Making sustainability investments lead to business-value!

The art of turning sustainability challenges in to business opportunities

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The value chains of today are put on pressure from all angles

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HITTING PLANETARY BOUNDARIES

REGULATORY PRESSURE
Regulators pushed by increasing environmental concern among voters

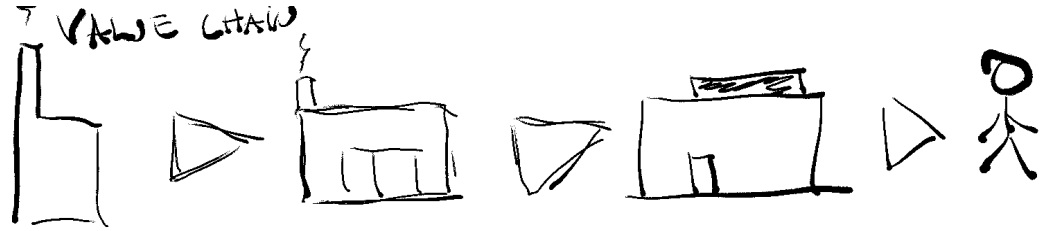
RESOURCE CONSTRAINTS
Material costs rising as demand increases faster than supply

CLIMATE CHANGE
Supply chains disrupted by extreme weather events as climate changes

EMPLOYEE VALUES
Social pressure among millenials to have a wider purpose with employment

FACING TECHNOLOGY DISRUPTION

RAPID TECHNOLOGY DEVELOPMENT
New efficient ways of getting the job done through rapid technology development



DIGITAL DISRUPTION
Asset-light digital newcomers eats into value chains

INCREASING CUSTOMER CENTRICITY

INCREASING CUSTOMER EXPECTATIONS
Increasingly spoilt consumers wanting it all: quality, low cost, convenience and sustainable

NEW CONSUMERS
3 billion people entering global middle class expecting same quality of life

GLOBALIZED COMPETITON
Competition further toughening through globalized markets

When our clients whole value-chain is beeing digitalized…

What does it mean from a Sustainability perspective?

- Who is responsible?
- What is your strategy?
- How do you identify, assess, prioritize and accelerate/capture opportunities?
- How do you identify, assess, prioritize and mitigate/eliminate risks?

Who is responsible for your Digital Sustainability Strategy?

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With great power comes great responsibility

Innovation-driven roadmap for Fossil Free Competitiveness and Global Sustainability

Regeringskansliet

Miljö- och energidepartementet

Pressmeddelande

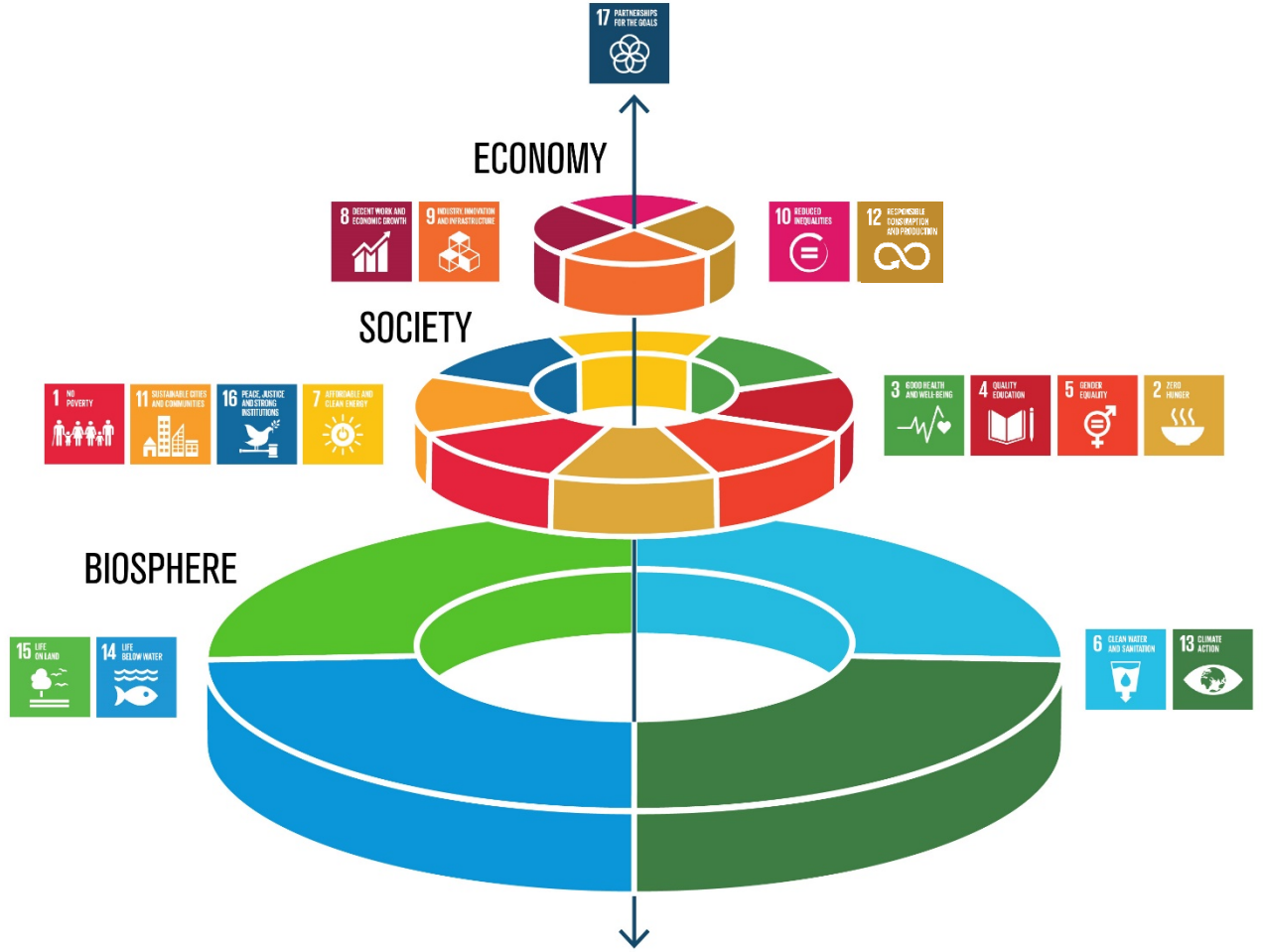
news.cision.com / Miljö- och energidepartementet / IT-konsultbranschen samlas för ett f…

IT-konsultbranschen samlas för ett fossilfritt Sverige

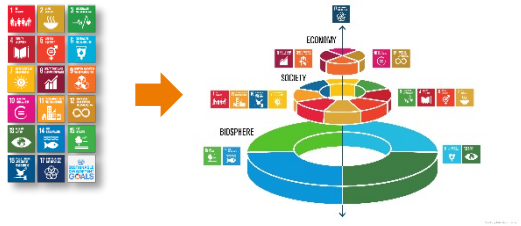
FR, JUN 01, 2018 13:00 CET

Nu samlas mer än 40 företag från IT-konsultbranschen för att starta arbetet med en färdplan för en fossilfri, klimatpositiv och konkurrenskraftig IT-konsultsektor 2045. Färdplanen som tas fram inom ramen för Fossilfritt Sverige ska tydliggöra hur IT-konsultbranschen, tillsammans med användare av digitala lösningar, politiker och andra beslutsfattare, kan möjliggöra en omställning till ett fossilfritt Sverige som driver fram globalt hållbara lösningar.

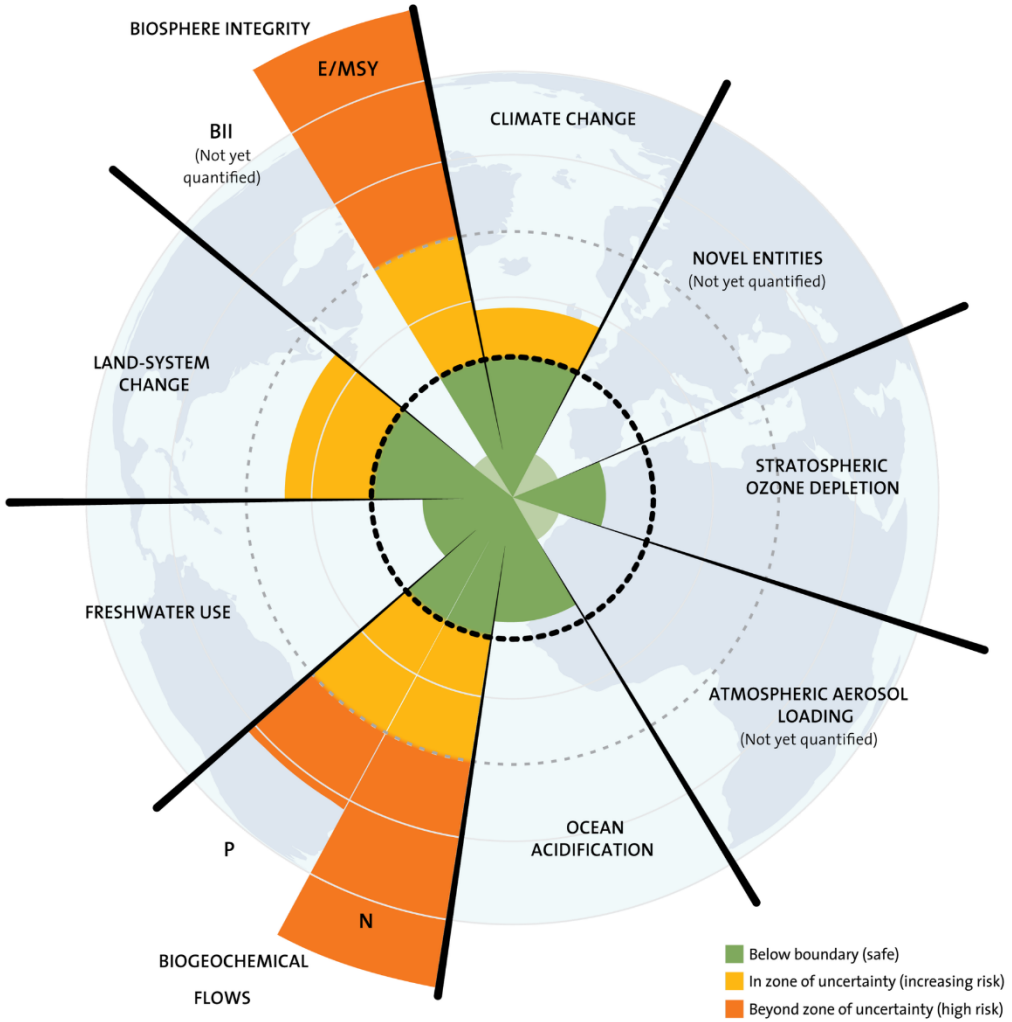
No business on a dead planet



No business on a dead planet



Planetary boundaries



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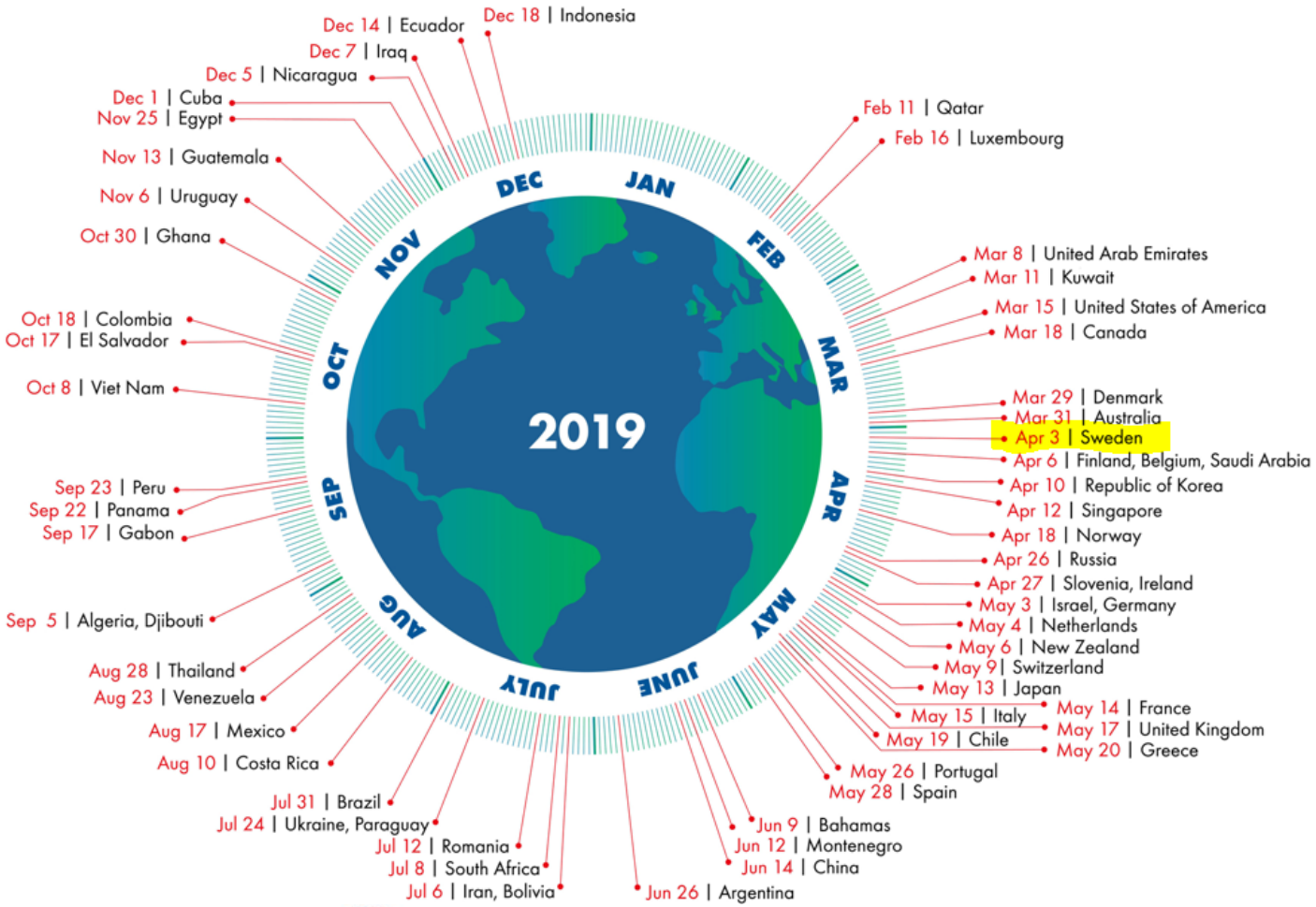
12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Country Overshoot Days 2019

When would Earth Overshoot Day land if the world's population lived like...



EARTH OVERSHOOT DAY

Source: Global Footprint Network National Footprint Accounts 2019

Global Footprint Network
Advancing the Science of Sustainability

Un-sustainable consumption

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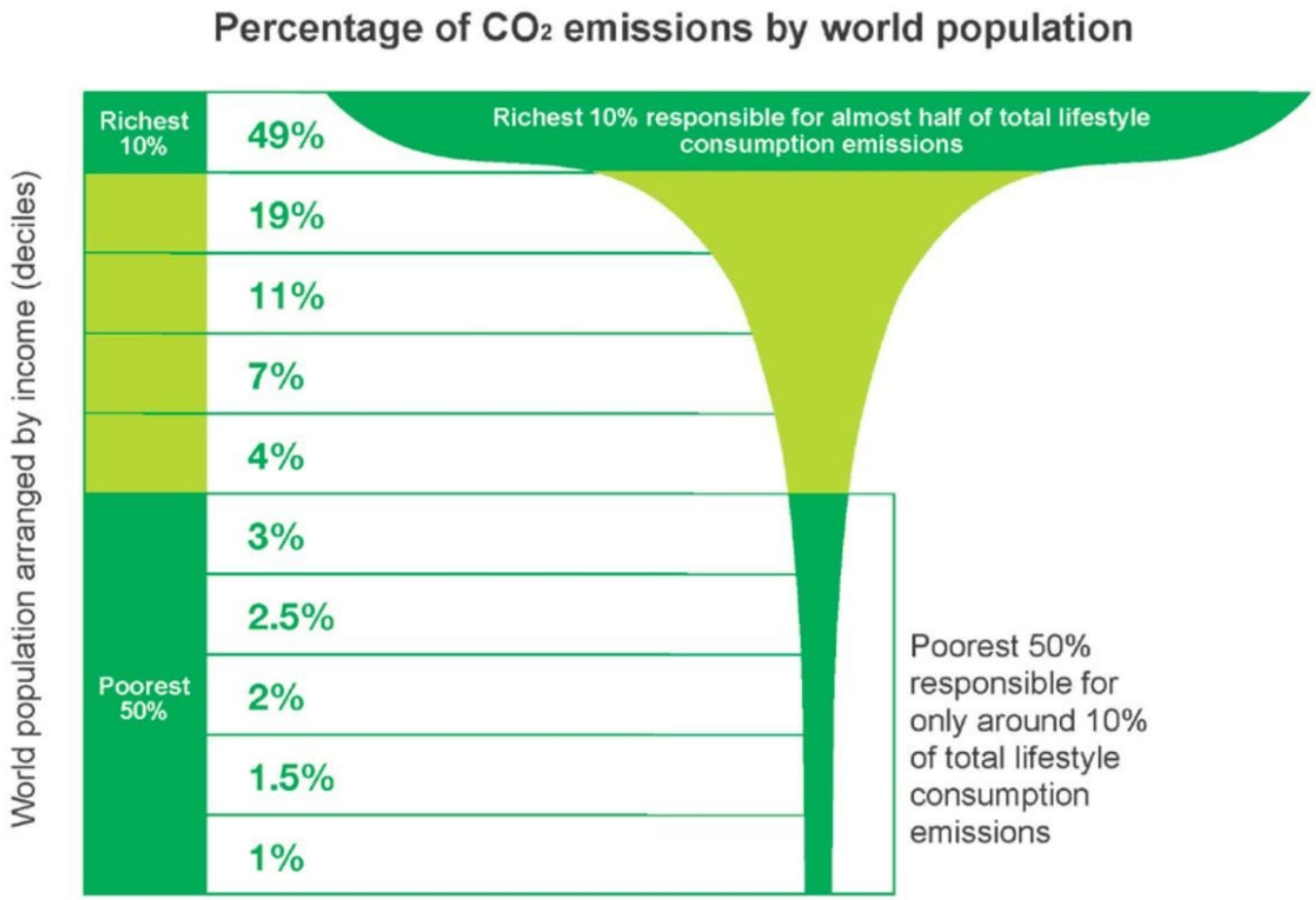
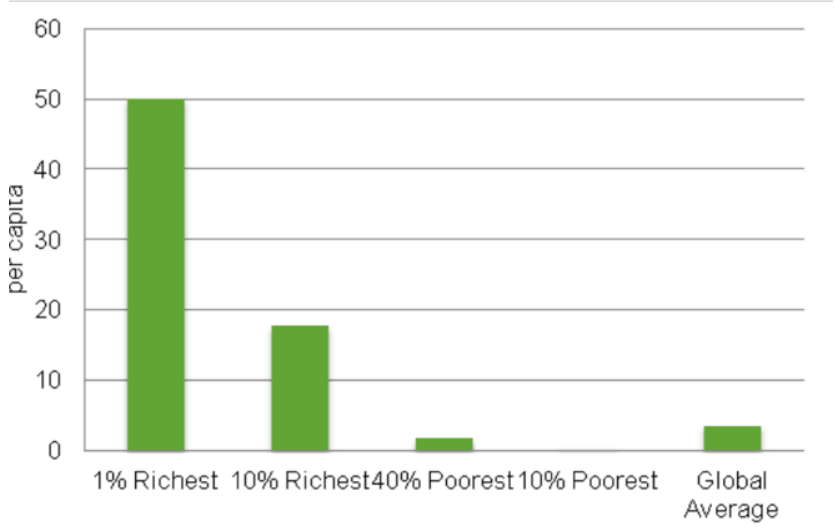
Figure 1: Global income deciles and associated lifestyle consumption emissions



2: Lifestyle consumption emissions per capita from different income levels[6]



IPCC presented a demand-based scenario focusing on digitalization and innovation

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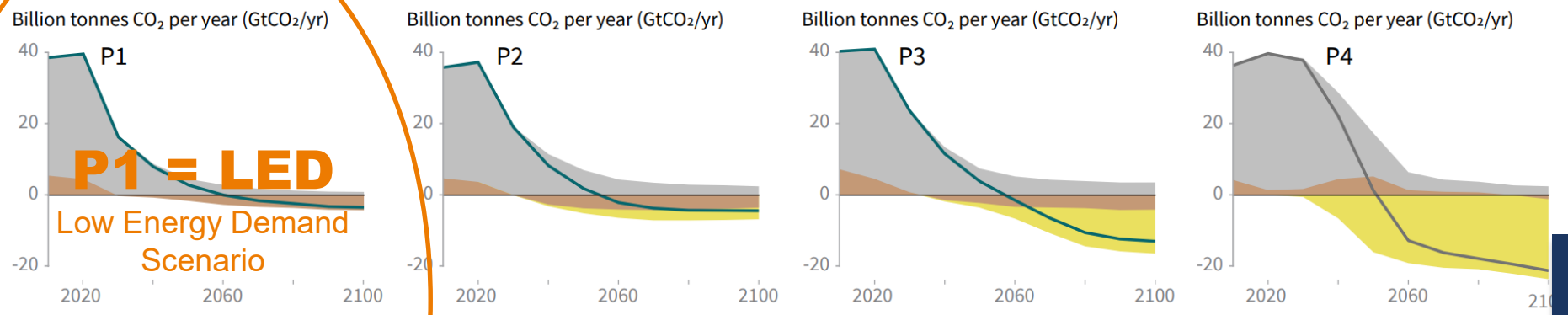
Breakdown of contributions to global net CO_2 emissions in four illustrative model pathways

Fossil fuel and industry AFOLU BECCS

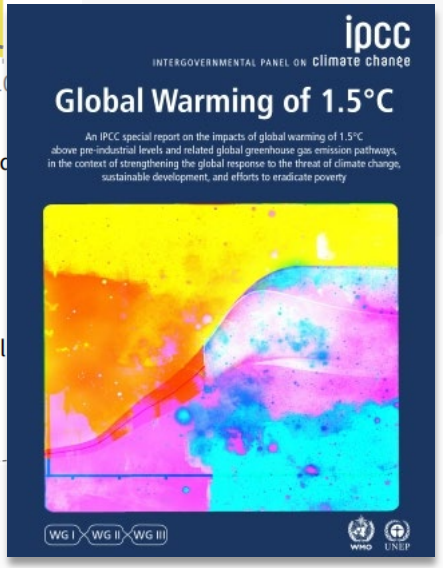


P1: A scenario in which social, business, and technological innovations result in lower energy demand up to 2050 while living standards rise, especially in the global South. A down-sized energy system enables rapid decarbonisation of energy supply. Afforestation is the only CDR option considered; neither fossil fuels with CCS nor BECCS are used.

P2: A scenario with a broad focus on sustainability including energy intensity, human development, economic convergence and international cooperation, as well as shifts towards sustainable and healthy consumption patterns, low-carbon technology innovation, and well-managed land systems with limited societal acceptability for BECCS.

P3: A middle-of-the-road scenario in which societal as well as technological development follows historical patterns. Emissions reductions are mainly achieved by changing the way in which energy and products are produced, and to a lesser degree by reductions in demand.

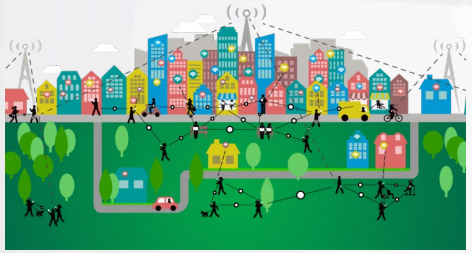
P4: A resource and energy-intensive scenario in which economic growth and globalization lead to widespread adoption of greenhouse-gas intensive lifestyles, including high demand for transportation fuels and livestock products. Emissions reductions are mainly achieved through technological means, making strong use of CDR through the deployment of BECCS.



Climate change mitigation strategies

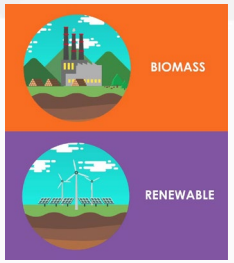
PROACTIVE ⟵ REACTIVE

1. Smart solutions/ low-energy demand



Being smart and delivering new solutions to needs

2. Fossil free energy



Providing energy

3.Old Industry

Improving the old

4. CCS

Cleaning the bad

5. Negative emissions

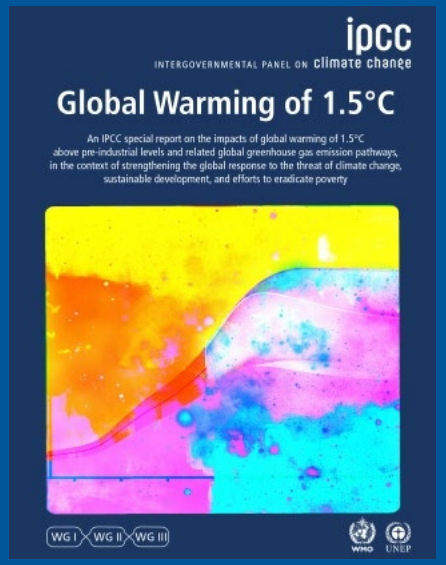
Removing the bad

6. Geoengineering

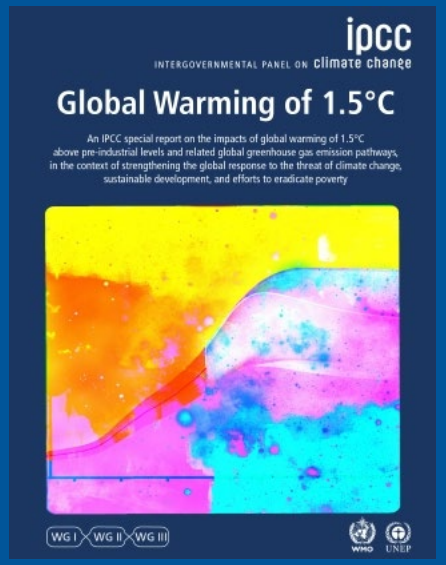
Ultimate end-of-pipe

Best for global sustainability

1.5 °C Strategies should assume that these might not provide any significant contributions (expensive, externalities, tech problems, etc)



The rapid transformation can only be made through **organizational-, business model-, behavioural-,** and **technological innovation**.



The rapid transformation can only be made through **business model-innovation**.

Cybercom Vision

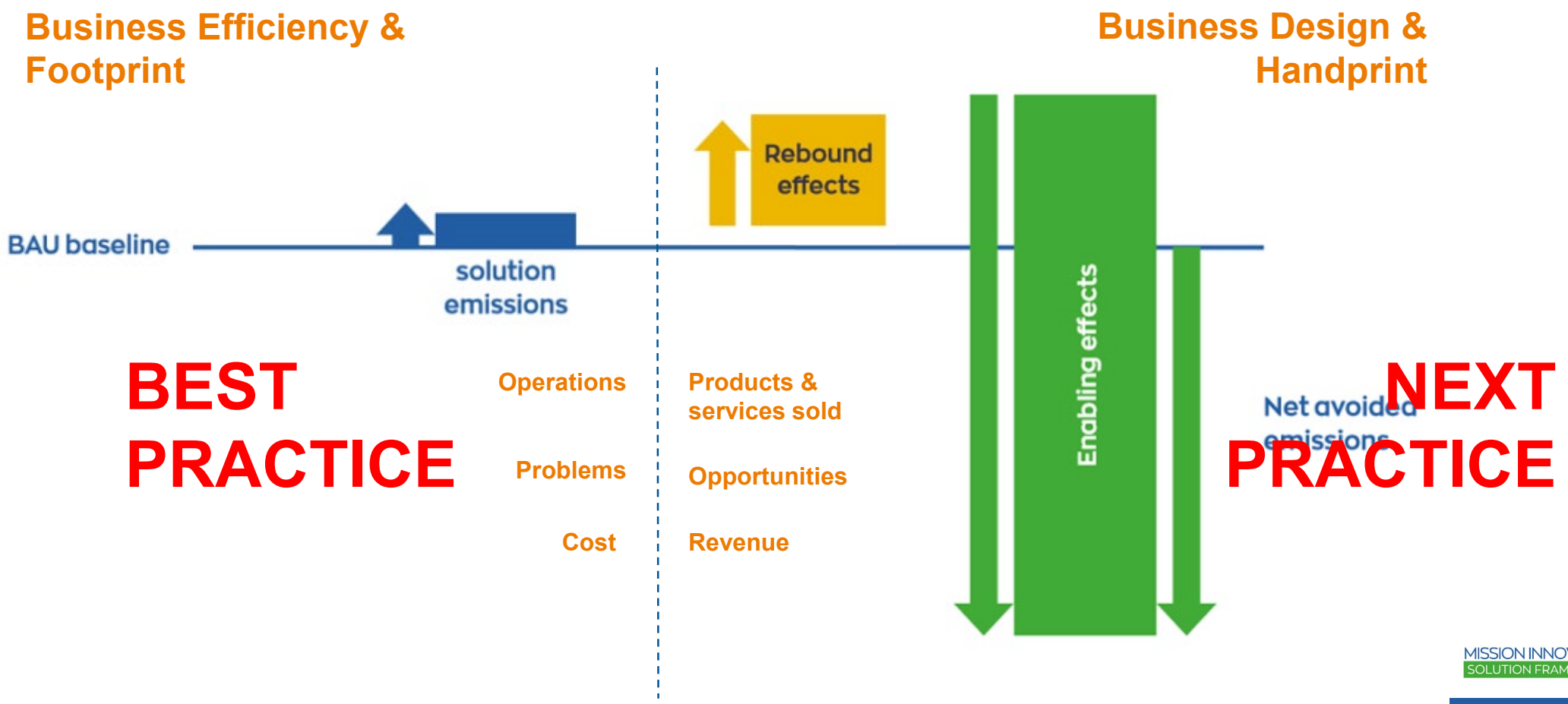
We are making a sustainable tomorrow and are our clients' most trusted business partner in the connected world.

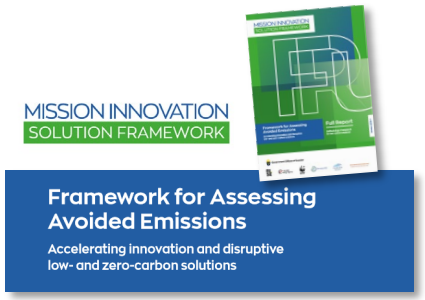
"We are aiming for net positive impact and are committed to generating sustainable business and assuring positive social development.

Our strategy for 2019–2021 has clear focus on innovation and sustainability."

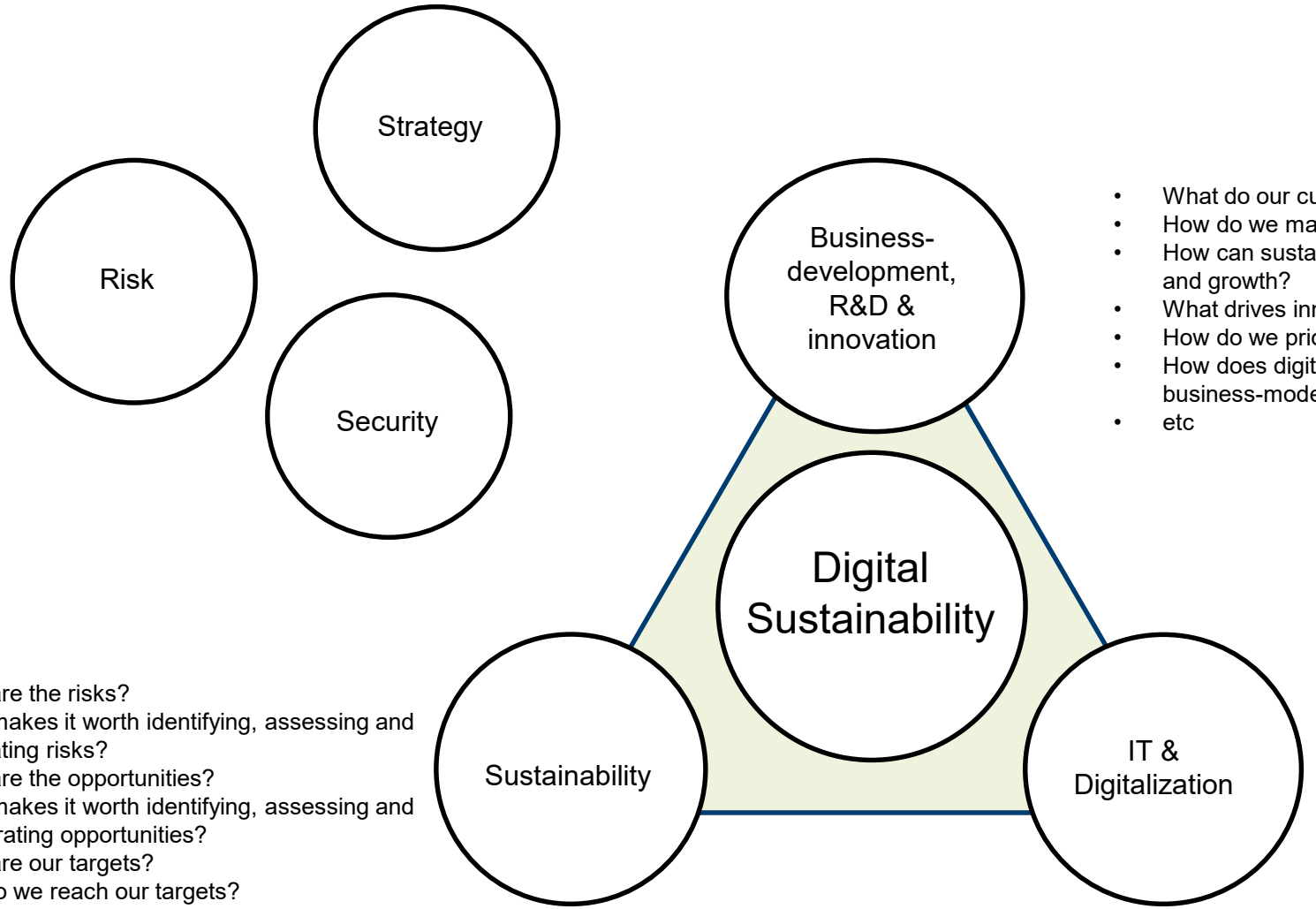
Niklas Flyborg
President and CEO, Cybercom Group

Net-positive approach





Explore strategy cross-functional

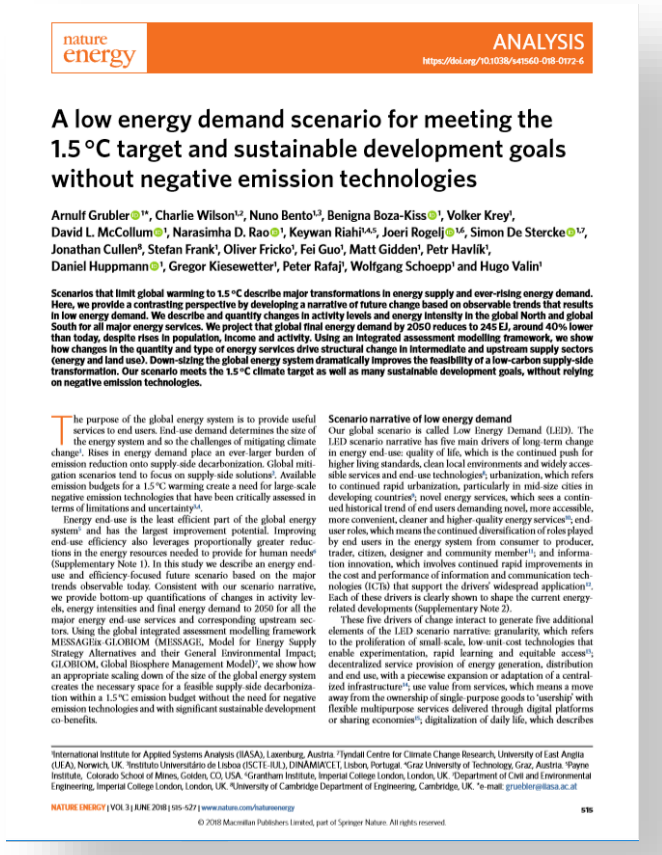


- What do our customers want/need?
- How do we make money?
- How can sustainability increase our competitiveness and growth?
- What drives innovation and business development?
- How do we prioritize among all good ideas?
- How does digital tech and sustainability effect our business-model and value-proposition?
- etc

- What are the risks?
- What makes it worth identifying, assessing and eliminating risks?
- What are the opportunities?
- What makes it worth identifying, assessing and accelerating opportunities?
- What are our targets?
- How do we reach our targets?
- How do we measure and report?
- Why do we measure and report?
- etc

- What are we trying to achieve?
- What technology do we use today and in five years?
- How do we develop and deploy the technology we choose?
- How do we organize to develop most effectively?
- How do we keep within our budget?
- How much can it cost?
- etc

Focus on customer needs



nature energy

ANALYSIS

https://doi.org/10.1038/s41560-018-0172-6

A low energy demand scenario for meeting the 1.5 °C target and sustainable development goals without negative emission technologies

Arnulf Grubler[1*], Charlie Wilson[1,2], Nuno Bento[1,3], Benigna Boza-Kiss[1], Volker Krey[1], David L. McCollum[1], Narasimha D. Rao[1], Keywan Riahi[1,4,5], Joeri Rogelj[1,6], Simon De Stercke[1,7], Jonathan Cullen[8], Stefan Frank[1], Oliver Fricko[1], Fei Guo[1], Matt Gidden[1], Petr Havlik[1], Daniel Huppmann[1], Gregor Kiesewetter[1], Peter Rafaj[1], Wolfgang Schoepp[1] and Hugo Valin[1]

Scenarios that limit global warming to 1.5 °C describe major transformations in energy supply and ever-rising energy demand. Here, we provide a contrasting perspective by developing a narrative of future change based on observable trends that results in low energy demand. We describe and quantify changes in activity levels and energy intensity in the global North and global South for all major energy services. We project that global final energy demand by 2050 reduces to 245 EJ, around 40% lower than today, despite rises in population, income and activity. Using an integrated assessment modelling framework, we show how changes in the quantity and type of energy services drive structural change in intermediate and upstream supply sectors (energy and land use). Down-sizing the global energy system dramatically improves the feasibility of a low-carbon supply-side transformation. Our scenario meets the 1.5 °C climate target as well as many sustainable development goals, without relying on negative emission technologies.

The purpose of the global energy system is to provide useful services to end users. End-use demand determines the size of the energy system and so the challenges of mitigating climate change[1]. Rises in energy demand place an ever-larger burden of emission reduction onto supply-side decarbonization. Global mitigation scenarios tend to focus on supply-side solutions[2]. Available emission budgets for a 1.5 °C warming create a need for large-scale negative emission technologies that have been critically assessed in terms of limitations and uncertainty[3,4].

Energy end-use is the least efficient part of the global energy system[5] and has the largest improvement potential. Improving end-use efficiency also leverages proportionally greater reductions in the energy resources needed to provide for human needs[6] (Supplementary Note 1). In this study we describe an energy end-use and efficiency-focused future scenario based on the major trends observable today. Consistent with our scenario narrative, we provide bottom-up quantifications of changes in activity levels, energy intensities and final energy demand to 2050 for all the major energy end-use services and corresponding upstream sectors. Using the global integrated assessment modelling framework MESSAGEix-GLOBIOM (MESSAGE, Model for Energy Supply Strategy Alternatives and their General Environmental Impact; GLOBIOM, Global Biosphere Management Model)[7], we show how an appropriate scaling down of the size of the global energy system creates the necessary space for a feasible supply-side decarbonization within a 1.5 °C emission budget without the need for negative emission technologies and with significant sustainable development co-benefits.

Scenario narrative of low energy demand

Our global scenario is called Low Energy Demand (LED). The LED scenario narrative has five main drivers of long-term change in energy end-use: quality of life, which is the continued push for higher living standards, clean local environments and widely accessible services and end-use technologies[8]; urbanization, which refers to continued rapid urbanization, particularly in mid-size cities in developing countries[9]; novel energy services, which sees a continued historical trend of end users demanding novel, more accessible, more convenient, cleaner and higher-quality energy services[10]; end-user roles, which means the continued diversification of roles played by end users in the energy system from consumer to producer, trader, citizen, designer and community member[11]; and information innovation, which involves continued rapid improvements in the cost and performance of information and communication technologies (ICTs) that support the drivers' widespread application[12]. Each of these drivers is clearly shown to shape the current energy-related developments (Supplementary Note 2).

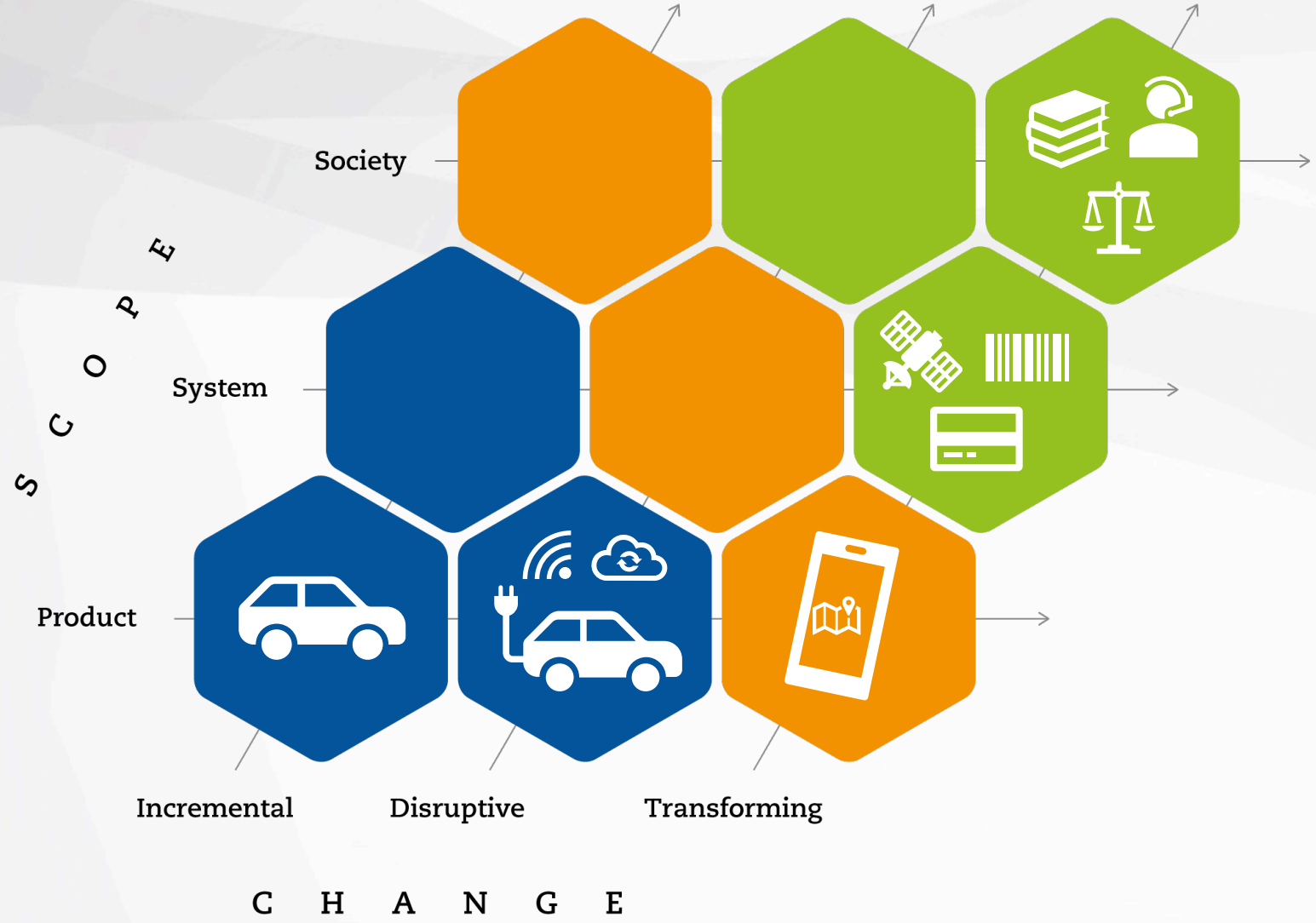
These five drivers of change interact to generate five additional elements of the LED scenario narrative: granularity, which refers to the proliferation of small-scale, low-unit-cost technologies that enable experimentation, rapid learning and equitable access[13]; decentralized service provision of energy generation, distribution and end use, with a piecewise expansion or adaptation of a centralized infrastructure[14]; use value from services, which means a move away from the ownership of single-purpose goods to 'usership' with flexible multipurpose services delivered through digital platforms or sharing economies[15]; digitalization of daily life, which describes

[1]International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria. [2]Tyndall Centre for Climate Change Research, University of East Anglia (UEA), Norwich, UK. [3]Instituto Universitário de Lisboa (ISCTE-IUL), DINAMIA'CET, Lisbon, Portugal. [4]Graz University of Technology, Graz, Austria. [5]Payne Institute, Colorado School of Mines, Golden, CO, USA. [6]Grantham Institute, Imperial College London, London, UK. [7]Department of Civil and Environmental Engineering, Imperial College London, London, UK. [8]University of Cambridge Department of Engineering, Cambridge, UK. *e-mail: grubler@iiasa.ac.at

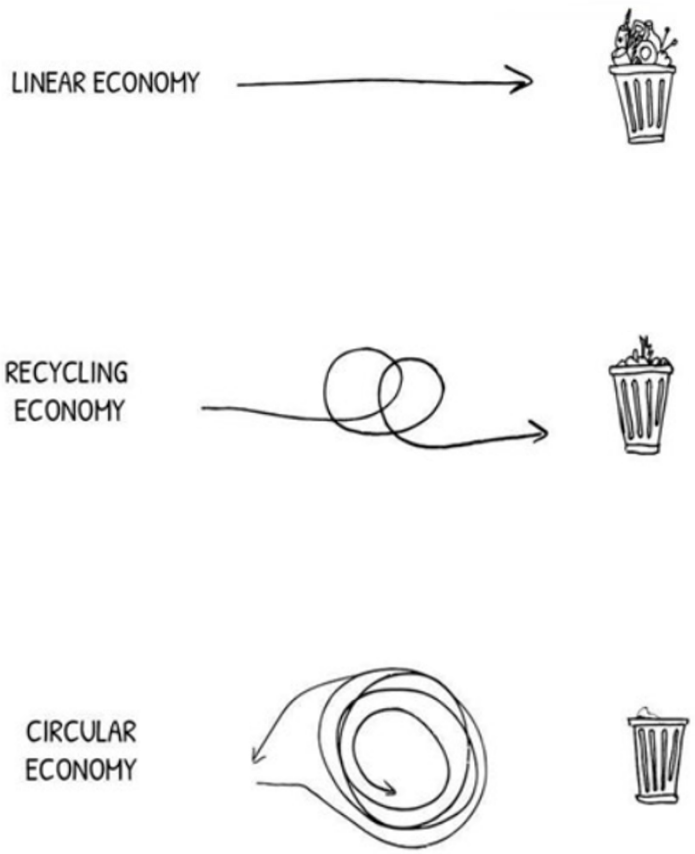
– Don't focus on behavioural change as a result of conscious or 'mindful' awareness of energy consumption

– focus on consumer-facing innovations which may prove attractive because they're cheaper, cleaner, quicker, more sociable, easier, more convenient or otherwise 'better'

From incremental to transformative



Circular business-models



- How can we design our products with asset recovery in mind?
- How can we develop product lines to meet demand without wasting assets?
- How can we source material in regenerative loops rather than linear flows?
- How can we develop a revenue model that protects value up and down the chain
- How can we get our customers to cooperate with us?

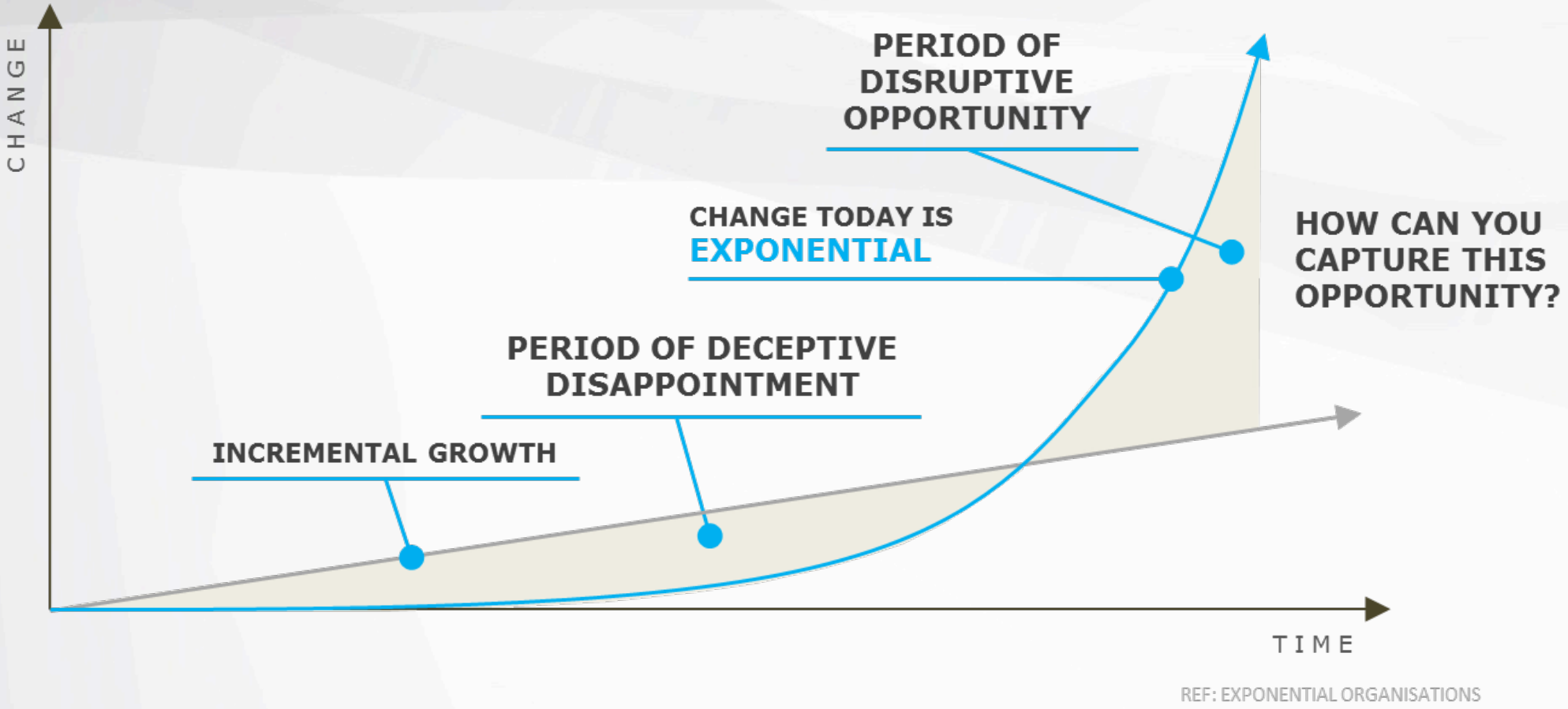
Examples of circular business-models:

- **Product as a Service**
- **Sharing platforms**
- **Re-sales**
- **Material recycling**
- **Circular production**


WE NEED TO DO SOMETHING SO INNOVATIVE THAT NO BRAND HAS EVER DONE ANYTHING LIKE IT.
SEEMS RISKY. CAN YOU GIVE EXAMPLES OF OTHER BRANDS THAT HAVE DONE THIS?
TOM FISH BURNE
©marketoonist.com

We will be disrupted

- How can we disrupt ourselves first?



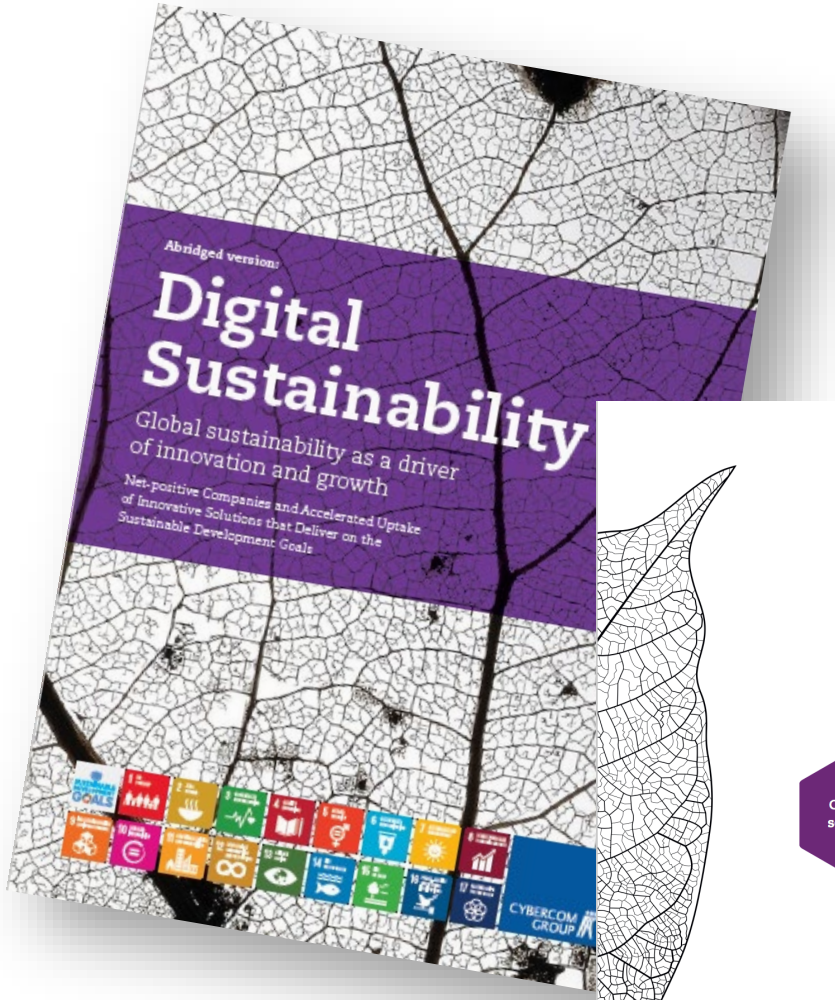
Capturing Net-positive opportunities by business development and innovation

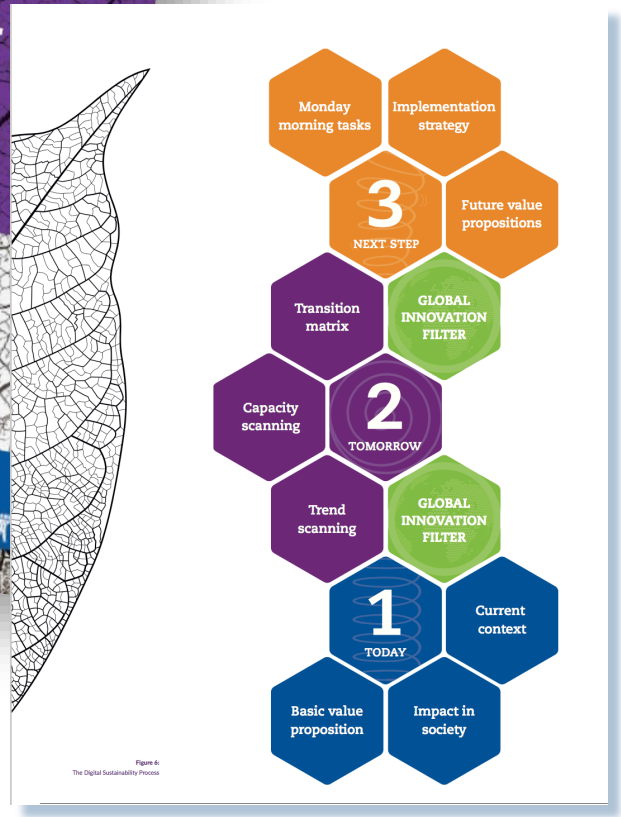
Accelerate Sales!

– the best you can do for our planet.

Shift focus from

- less negative to more positive
- internal problems till opportunities at your customers
- less costs to more revenue





Finding net-positive business value!

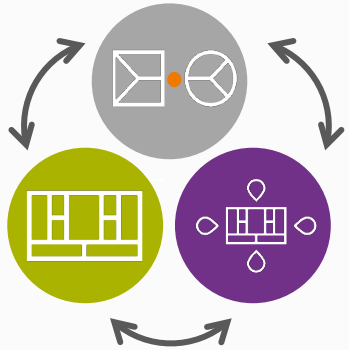
Our guiding principles through the innovation and transformation process

ANCHOR IDEATION IN USER & SOCIETAL NEEDS

Understand your customers and society's true need, pains and what jobs they want to solve

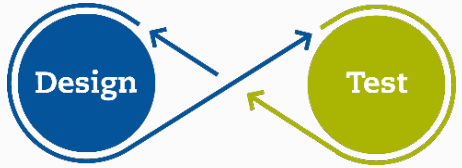
BEST PRODUCT IS NOT ENOUGH

Explore how ecosystems and business models affect value, customers and society



HYPOTHESES NEED TO BE VALIDATED

Learning happens with customers and society as quick and smart (cheap) as possible



Digital Sustainability Process

Digital Sustainability Process

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Scope of initial suggestion

- Point of departure
- Stakeholder interviews
- Customer insights study
- SF input

1

WS 1
Alignment, innovation & opportunity assessment

Deliverables

- Idea prioritisation
- Analysis & concept blueprint

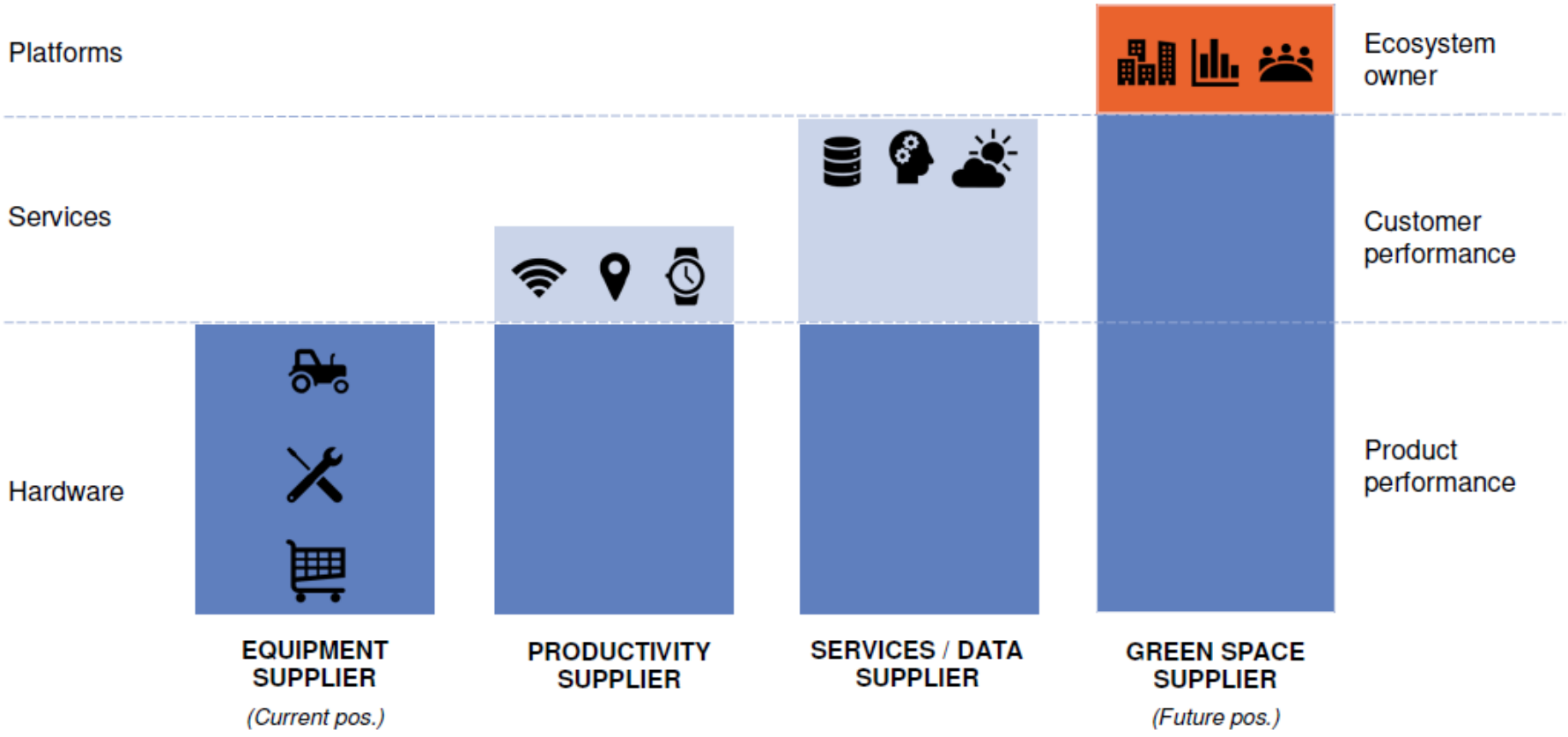
2

WS 2
Business offering & consequences

3

WS 3
Refine, rework, define

Development of HQ value proposition – from Product performance to Ecosystem owner



Husqvarna delivery

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Point of Departure

Customer Insight study

Sustainability Analyze & Inspiration

WS 1
Inspire, align & innovate

WS1

WS 2
Business modeling and consequences

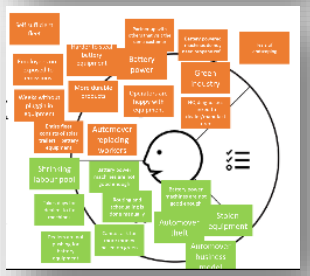
WS2

WS 3
Refine, rework and define

WS3

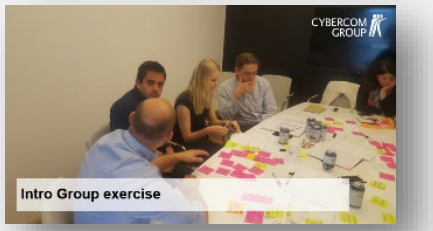
Delivery

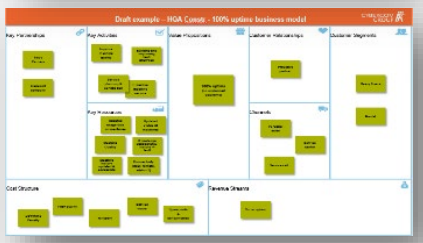
Input to WS 1



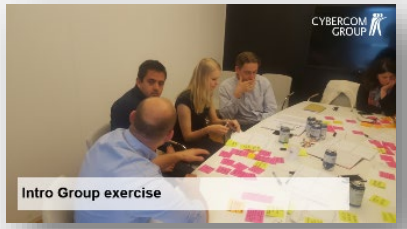
90-ish ideas, 12 prio

7 selected ideas



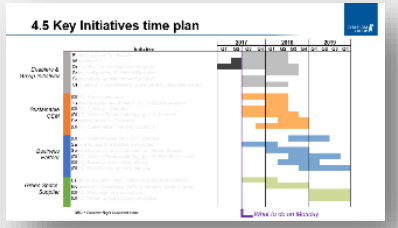


6 ideas in deep-dive



Result:

- 6 well-defined ideas
- 21 Key Activities for “Monday”
- A new End-game
- An aligned team



How to turn sustainability challenges in to business opportunities

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1. Decide who is responsible!
2. Explore in cross-functional team!
3. Understand your customers true need
4. Assess and express your current handprint (value-proposition)
5. Set net-positive goals for innovation/business design! (avoided emissions)
6. Explore how ecosystems and business models affect value and customers
7. Validate your hypotheses with customers as lean/cheap as possible
8. Deploy digital technology to accelerate towards your goals!

Making sustainability investments lead to business-value!

The art of turning sustainability challenges in to business opportunities

Ingemar Jansson, Senior Advisor, Cybercom Group

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