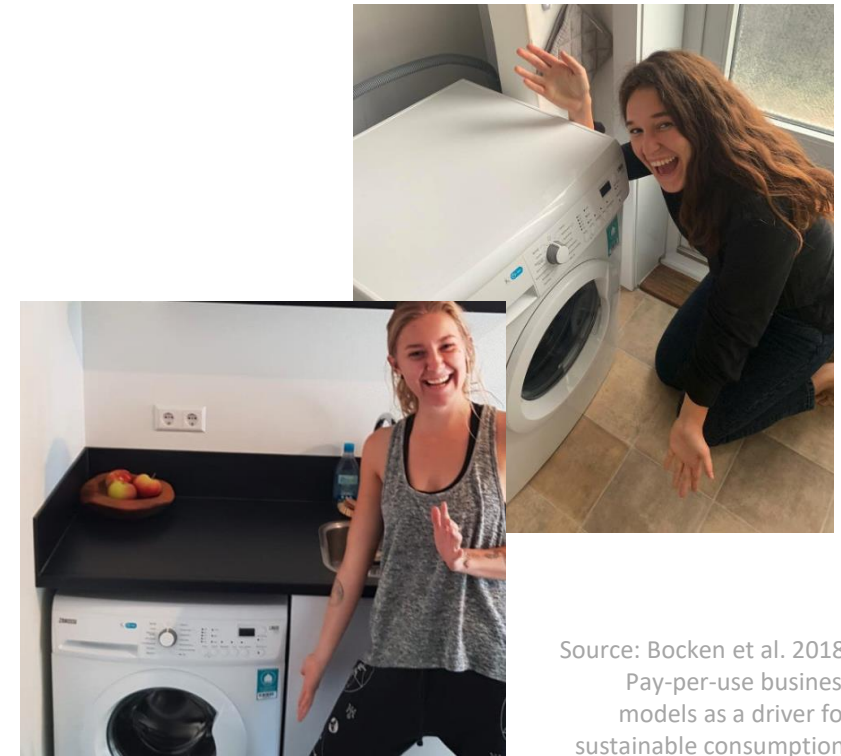
A 40°C wash costs €1.50 (incl. VAT)

A 60°C wash costs €2.00 (incl. VAT)

A 90°C wash costs €2.50 (incl. VAT)

Circular model for reuse and recycling

People wash on average 30% less and at lower temperatures



Source: Bocken et al. 2018.
Pay-per-use business models as a driver for sustainable consumption: Evidence from the case of HOMIE
J. Cleaner Production & Homiepayperuse Twitter

New 5-year research programme CIRCULAR X: Experimenting with new business models



Published on 3 September 2019

Professor Nancy Bocken receives the prestigious ERC starting grant!

Professor Nancy Bocken has been awarded the European Research Council's Starting Grant from the European Research Council (ERC) in the 2019 round of awards. She receives 1.5 million euros during the next five years.

Nancy Bocken receives the ERC grant for her new project CIRCULAR X. The project will develop a new field of research on experimentation with circular service business models (CSBMs). Examples include companies shifting from selling to leasing products and introducing lifelong warranties to extend products lifetimes.

- Businesses & others:
 - Are you experimenting with circular business models ?
 - Successful & failed cases?
- Researchers:
 - Recruiting research team early 2020!

Call for action

- We don't do enough → Experiment
- What we do might not be good enough → Sufficiency

Key messages

- Circular economy is a good start but we also need *sufficiency* & slowing the loop as part of the 'resource-light' business spectrum
- Business practice shows that 'sufficiency' can be a viable business strategy
- Experimentation is important to trial out the best options

Announcing the Resource-Light Start-up winner!

