

Cirkular economy

Circular societal challenges in the nowadays world



Economy

—

Ecology

Oikos - Nemein

House - Manage

(Or 'housekeeping')

**To best manage «what we're
responsible for»**

Humanity <-> The World

Oikos - Logy

House - Knowledge

**Knowledge about the
interface/interaction between us
(humanity) and what we
have/what surrounds us**

What is 'an economy'

- A unit of activity where values are constructed/produced and distributed
 - From the global – national – regional – municipal to the local
 - Private – public
 - Market – Plan
- A Social System where we find production, trade, distribution and consumption (*use*) of resources
- Involving individuals, households, businesses, authorities, and further structures
- **Social – Relational:**

How do we chose to value and to estimate

Phases of (The Market-)Economy

- Produktion focus
- Equilibrium (produktion and demand– prices)
- (Market-)Liberalism (Lazzeiz-Faire)
- Keynes – New Deal (carving out a role for ‘the state’)
- Bretton Woods – Post WW2-economy. (Re)Growth
- The Service-Economy and blooming internationalisation
- The oil-crisis, emergence of capacity hindrances (Limits to Growth)
- Technological innovations/revolution (ICT), Globalisation
- Capacity Limits becoming regular – The Circular Economy pushes forward

Controlling external effects and solving the resource-restraints are becoming the main issue



What made the linear (throughput-)economy a success has forever changed!

(Well, it was a success for many – and for a long time. But, at same time was a liability and a problem for others – and for the environment)

- The classical market-economy has passed away!
- Science/knowledge is moving (rapidly) away from the simple, mechanistic understanding
 - No longer seeing man and her action as a rational, logical actor regarding thoughts and action. (*Ecce Homo Economicus!*)

Premises of the old, traditional story are withering away

- Circular Economy enables us to establish systems that can be permanent
- Time is ripe for circular economy to be upscaled to become global
- Important ideas do not emerge out of nothing; when system-changing perspectives face the right context, it is hard to withstand forces of transformation

Ellen MacArthur

Now is The Time!

- The remedies to enable change are in place – in particular as consequence of development in ICT!
 - The Downside: *(there will always be downsides!)* in particular affects jobs and employment.
 - The Digital Society has a potential to take away much of the need for classic labour - or at best turn it into something more 'happenstance»
 - Might even end up with both – at the same time.
 - This goes to show how seriously we need to take the challenges for this transformation
- (How) Can this new paradigm ensure lasting prosperity?

The Circular Economy

'roundput' – not 'throughput' dominating

- Everything becomes 'food' for further, continuous processes
- Resources are to be used rather than consumed
 - What is returned into the process, must re-generate new possibilities and usabilities, thus ensuring a steady or growing value in products and services (*this is a prerequisite for CE!*)

Thus, (CE) becomes a better story than the old one!

- Grabs hold on changes at basic (local) level – in urban as well as rural areas
- Recognises the time of cheap energy has passed – as well as for abundantly and easily available minerals, materials and modes of finance

RELATIONAL CAPITAL

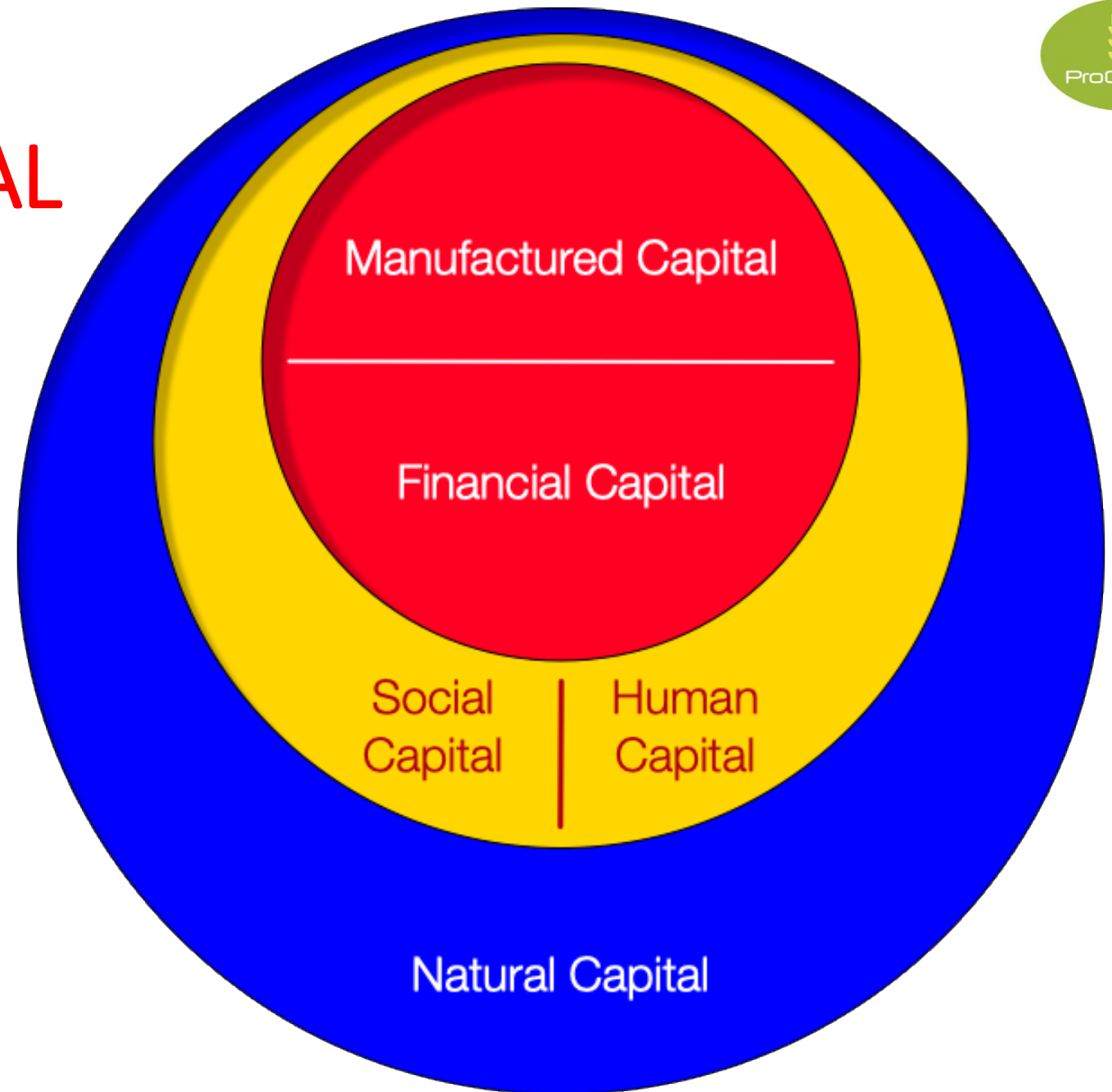
it's about the humans
(about US!)

5-capitals – our framework

- Forum for the future
 - <https://www.forumforthefuture.org/the-five-capitals>

*We focus on the
Processes,
Not the Products!*

“d’ække det han gjør – d’er
måten som han gjør det på”



Trends and new understanding in science

- Seeing the economy as a complex and adaptive system – more like what we can observe in nature (metabolism) than a mechanistic model
- Possibilities for a ‘real prosperity’
 - Needs served through re-design; waste eliminated and the elegance of natural systems integrated (elegant surplus)

This is (must become) our understanding of (real) economic growth

But – unlike the present definitions, this focus more on ‘quality’ than what we find in the linear definition (profit)

- **In the circular economy, the relations/interconnections/networks are our focus – not the items themselves. (see the forest rather than the trees)**

«Had Adam Smith lived in the 1970s rather than 200 years earlier, would he rather have ‘invented’ the Circular Economy»?

How so?

- Atomism
 - Many small actors who do not cooperate (consciously)
 - Monopolies corrupts
- Free access
 - No patents or other innovation-obstructing structures
- Full information
 - About the market, as well as about all effects and side effects of our actions

- In his time there was an abundance of possibilities, new frontiers to cross and innovations galore
- Constraints were not observable/of no real hindrance
- Even when things 'became 'bad', you had opportunities e.g. through expanding into new resource-bases, markets and/or processes

Limits really only became a harsh reality in the -60s
Until then, we all could ride on a strong flow of growth

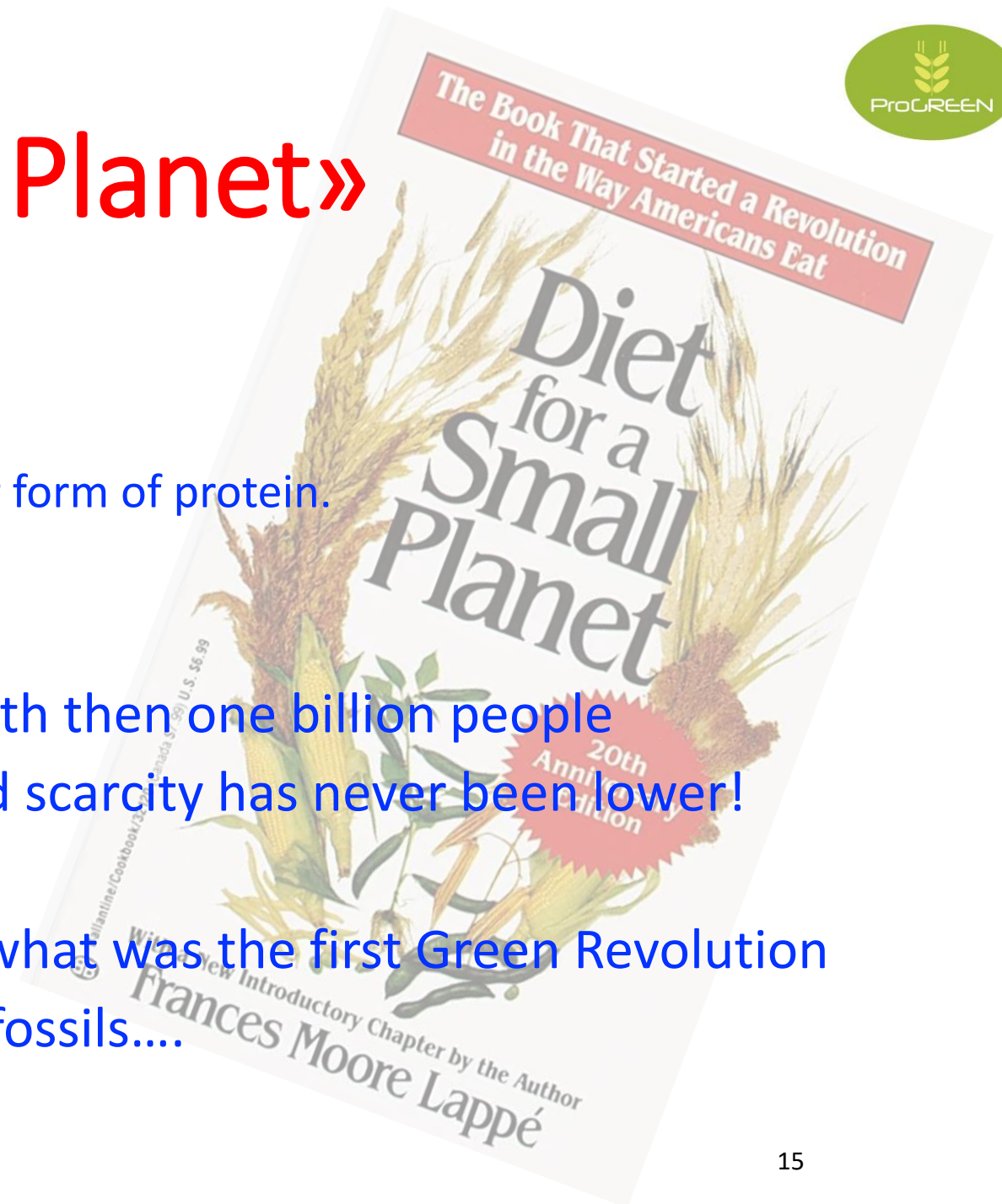
But still we

- a) Were not able to convince everyone this was the case (was «Limits to Growth» published 30 years too early?)
- b) Did not have the technological tools to make alternative remedies attractive

**Yelling WOLF when most people and institutions still
saw other (nicer) possibilities**

«Diet for a Small Planet»

- a 1971 book by Frances Moore Lappé.
- a bestseller in the West
- argues for the potential role of soy as a superior form of protein.
- a contributor to global food scarcity.
- issues concerning feeding the world – with then one billion people
- Today we are 8 billion – and relative food scarcity has never been lower!
- That fact shows some of the abilities of what was the first Green Revolution
- Alas – it was built upon cheap access to fossils....



The Need To Work Together

«A Beautiful Mind»

(The film about John Nash)



The necessity of IMPLEMENTATION

- Since the 70s and 80s, we've known we were on the wrong track

- Change never has been easy (*'eg vil ha det som eg hadde det'**)

* 'I want it to be like it used to be'
Kaisers Orchestra

- Promoters of necessary change generally have been calling for austerity and us to return to simpler (more primitive) solutions

- It never became attractive (for the Masses, for the Market, for the Power) to heed the call



This?

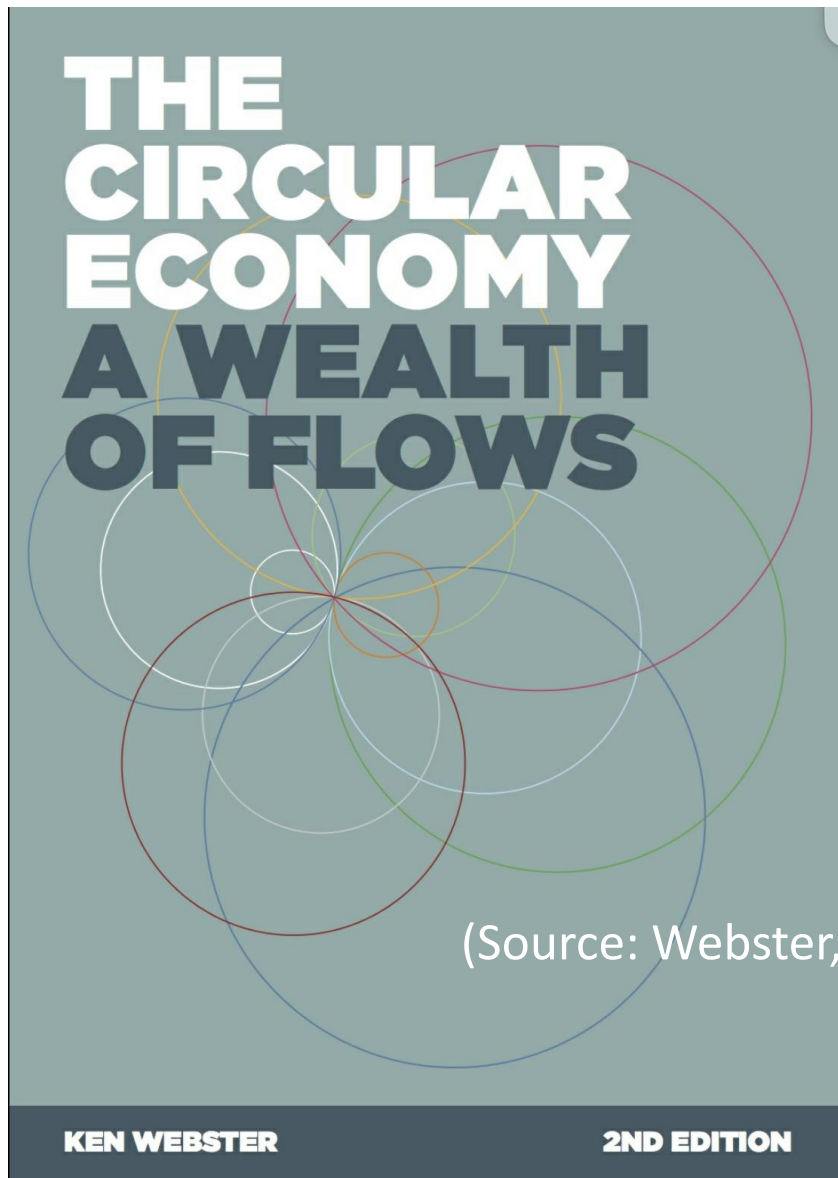


Or this?

How to move forward from a linear to a circular economy?

The 4 Shifts of change

(Source: Webster, Ken (2016): The Circular Economy. A Wealth of Flows, 2nd ed)



Shift 1 Implement Resource Efficiency

Actually, to become **radically** resource-efficient – not only to pick the low hanging fruits!

To have the will and ability to carry out/implement

(Remember: economies are foremost a social and relational issue – not technique and maths!)

Design

- ✓ design to recover resources;
- ✓ design to deconstruct and to reassemble (wind-farm wings....);
- ✓ design for cleaner (simpler) flows of materials and using open/shared standards;
- ✓ design for reuse.

To reduce energy usage, provide us with lasting products and remove the waste

Shift 2 Move to «biomimetic» production

(Trying harder to act like nature does)

- Imperative: 'everything is food for redesign etc. and to never let anything go to waste
- Aiming for a maximaly 'bio-based resource-economy, taking inspiration from known processes observable in nature
 - Biological material flows are safe to transform in our bio-environment
 - Technical flows to be kept in circulation isolated from the biosphere

Shift 3 Providing Services rather than Goods

- 'Performance' is the key-word.
 - About the utilities we experience from the 'product' rather than the thing in itself
- Performance-economy (e.g. as can be observed in tourism/experience-economy)
- Focus on how technology may provide access to services – independent from place, time and the classic concept of ownership
 - Renting office ... renting office furniture ... renting office clothes ...
- Enabling the renting of access 'on demand'
 - Uber, Bolt, AirBnB etc as examples

«You do not need to own the cow to drink the milk»

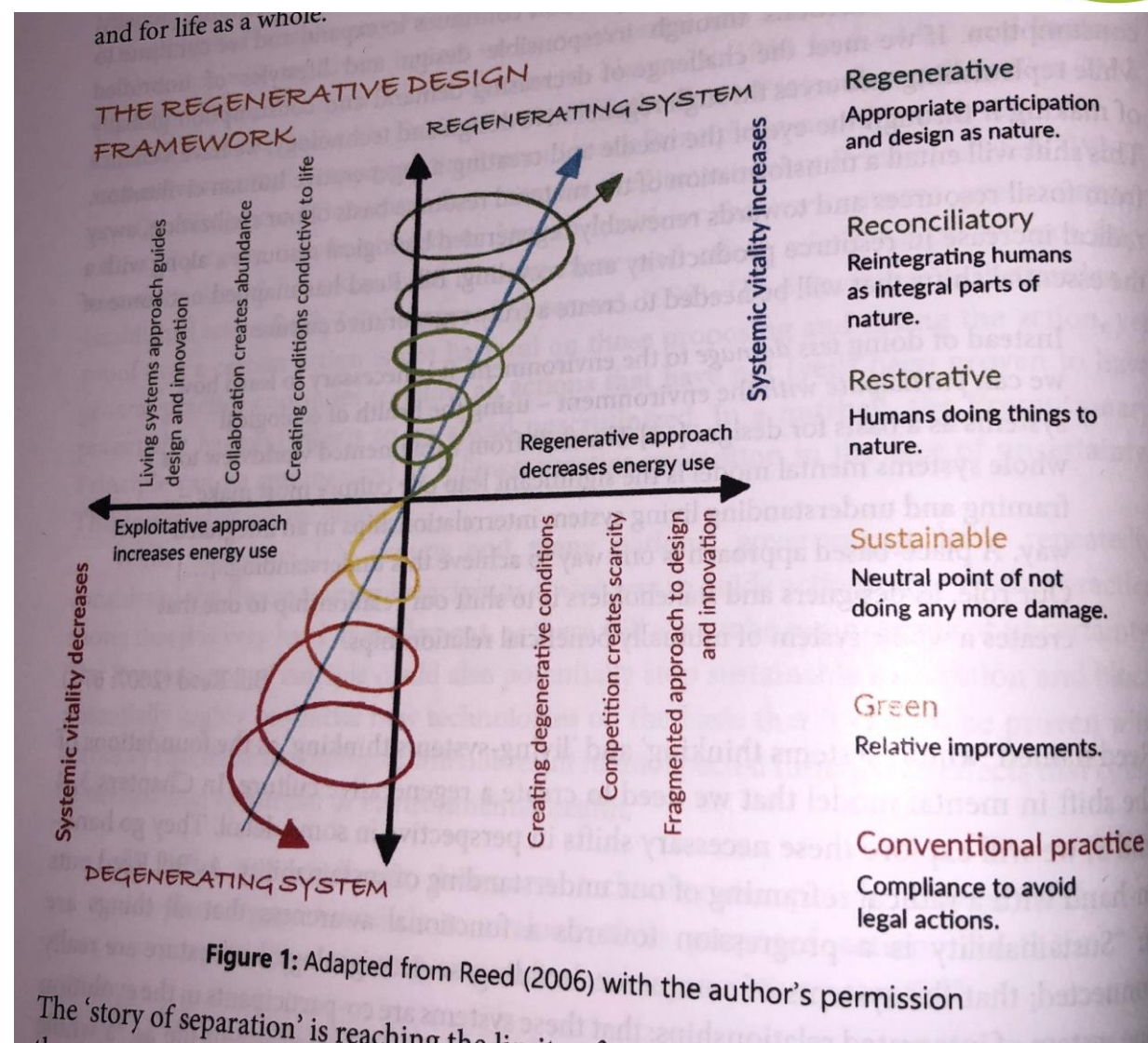
Shift 4 Reinvest in natural forms of capital

- Enable the creation of **alternative sources of resources**, energy and input from recycled and well kept sources (Urban Mining)
 - without them deteriorating over time
- Promotes **variability** – and thus **creativity** and **resilience** (ability to face challenges)
- Growing the **Social Capital** –the ability of individuals and societies to be valuable to each other (in general this links up to the Sharing-economy)

Cirkular economy ...

.. is regenerative by default,
aims for components,
products, and resources/
capital to keep and increase
their value over time (both
in monetary and usability) ...
forever

«Scope»
rather than
«Scale»



Source: D.C. Wahl (2016) *Designing Regenerative Futures*, side 46

The whole system needs to be optimized.

This separat CE from simple waste reduction and resource minimation

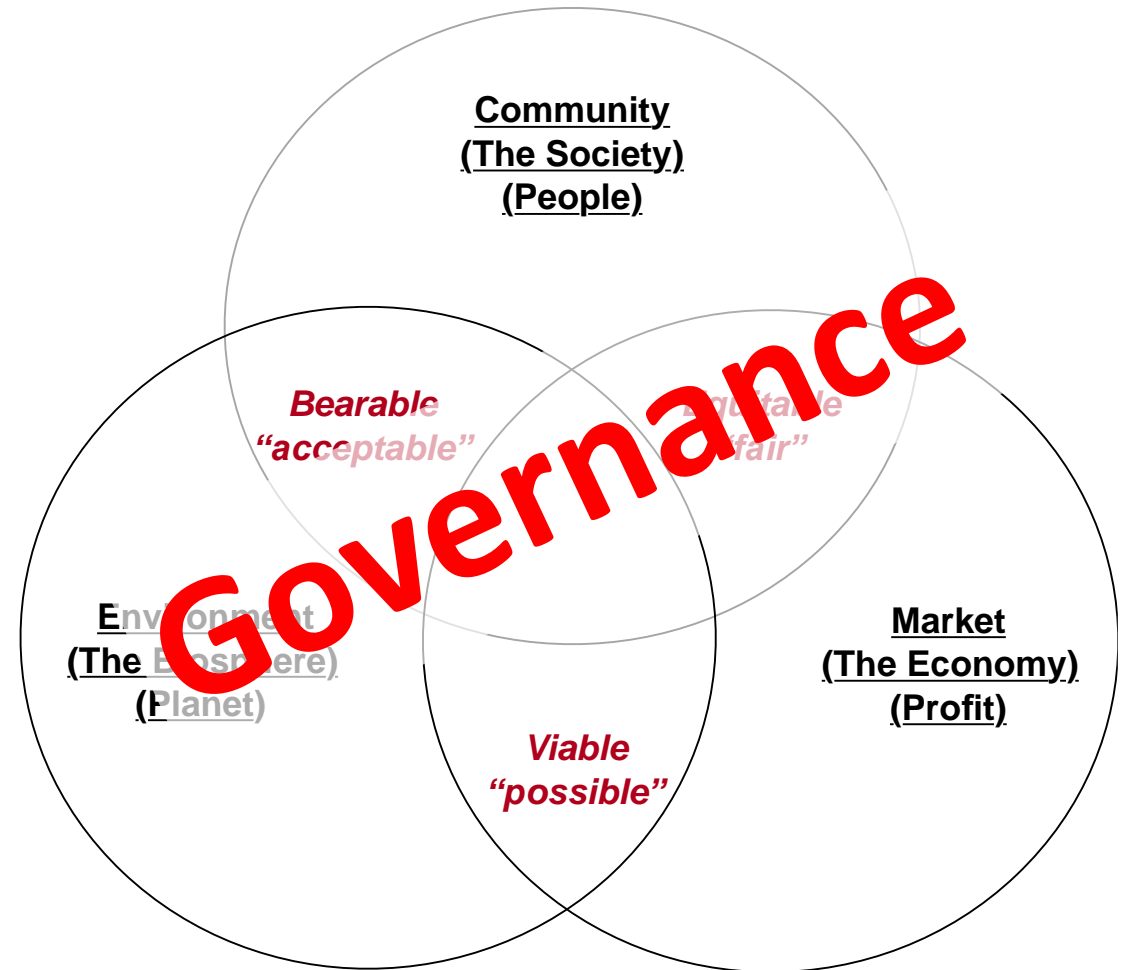
- In a throughput-economy, focus is to reduce – without questioning the structural issues (holds particularly for classic markets with a narrow profit-focus)
 - Reducing 'damages' - increasing the bottom line
- A simple focus on recycling will not challenge the linear economy, as mere recycling never will become perfect. As a rule this approach turns out to be costly and 'big league troublesome'
 - Even though you may recycle aluminum with 90% new output-result, this 10% loss will add up strongly over time...

There is, though, room for so much more:

- 'Performance' moves both focus and power from the producer towards the consumer (or rather 'the user')
 - What counts is how the user values the usability
 - **Thus the user becomes the main actor**
- Variation (creativity og reciliens) opens up for new opportunities
- Open source and new technology introduction enables developing new, local-based solutions
- Local circles enable local value-creation, thus reducing need for more resources (less transport...)

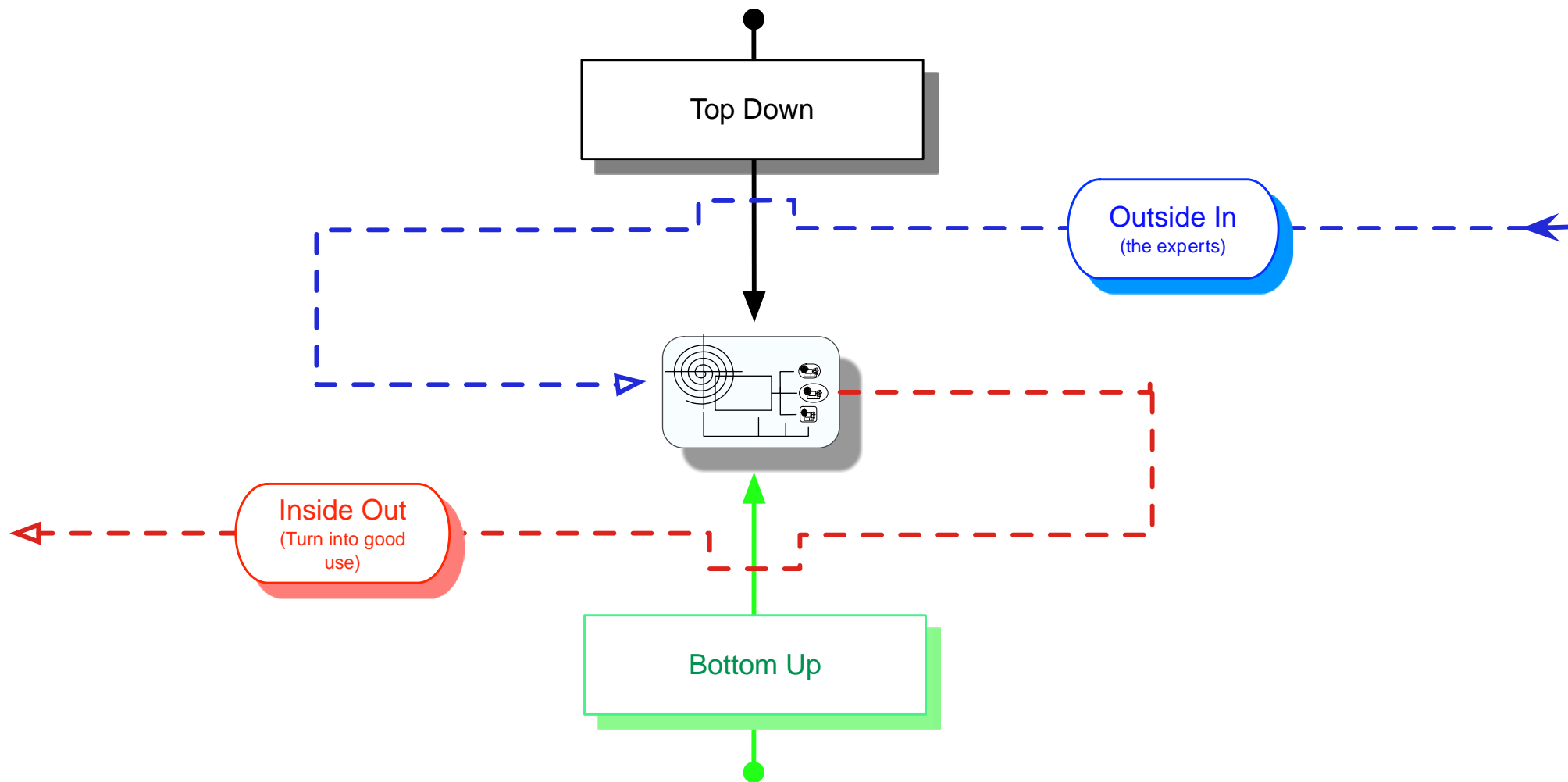
Think Global – Act Local!

- Viable solutions (environment + market) must be designed and experienced by society as acceptable and fair
 - Viable: technology
 - Acceptable and fair:
Left to human (societal) judgement



Governance

when 'Bottom-up' aligns with 'Top-down'



(Barstad, 2012)

«How I stopped hating the SDGs»



SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD



Final list of proposed Sustainable Development Goal indicators

The following global indicator framework was developed by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) and agreed to, as a practical starting point at the 47th session of the UN Statistical Commission held in March 2016. The report of the Commission, which included the global indicator framework, was then taken note of by ECOSOC at its 70th session in June 2016.

The global indicator list is contained in the **Report of the Inter-Agency and Expert Group on Sustainable Development Goal Indicators (E/CN.3/2016/2/Rev.1), Annex IV** and provided below.

The list includes **230 indicators** on which general agreement has been reached.

Please note that the total number of indicators listed in the final indicator proposal is 241. However, since nine indicators repeat under two or three different targets (see below), the actual total number of individual indicators in the list is 230.

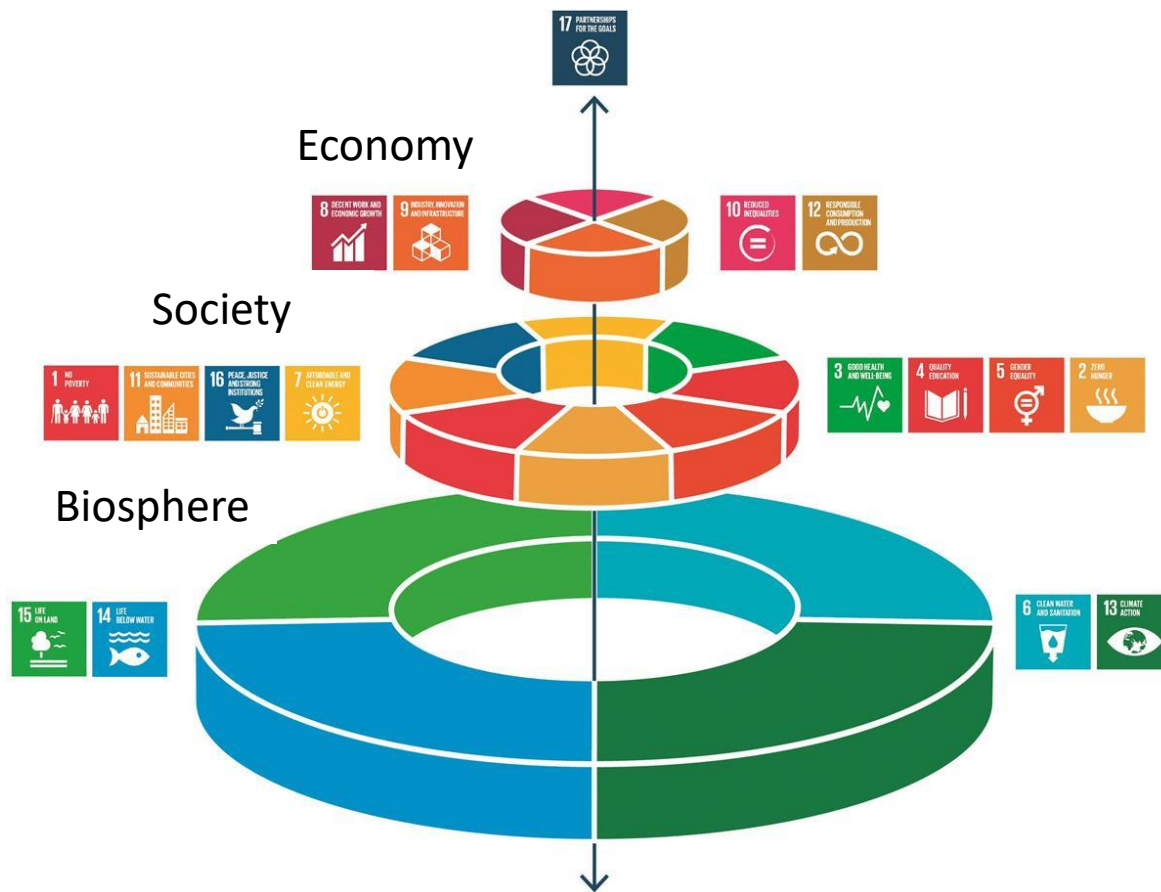
The Norwegian Approach (as experienced from below)

- Experience: Aiming for general solutions is never fruitful
- Bottom-up focus:
 - Planning is only relevant when you aim to improve
 - Grow from below.
 - Learn what are regarded as issues of importance

Core Idea of Sustainability: Think Global – Act Local

- Often (generally) been interpreted as the need to identify and analyze the big, global issues, and from there deduct actions for local level to implement
- In our interpretation: On basis of the knowledge a global analysis provides, use this to find out how you/your neighborhood or community may contribute
- Difference: definition power of what to do/focus on becomes a local responsibility.
- Local transforms from passive adapting to proactive contributing

Quickie about the SDGs



- Of the 17, only a few focus on the nature/biosphere as such
- Main focus is towards society and economy
- i.e towards the human and relational issues

New and improved relevance

- Through the intermixing of the bottom-up understanding in Governance and the realities in the SDG – a viable tool emerged for municipalities to use
- Left the focus on «the 230 indicators» (or the top-down approach)
- Movement towards understanding what matters locally (i.e. In the municipality or to the communities) and how (if?) SDGs can become valuable to promote local improvements
- And: the local improvements adds up to the global improvements
 - Inclusive, responsible and trustworthy action

Citizen Science

- Becoming a viable tool for municipalities and communities to use
- Gaining international attention
- Has often been appropriated (stolen) by natural science as an easy tool to use to gather data
- Social science – and public entities – have rather latched on to the broader, more holistic possibilities
 - Generate new ideas (more voices)
 - Empower and create strong involvement
 - Responsibility, give away power)

The Five Principles of a Circular Economy

1. The smaller the circle (in activity or reach), the more profitable and resource-effective it is
2. Circles neither have beginning nor end
3. The speed inside the circle is crucial. Efficiency increases as speed is reduced
4. Ownership-changes are ineffective as well as costly. To be able to reuse, repair, restructure etc. without change of ownership reduces transaction costs (eliminates..)
5. Circular Economy needs functional markets!

Takk for meg

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