Entrepreneurship for sustainability

Dror Etzion

The Guardian

In 2019 the public woke up to the climate crisis. When will the politicians?

Stephen Buranyi

Poll after poll shows that people now want action. But at the international level progress is being deliberately stymied

Mon 23 Dec 2019 09.44 GMT

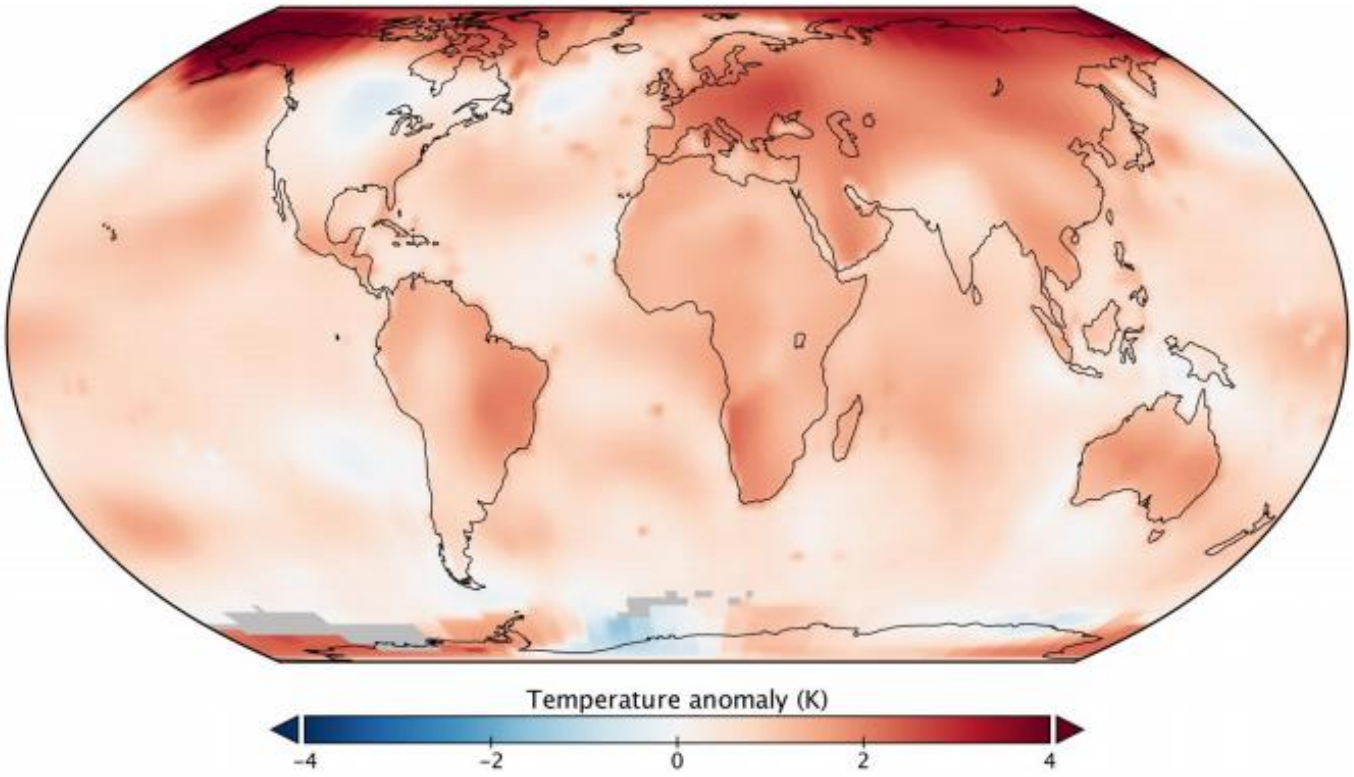
NASA 2019 Global Temperature

2019:

0.98°C/1.8°F above 1951-80 average

2nd Warmest year of NASA GISTEMP record

GISTEMP Annual Mean 2019
Baseline 1950-1981



The New York Times

U.N. Climate Talks End With Few Commitments and a 'Lost' Opportunity

Delegates in Madrid on Sunday at the closing session of United Nations climate talks. Bernat Armangue/Associated Press

euronews.

Europe World Business Sport Culture Living Sci-tech Travel Video Programmes

Home > News > World > Climate summit ends in 'disappointment' as big decisions delayed

USA

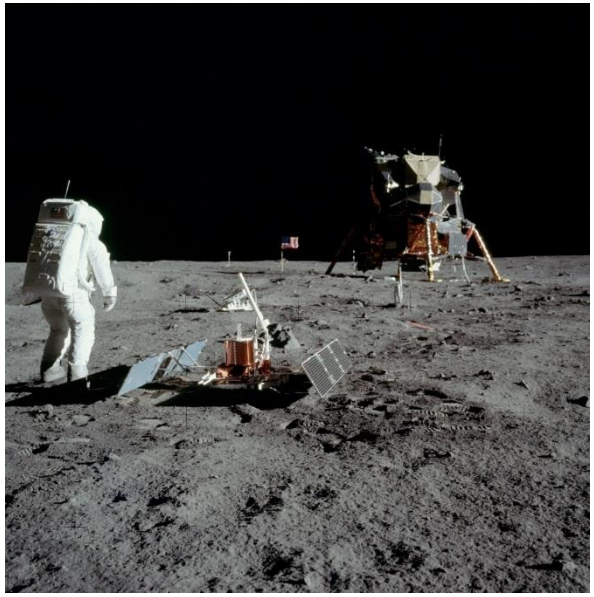
Climate summit ends in 'disappointment' as big decisions delayed

COMMENTS

By Rachel Elbaum with NBC News World News • last updated: 16/12/2019

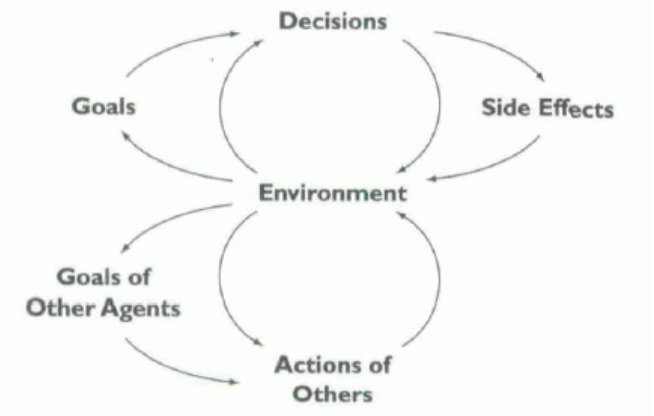
Sustainability is hard to solve

A tractable problem



can be resolved through linear thinking (standard management practices)

A wicked problem



cannot be solved through standard management practices

Management for sustainability

Don't	Do
Plan	Iterate and experiment
Seek comprehensive solutions	Seek small wins
Pursue consensus	Pursue engagement
Create inflexible processes	Develop formal and informal coalitions
Debate ideologies	Address needs

Etzion, D. (2018). Management for sustainability. Nature Sustainability, 1(12), 744.

Agreement at the international level is hard
Agreement at the local level is easy (?)

The New York Times | https://nyti.ms/2sQHRf

CLIMATE

In Trump Country, Renewable Energy Is Thriving

By JUSTIN GILLIS and NADJA POPOVICH JUNE 6, 2017

Two years ago, Kansas repealed a law requiring that 20 percent of the state's electric power come from renewable sources by 2020, seemingly a step backward on energy in a deeply conservative state.

Yet by the time the law was scrapped, it had become largely irrelevant. Kansas blew past that 20 percent target in 2014, and last year generated more than 30 percent of its power from wind. The state may be the first in the country to hit 50 percent wind generation in a year or two, unless Iowa gets there first.

Allies are everywhere

Climate changed

Not all environmentalists eat tofu: the hunters fighting climate change

Progressives should think twice about who their allies are. Conservatives, especially those who hunt, can be alarmed about climate change too

by Megan Mayhew Bergman

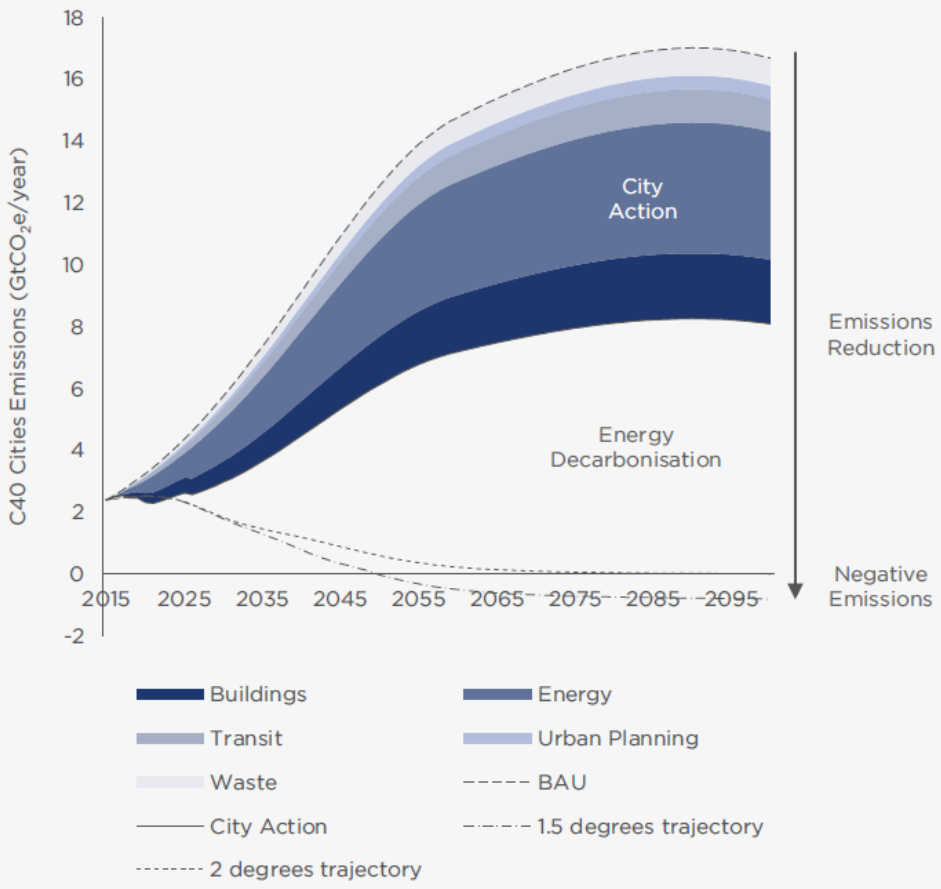
In cities, people want (and vote for)

- Comfortable homes
- Easy commutes
- Clean neighborhoods

They may not know it, but they are environmentalists!

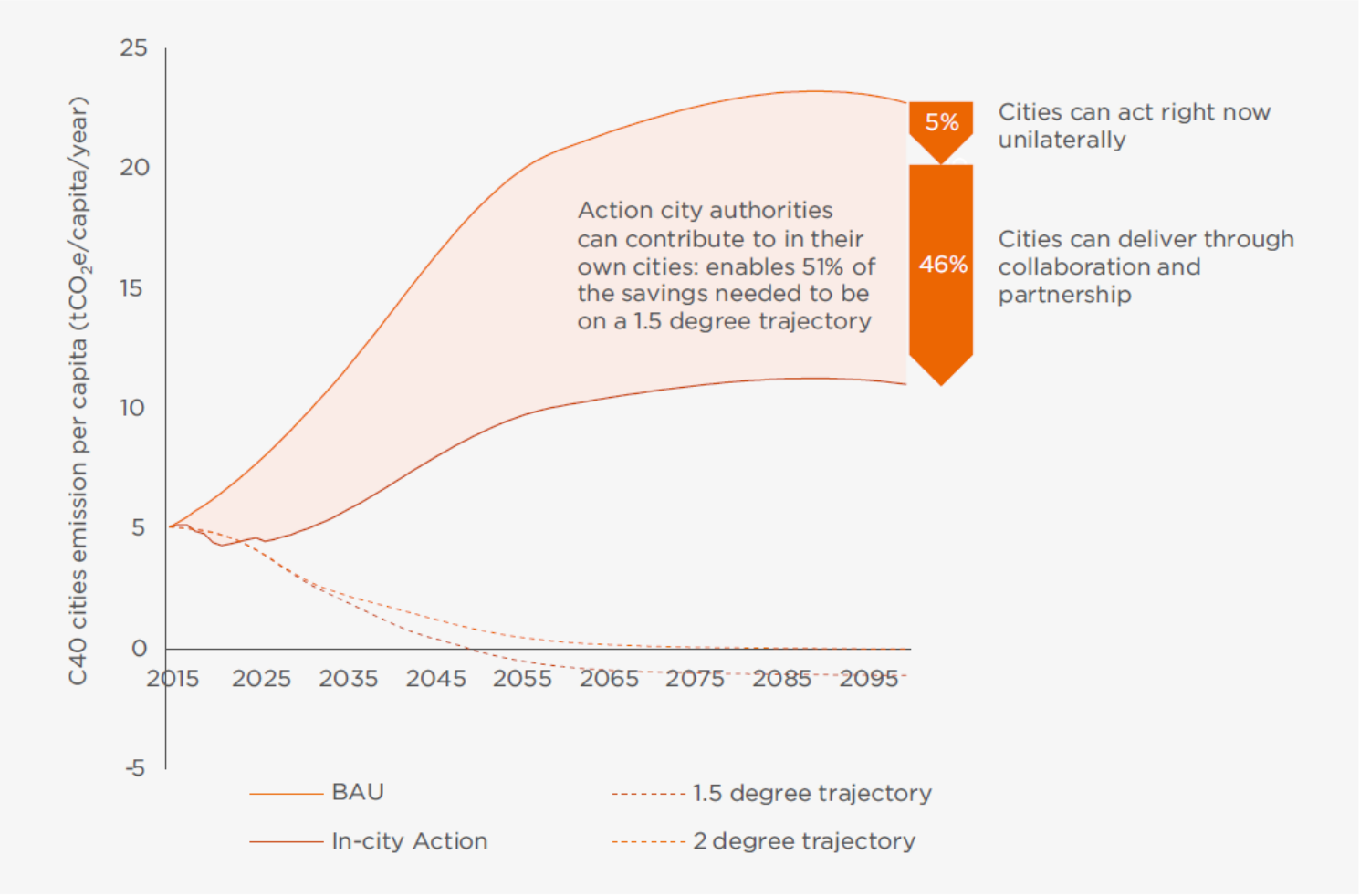
Pleasant homes, easy commutes, clean neighborhoods

Figure 44. The *Deadline 2020* Story.



Cities matter!

Figure 37. How far City Action can get us.



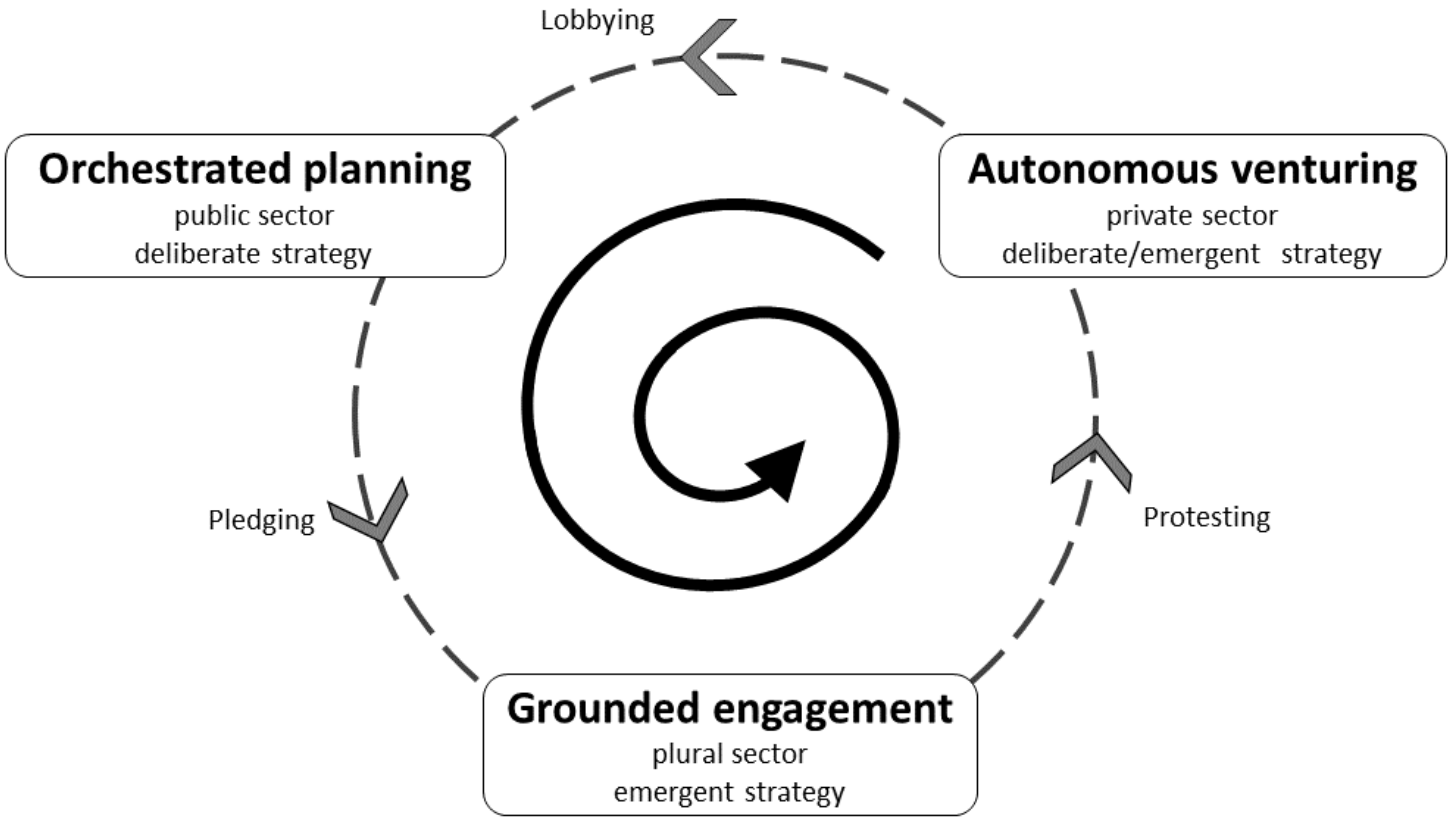
Progress in dealing with the problem of climate change will require that the institutions of government, business, and community work not in isolation from each other, let alone at cross-purposes, but by reinforcing each other's efforts through consolidation.

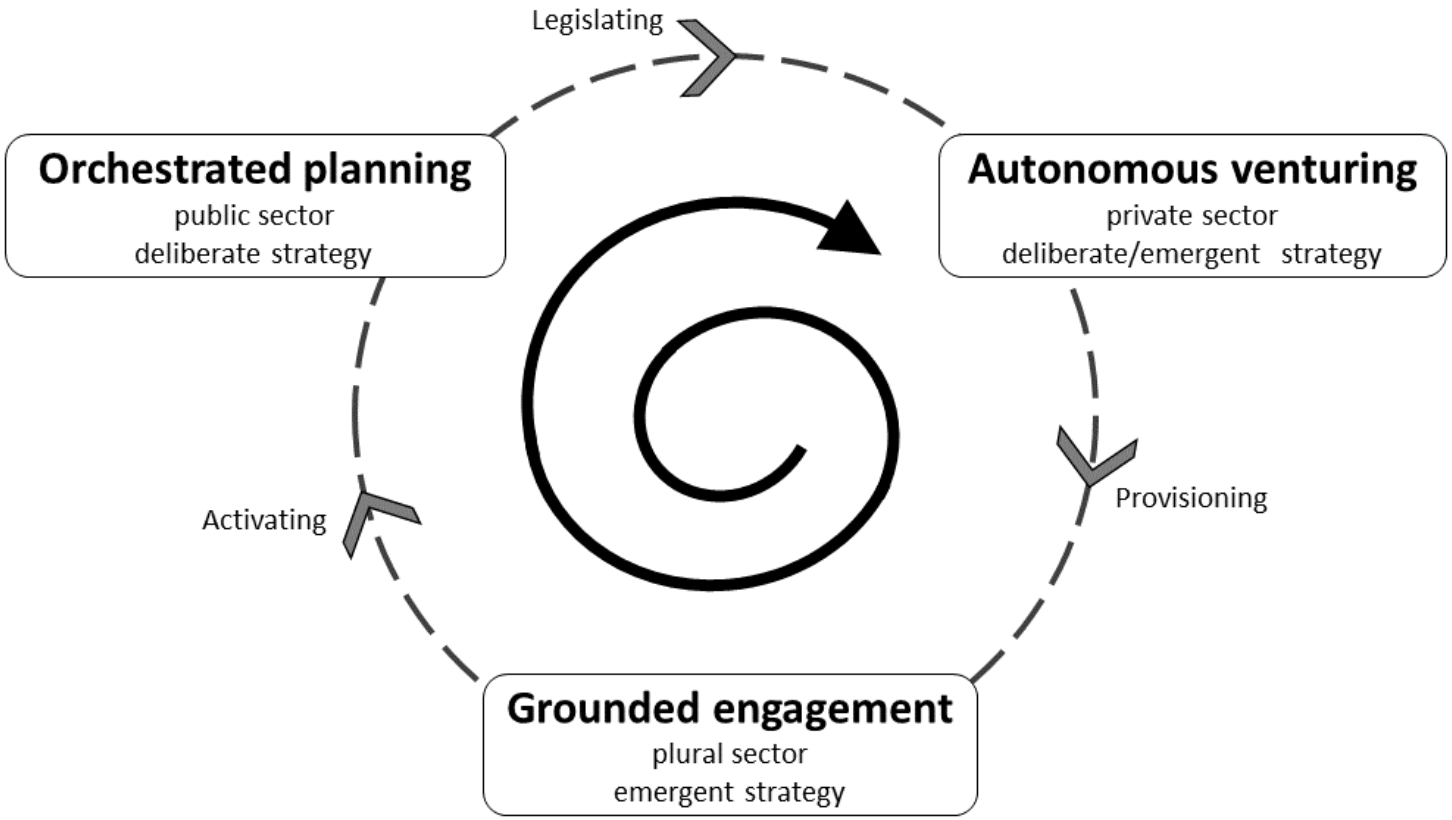
Worldly Strategy for the Global Climate

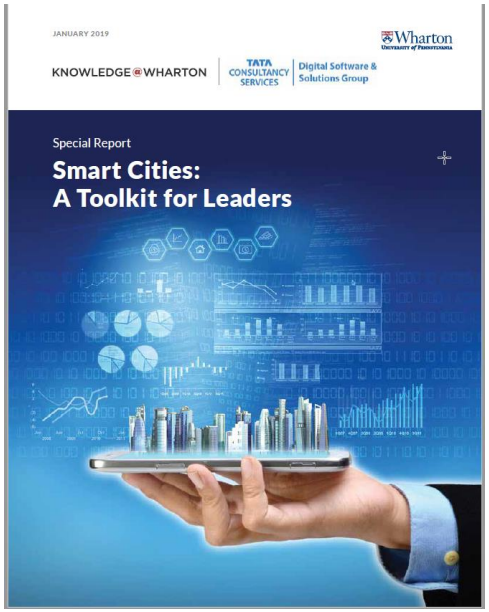
BY HENRY MINTZBERG, DROR ETZION & SAKU MANTERE

Complementary sectors

	ORCHESTRATED PLANNING	GROUNDED ENGAGEMENT	AUTONOMOUS VENTURING
FLOW	Top-down deliberate	Bottom-up emergent	Middle-up-down Deliberate/emergent
ORGANIZATION	**Governments** in the public sector (governors)	**Associations** in the plural sector (activists)	**Businesses** in the private sector (owners)
ORIENTATION	Political/collective, based on citizenship	Social/cultural, based on communityship	Technical/economic, based on ownership
DRIVERS	Votes, public opinion	Values, local concerns	Profits, investor returns
ACTIVITIES	Legislation, regulation, incentives	Activism and grassroots initiatives	Provision of goods and services


Lobbying
Orchestrated planning
public sector
deliberate strategy
Autonomous venturing
private sector
deliberate/emergent strategy
Pledging
Protesting
Grounded engagement
plural sector
emergent strategy


Legislating
Orchestrated planning
public sector
deliberate strategy
Autonomous venturing
private sector
deliberate/emergent strategy
Provisioning
Grounded engagement
plural sector
emergent strategy
Activating



INTRODUCTION

Smart Cities: A Toolkit for Leaders

The definition of a "smart city" is changing. Not only does it refer to a community that adopts technological tools to make itself more efficient, but the term also encompasses the ideas of sustainability, compassion and equity for all stakeholders. As cities embrace initiatives to become more connected, data-driven and resilient, mayors and other leaders often have to prioritize among the various needs of the community in light of budget constraints. The key is to strategically pick the projects that will bring the most impact to a city and result in the most good.

Open Data BCN

Ajuntament de Barcelona's open data service

e.g. environment

There are a total of **458** datasets in the Open Data Barcelona Catalogue

Territory | Population | City and Services | Administration | Economy and Business

The REAL sharing economy

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Library of Things

From Wikipedia, the free encyclopedia

Library of Things describes collections of things other than books that are being loaned like books, for no charge. A library of things can loan out kitchen appliances, tools, gardening equipment and seeds,[1] electronics,[2] toys and games, art,[3] science kits, craft supplies, musical instruments, recreational equipment, and more.[4] These new types of loaner collections vary widely, but go far beyond the books, journals, and media that have been the primary focus of library collections in the past.[5]

The Library of Things movement is a growing trend in public, academic, and special libraries in many countries.[6][7] There are also free-standing organizations outside of libraries that offer borrowing services, such as tool libraries, toy libraries, community sharing centers,[8] independent non-profits, and individual initiatives. The Share Shed (Totnes, UK) is developing the first mobile Library of Things in the world. These borrowing centers and library collections are all a part of the sharing economy.[9] Many of these libraries are offering tools and equipment that are useful to have access to, such as specialized cookware or niche technology items, but are often cumbersome to own and store.[10] Library of Things collections are often supported by educational programming and public events.[11]

Main page
Contents
Featured content
Current events
Random article
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Interaction

Help
About Wikipedia
Community portal
Recent changes
Contact page

LETTERS
https://doi.org/10.1038/s41558-019-0463-3

nature climate change

Children can foster climate change concern among their parents

Danielle F. Lawson[1*], Kathryn T. Stevenson[1], M. Nils Peterson[2], Sarah J. Carrier[3], Renee L. Strnad[4] and Erin Seekamp[1]

The collective action that is required to mitigate and adapt to climate change is extremely difficult to achieve, largely due to socio-ideological biases that perpetuate polarization over climate change[1,2]. Because climate change perceptions in children seem less susceptible to the influence of worldview or political context[3], it may be possible for them to inspire adults towards higher levels of climate concern, and in turn, collective action[4]. Child-to-parent intergenerational learning—that is, the transfer of knowledge, attitudes or behaviours from children to parents[5]—may be a promising pathway to overcoming socio-ideological barriers to climate concern[5]. Here we present an experimental evaluation of an educational intervention designed to build climate change concern among parents indirectly through their middle school-aged children in North Carolina, USA. Parents of children in the treatment group expressed higher levels of climate change concern than parents in the control group. The effects were strongest among male parents and conservative parents, who, consistent with previous research[1], displayed the lowest levels of climate concern before the intervention. Daughters appeared to be especially effective in influencing parents. Our results

with extreme weather[7,10]) or scientific literacy[2]. Political ideology influences both the information received about climate change (for example, socio-ideologically framed newscasts[11]) and how it is interpreted (for example, accepting only socio-ideologically compatible information[12]). Similarly, conservative males consistently display low concern and high scepticism around climate change[13]. Like political ideology, gender is relatively stable once formed and reflects cultural constructs that shape how individuals interact with the world[13]. As these characteristics that influence one's climate change perceptions are engrained in personal identity, they are difficult, if not impossible, to change. Consequently, patterns of climate change concern have not mirrored the increasing threats of climate change.

A suite of strategic communication tools have emerged aiming to foster climate change concern among socio-ideologically diverse audiences. Strategic framing[14] has frequently been used to create climate change messages that are socio-ideologically compatible with diverse audiences. For example, stewardship frames have been used among evangelical Christian groups to align mitigation efforts with core Christian values[15]. Similarly, popular icons and trusted messengers are used to signal that climate change mitigation conforms to

nature energy

ARTICLES

PUBLISHED: 11 JULY 2016 | ARTICLE NUMBER: 16091 | DOI: 10.1038/NENERGY.2016.91

Effects of a behaviour change intervention for Girl Scouts on child and parent energy-saving behaviours

Hilary Boudet[1]*, Nicole M. Ardoin[2], June Flora[3], K. Carrie Armel[4], Manisha Desai[5] and Thomas N. Robinson[6]

Energy education programmes for children are hypothesized to have great potential to save energy. Such interventions are often assumed to impact child and family behaviours. Here, using a cluster-randomized controlled trial with 30 Girl Scout troops in Northern California, we assess the efficacy of two social cognitive theory-based interventions focused on residential and food-and-transportation energy-related behaviours of Girl Scouts and their families. We show that Girl Scouts and parents in troops randomly assigned to the residential energy intervention significantly increased their self-reported residential energy-saving behaviours immediately following the intervention and after more than seven months of follow-up, compared with controls. Girl Scouts in troops randomly assigned to the food-and-transportation energy intervention significantly increased their self-reported food-and-transportation energy-saving behaviours immediately following the intervention, compared with controls, but not at follow-up. The results demonstrate that theory-based, child-focused energy interventions have the potential to increase energy-saving behaviours among both children and their parents.

Encouraging entrepreneurs

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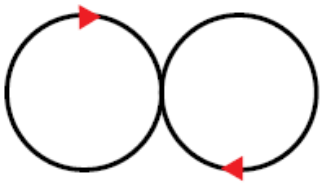
Catalyst

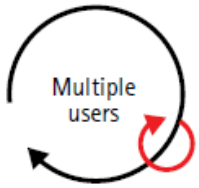
Catalyst is a movement to amplify the actions of small and medium-sized enterprises (SMEs) to halt carbon pollution. By bringing together the SME community with a team of scientists and communicators, we connect leaders, promote their actions and amplify their impact.

Value creation in the circular economy

Figure 1: Areas of value creation in the circular economy

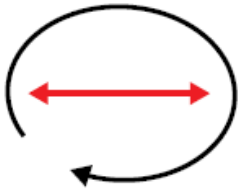


Lasting resources
Breaking the link between resource scarcity and economic activity by using only resources that can be continuously regenerated for productive use



Liquid markets
Eliminating idle time of products in the markets in order to grow the number of users that gain benefit from the same volume of goods

Linked value chains
Minimizing resource value destruction in a value chain by reclaiming and linking up waste outputs as useful inputs into a next life production process



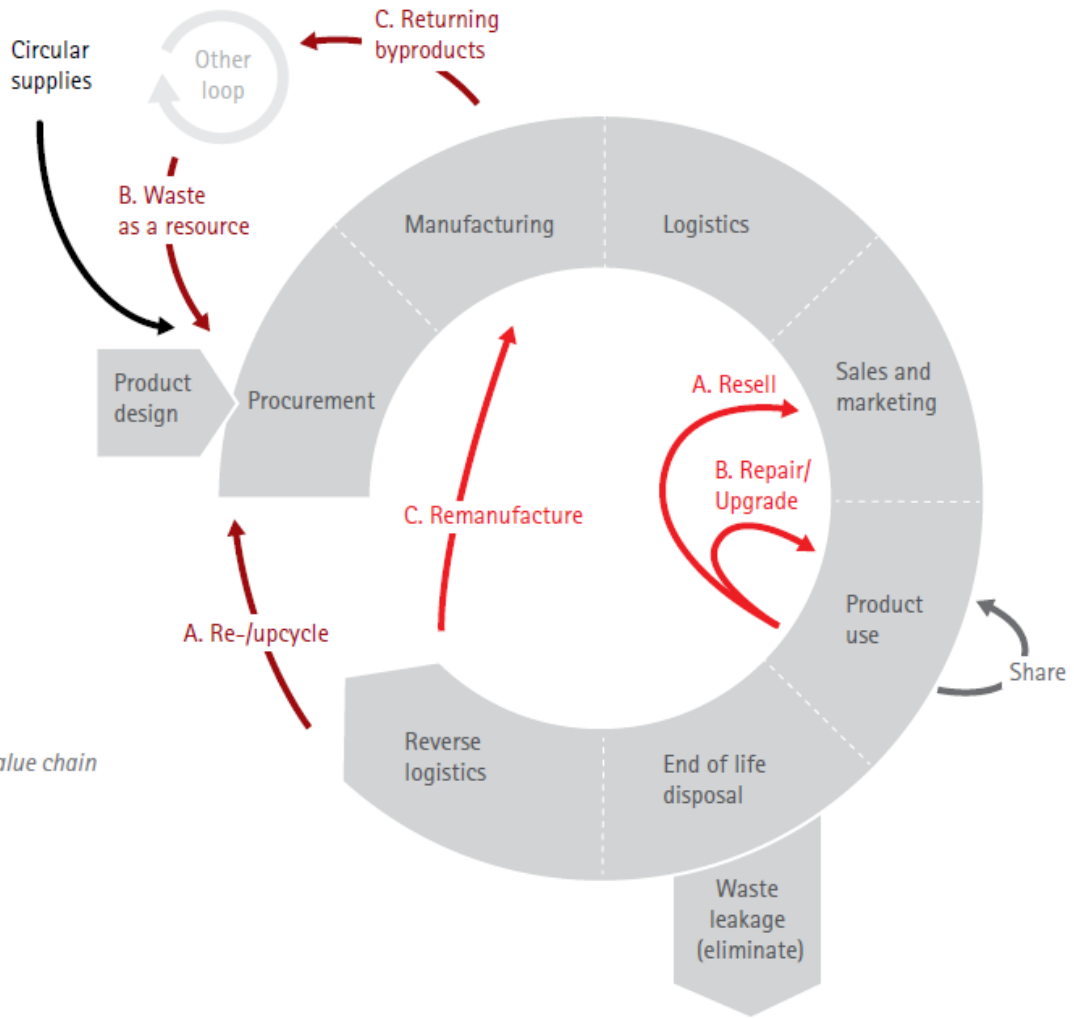
Longer life cycles
Keeping products in economic use for longer to satisfy a greater demand and provide more utility without needing additional natural resources

Circular economy business models

Business Models

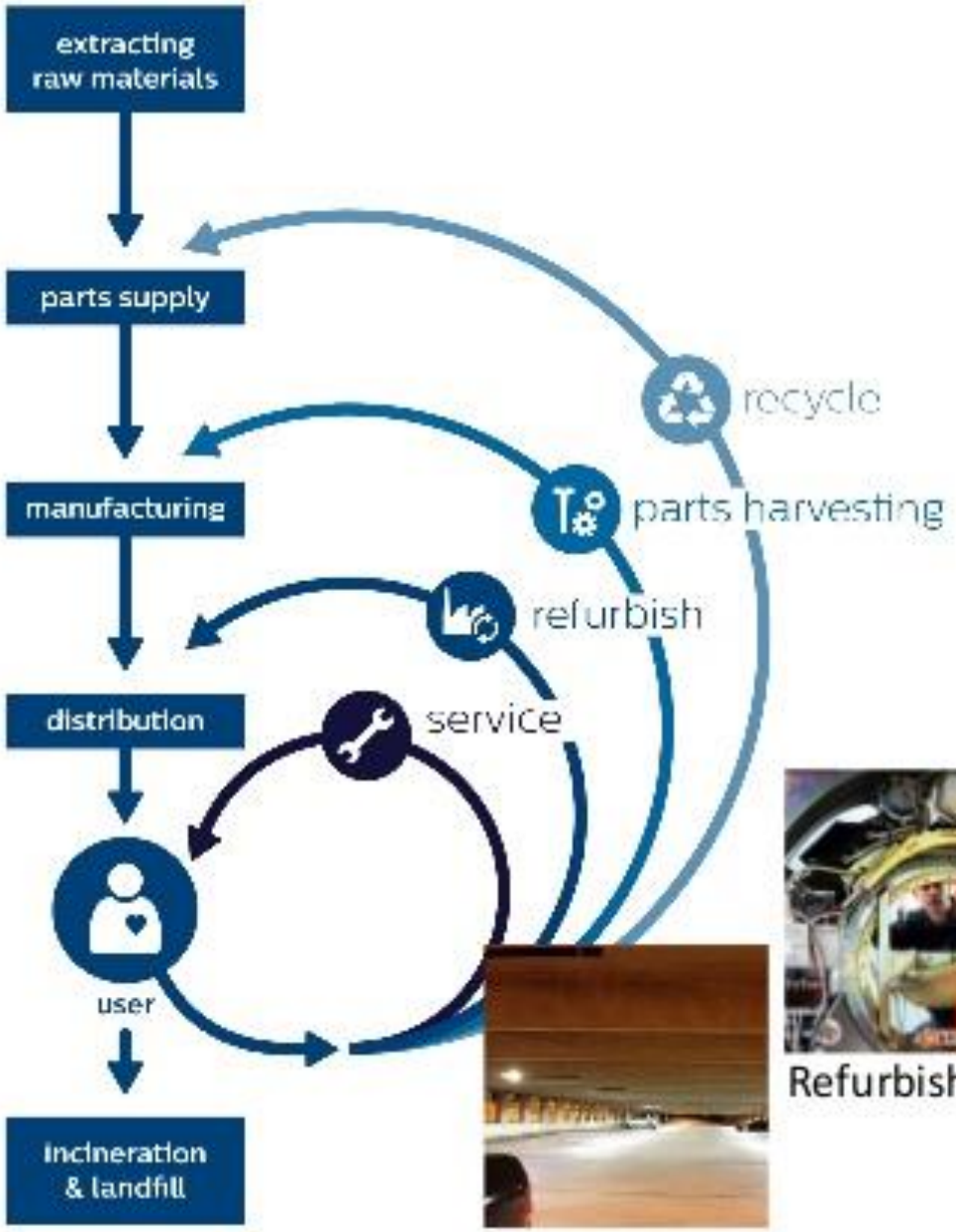
- **Circular Supplies:** Provide renewable energy, bio based- or fully recyclable input material to replace single-lifecycle inputs
- **Resource Recovery:** Recover useful resources/energy out of disposed products or by-products
- **Product Life Extension:** Extend working lifecycle of products and components by repairing, upgrading and reselling
- **Sharing Platforms:** Enable increased utilization rate of products by making possible shared use/access/ownership
- **Product as a Service*:** Offer product access and retain ownership to internalise benefits of circular resource productivity

** Can be applied to product flows in any part of the value chain*



Accenture (2015). Circular Advantage: Innovative business models and technologies to create value in a world without limits to growth

the **circular** economy



Light as a Service

Refurbished MRI

Modular Ultrasound

Recycled content

PHILIPS

Lighting at Philips as explained by CEO

… we now sell lighting as a service: customers only pay us for the light, and we take care of the technology risk and the investment… We install the equipment, maintain it, and make sure that it runs for a very long time.

http://www.mckinsey.com/business-functions/sustainability-and-resource-productivity/our-insights/toward-a-circular-economy-philips-ceo-frans-van-houten

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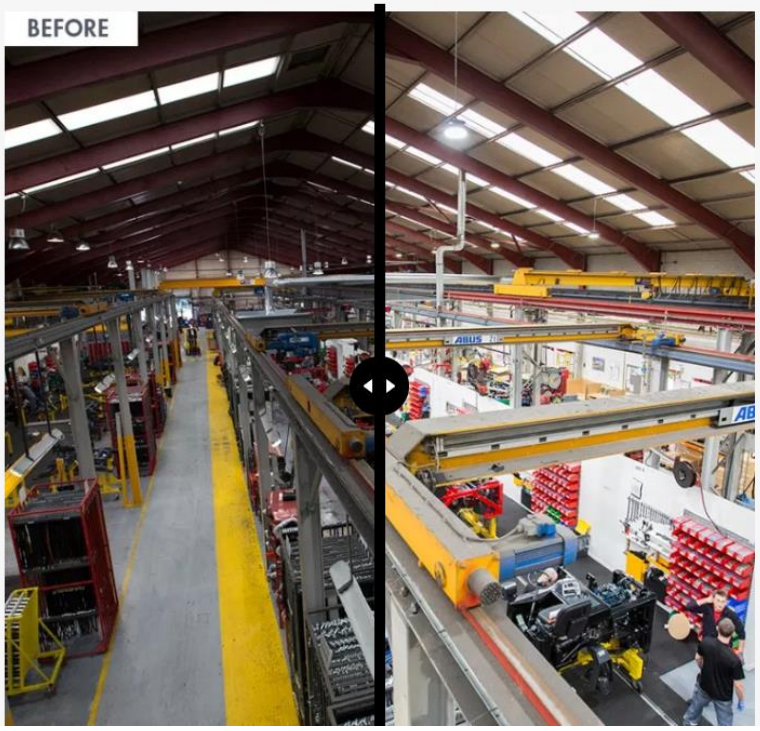

Pay-per-wash

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With our pay-per-use concept you only pay each time you run a wash!
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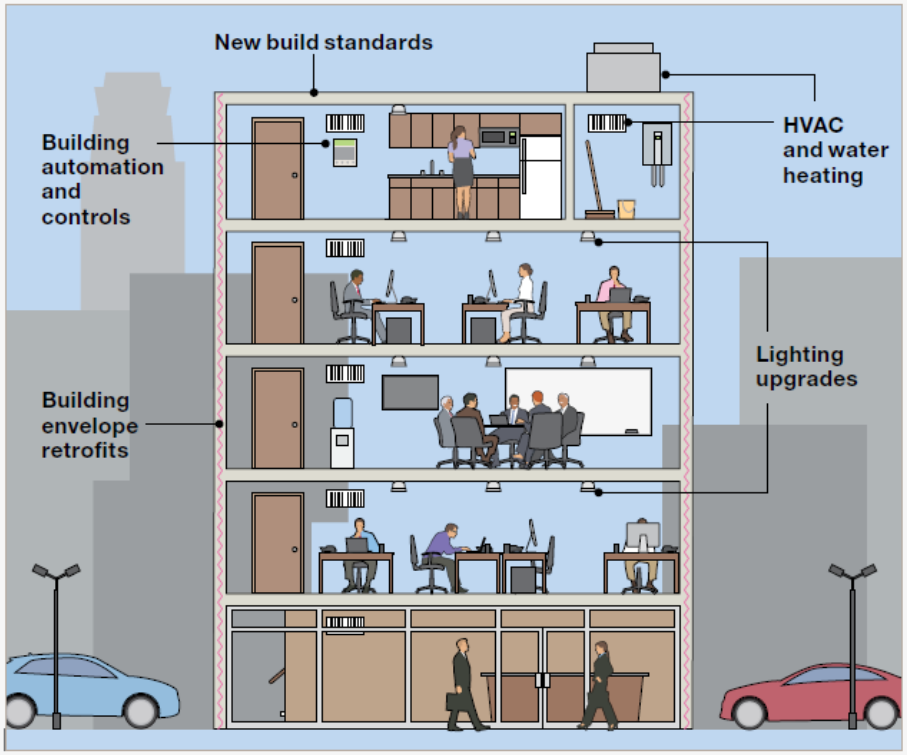
Reliability

We only offer high-quality machines, and offer free repairs or replacement when necessary.
So you will always have a working machine, and no unexpected costs.

Sustainability

Our washing machines are very energy-efficient (A+++ rating), and by analysing your washing data we offer advice on how to save costs and the environment.

Not all entrepreneurship is glamorous



New build standards
Ultra high-efficiency standards for new construction; may include energy performance requirements or use of specific materials and technologies

Building envelope retrofits
Upgrade of walls, roof, windows, and doors (eg, cool roofs, high-efficiency windows, wall insulation)

HVAC and water heating
Upgrade of space heating, air conditioning, and water heating systems (eg, electric heat pumps, high-efficiency AC, solar water heating)

Lighting upgrades
Upgrade of incandescent and fluorescent bulbs to LEDs

Building automation and controls
Systems to optimize and monitor energy use (eg, lighting sensors, smart thermostats)

McKinsey (2017). Focused acceleration. A strategic approach to climate action in cities to 2030

2nd SKIN (Netherlands)

2nd SKIN (Netherlands)

Impacts of Green New Deal Energy Plans on Grid Stability, Costs, Jobs, Health, and Climate in 143 Countries

Mark Z. Jacobson,[1,4,*] Mark A. Delucchi,[2] Mary A. Cameron,[1,3] Stephen J. Coughlin,[1] Catherine A. Hay,[1] Indu Priya Manogaran,[1] Yanbo Shu,[1] and Anna-Katharina von Krauland[1]

[1]Department of Civil and Environmental Engineering, Stanford University, Stanford, CA 94305-4020, USA

[2]Institute of Transportation Studies, University of California at Berkeley, Berkeley, CA 94804-3580, USA

[3]Hivemapper, Burlingame, CA 94010, USA

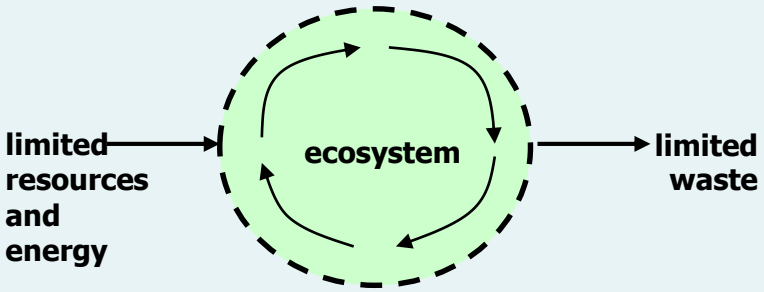
[4]Lead Contact

*Correspondence: jacobson@stanford.edu

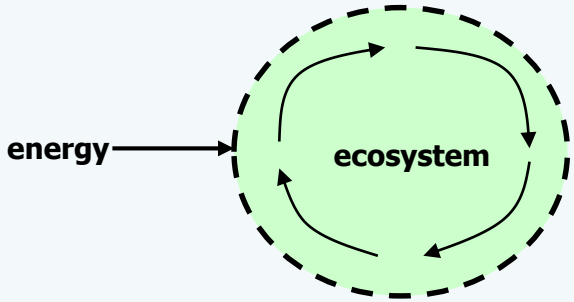
https://doi.org/10.1016/j.oneear.2019.12.003

SCIENCE FOR SOCIETY The Earth is approaching 1.5°C global warming, air pollution kills over 7 million people yearly, and limited fossil fuel resources portend social instability. Rapid solutions are needed. We provide Green New Deal roadmaps for all three problems for 143 countries, representing 99.7% of world's CO_2 emissions. The roadmaps call for countries to move all energy to 100% clean, renewable wind-water-solar (WWS) energy, efficiency, and storage no later than 2050 with at least 80% by 2030. We find that countries and regions avoid blackouts despite WWS variability. Worldwide, WWS reduces energy needs by 57.1%, energy costs from $17.7 to $6.8 trillion/year (61%), and social (private plus health plus climate) costs from $76.1 to $6.8 trillion/year (91%) at a capital cost of ~$73 trillion. WWS creates 28.6 million more long-term, full-time jobs than are lost and needs only 0.17% and 0.48% of land for footprint and space, respectively. Thus, WWS needs less energy, costs less, and creates more jobs than current energy.

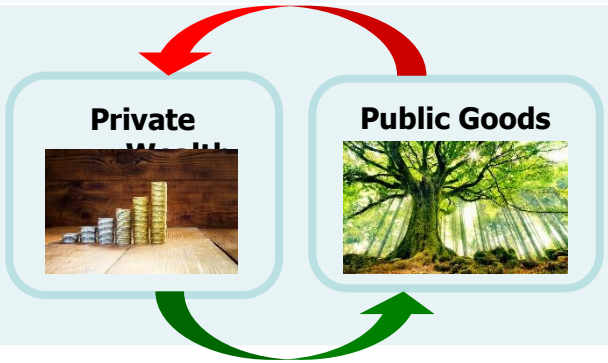
Levels of ambition in the circular economy



Reducing waste



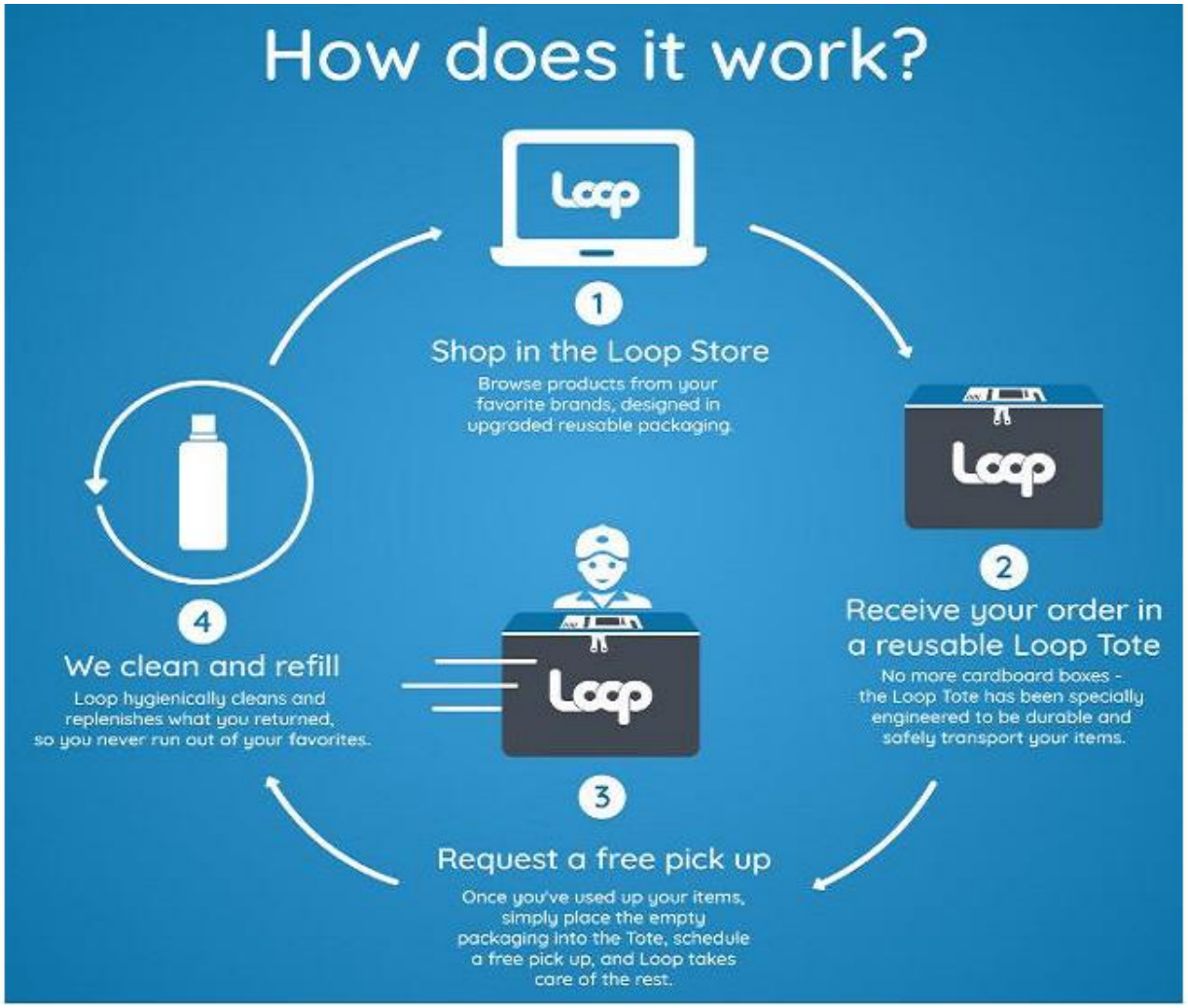
Eliminating waste



Eliminating the concept of waste


Loop


pureclean
PANTENE
PANTENE
Crest
ARIEL
Cascade


How does it work?
Loop
1
Shop in the Loop Store
Browse products from your favorite brands, designed in upgraded reusable packaging.
Loop
2
Receive your order in a reusable Loop Tote
No more cardboard boxes - the Loop Tote has been specially engineered to be durable and safely transport your items.
Loop
3
Request a free pick up
Once you've used up your items, simply place the empty packaging into the Tote, schedule a free pick up, and Loop takes care of the rest.
4
We clean and refill
Loop hygienically cleans and replenishes what you returned, so you never run out of your favorites.

Notpla @London Marathon

A world of abundance

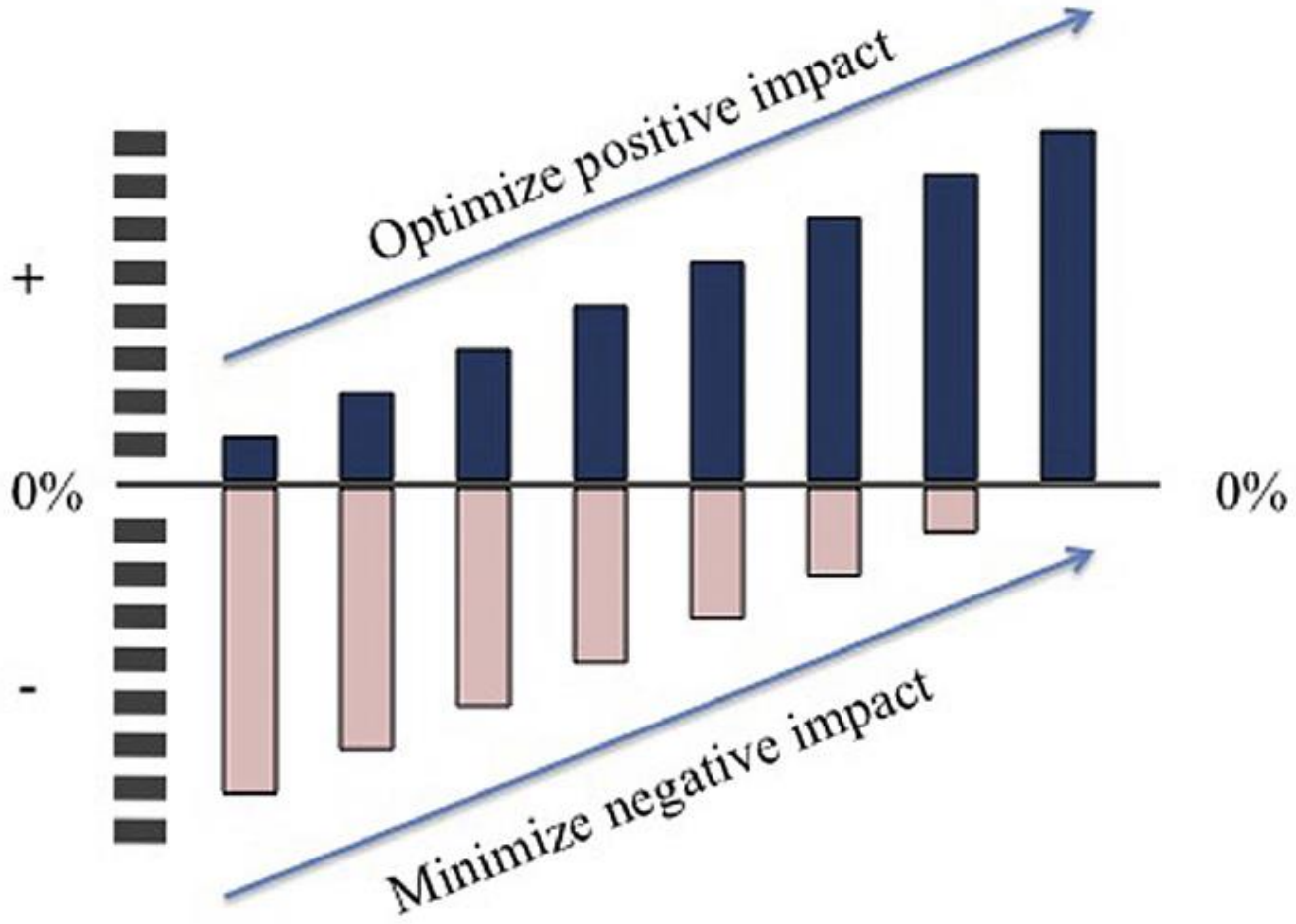


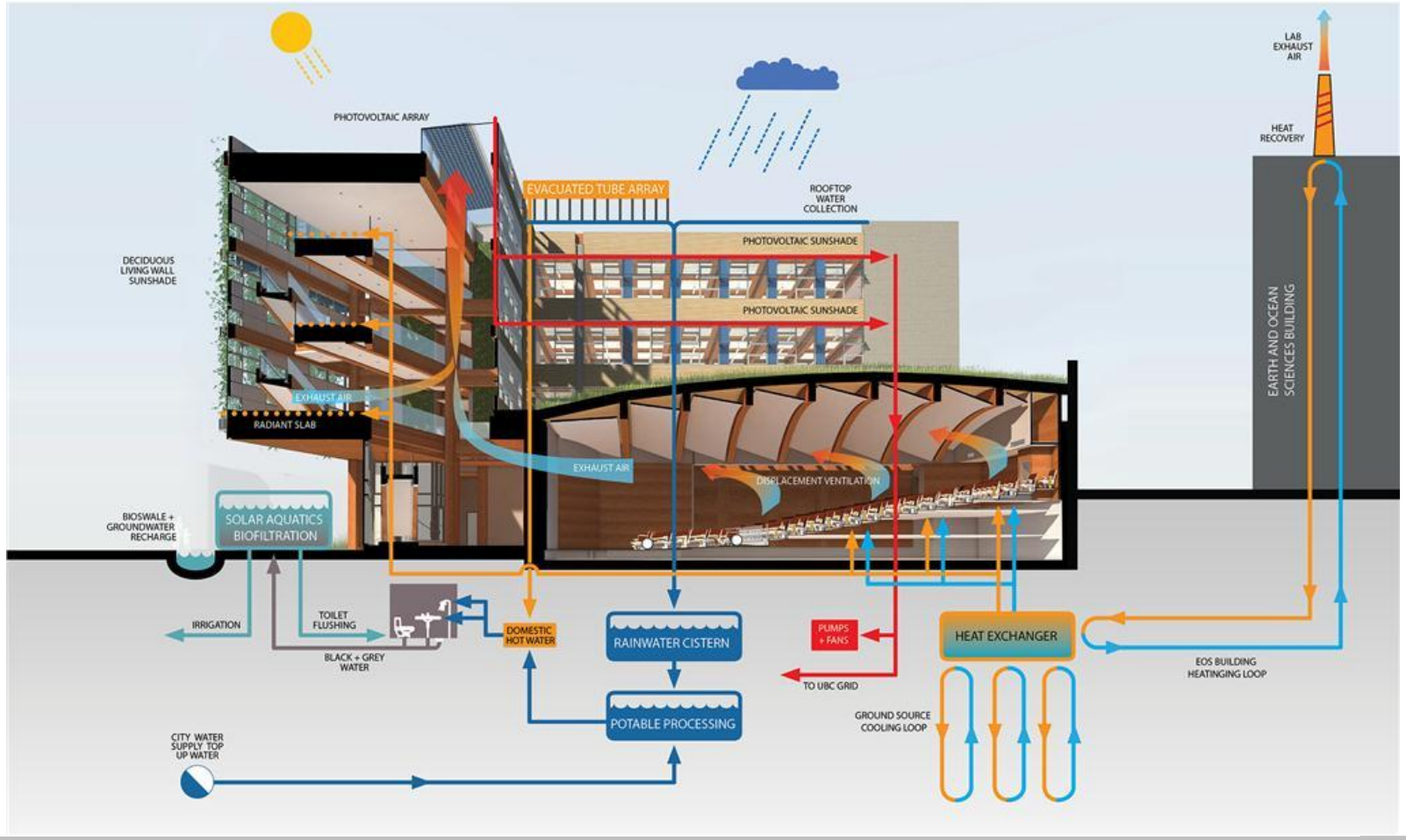
Fig. 4. The upcycle chart (McDonough & Braungart, http://mbdc.com/c2c-framework/

Bloom Chocolate

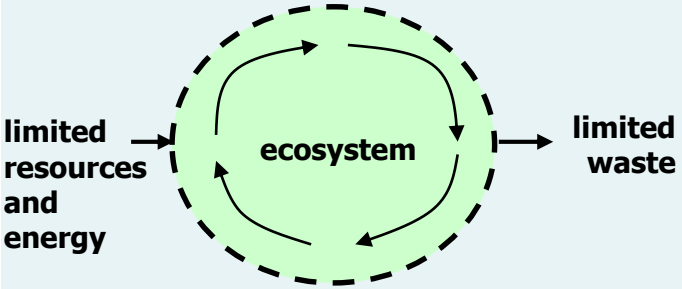
Net positive design

Seven Net-Positives

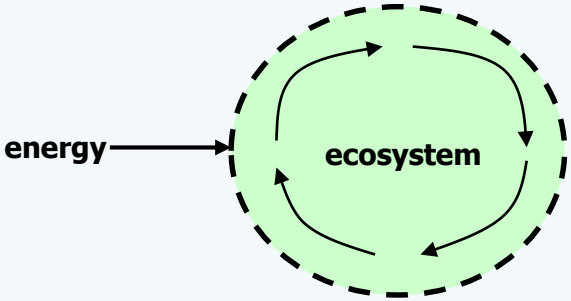
CIRS was designed to be 'net positive' in seven different ways—net-positive energy; structural carbon neutrality; operational carbon; net-zero water; turning passive occupants into active inhabitants; promoting health and productivity; and promoting happiness.



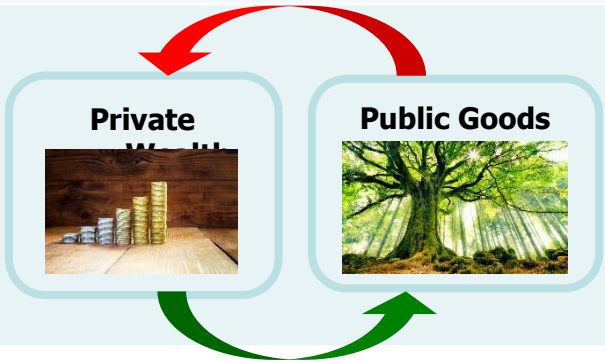
Levels of ambition in the circular economy



Reducing waste



Eliminating waste

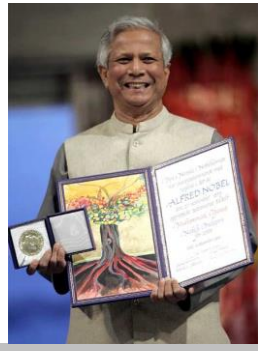


Eliminating the concept of waste

For more inspiration, look to Bangladesh*

(* and other developing markets)

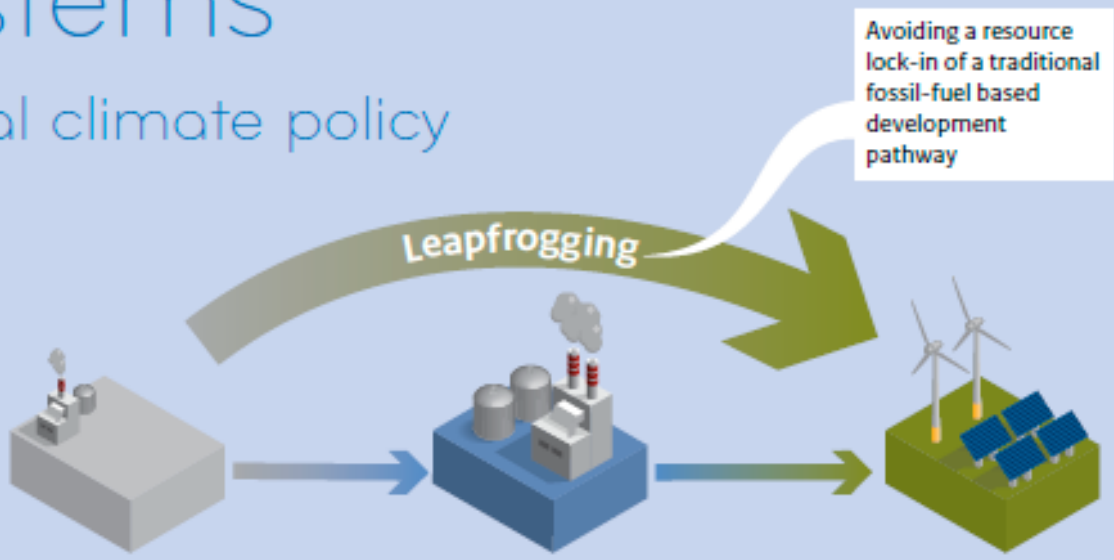
- I am in favor of strengthening the freedom of the market.
- Let us suppose an entrepreneur, instead of having a single source of motivation (such as, maximizing profit), now has two sources of motivation, which are mutually exclusive, but equally compelling – a) maximization of profit and b) doing good to people and the world.



Leapfrogging towards **low-carbon** electricity systems

Consequences of global climate policy

The Sub-Saharan African electricity system is still in its infancy. The current production capacity can only meet around 35% of the projected electricity demand for 2030 and less than 15% of the projected demand for 2050. Nevertheless, Sub-Saharan Africa is richly endowed with both fossil and renewable energy sources, which can easily accommodate



Social entrepreneurship is about business model innovation

Table 3. Building Social Business Models: Lessons 1 to 3

	Lesson 1: Challenging conventional wisdom		Lesson 2: Finding partners	Lesson 3: Undertaking experimentation
	Basic assumption	**New recipe**		
Grameen Phone	Buying power in developing countries is too low to build a profitable wireless network	The handset can be rented rather than owned	Telenor, the Norwe gian incumbent	Grameen Phone extended the network step by step
Grameen Veolia	In developed countries, water is treated in high tech factories so as to be safe and is distributed inside' people's homes	Water has to reach minimal World health organization's standards. It can be distributed at public fountains	Veolia (French company), one of the global leaders in water services	Fine-tuning of the model in Goalmari
Grameen Danone	A yogurt can only be affordable if produced in large quantity and distributed through retail	Local production and door to door distribu- tion can lead to an easily available and affordable dairy product	Danone, one of the world's leading healthy food companies	First plant in Bogra serving families within a 30 km radius

Yunus, M., Moingeon, B., & Lehmann-Ortega, L. (2010). Building social business models: Lessons from the Grameen experience. Long range planning, 43(2), 308-325.

Failure IS an option

PERSPECTIVE
https://doi.org/10.1038/s41893-018-0184-z

nature sustainability

Management for sustainability

Dror Etzion

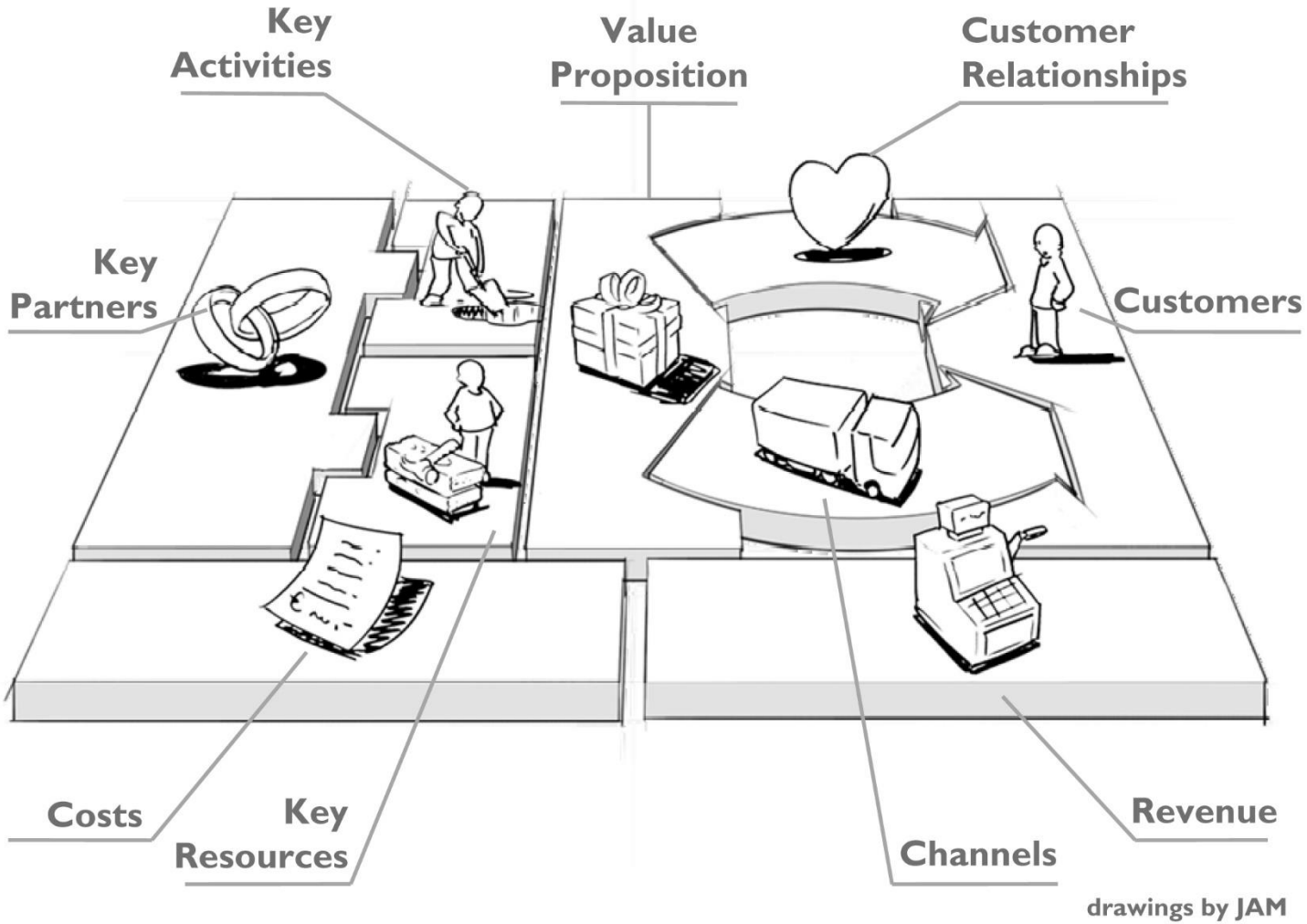
Much of the unsustainable activity that occurs in the world can be traced to organizations. Yet, because organizations are social systems, they cannot be managed for sustainability in the same way as ecosystems and natural resources. Using social systems theory, and employing the concepts of emergence, resilience and scale, I identify management principles for pursuing sustainability across an array of organizational contexts. These principles serve as a basis for an agenda to promote sustainability through logic models and experimentation. The UN Sustainable Development Goals provide an opportunity for putting these principles into action.

An experimenting society

"Fully embracing experimentation calls upon us to truly appreciate that sustainability concerns are wicked and that **failures are in fact a good measure of effort and ambition**. A policy promoting ambitious experimentation will in some regards be similar to the venturing model that provides resources to an array of entrepreneurial organizations in information technology."

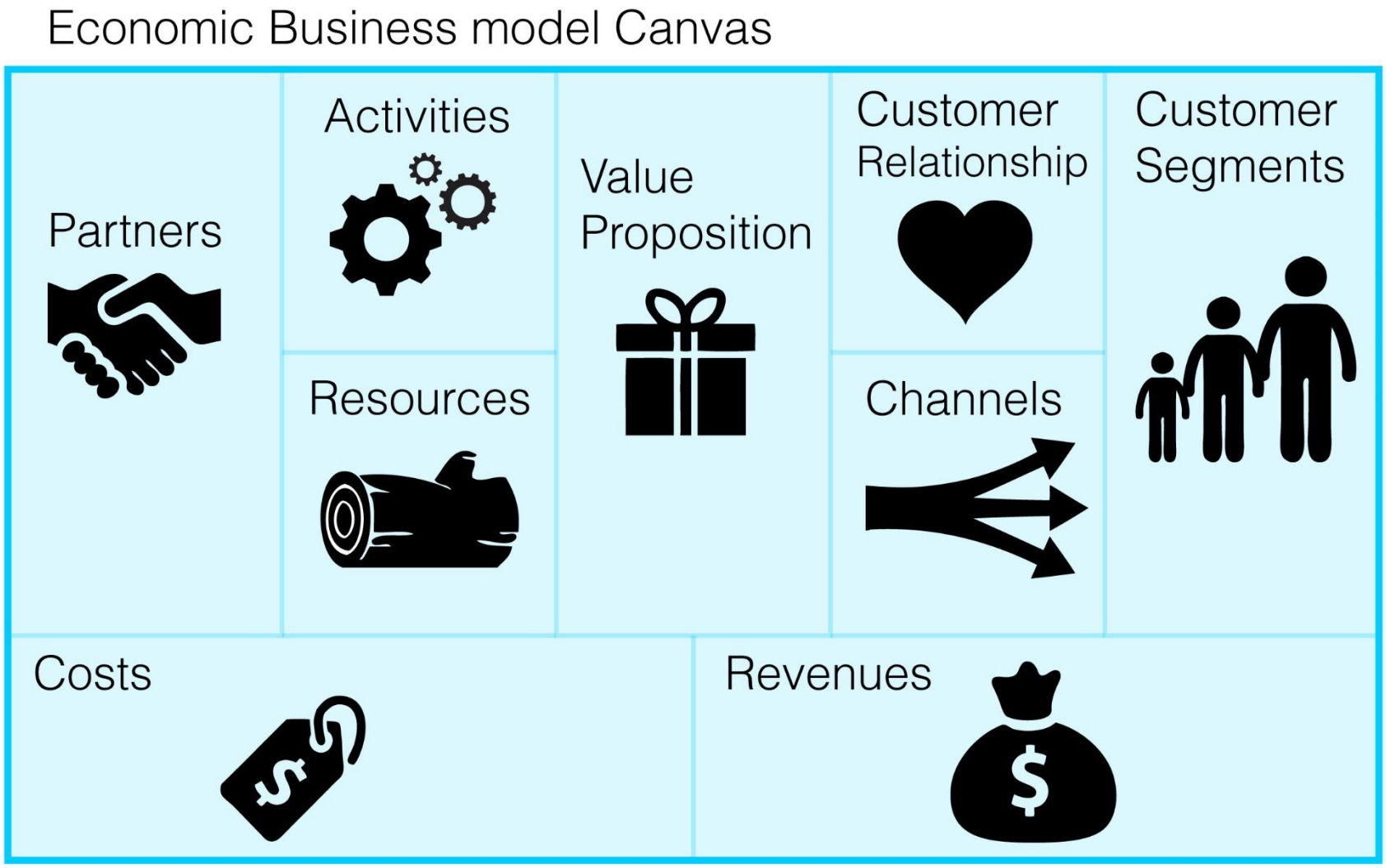
TOOLS

Business Model Canvas



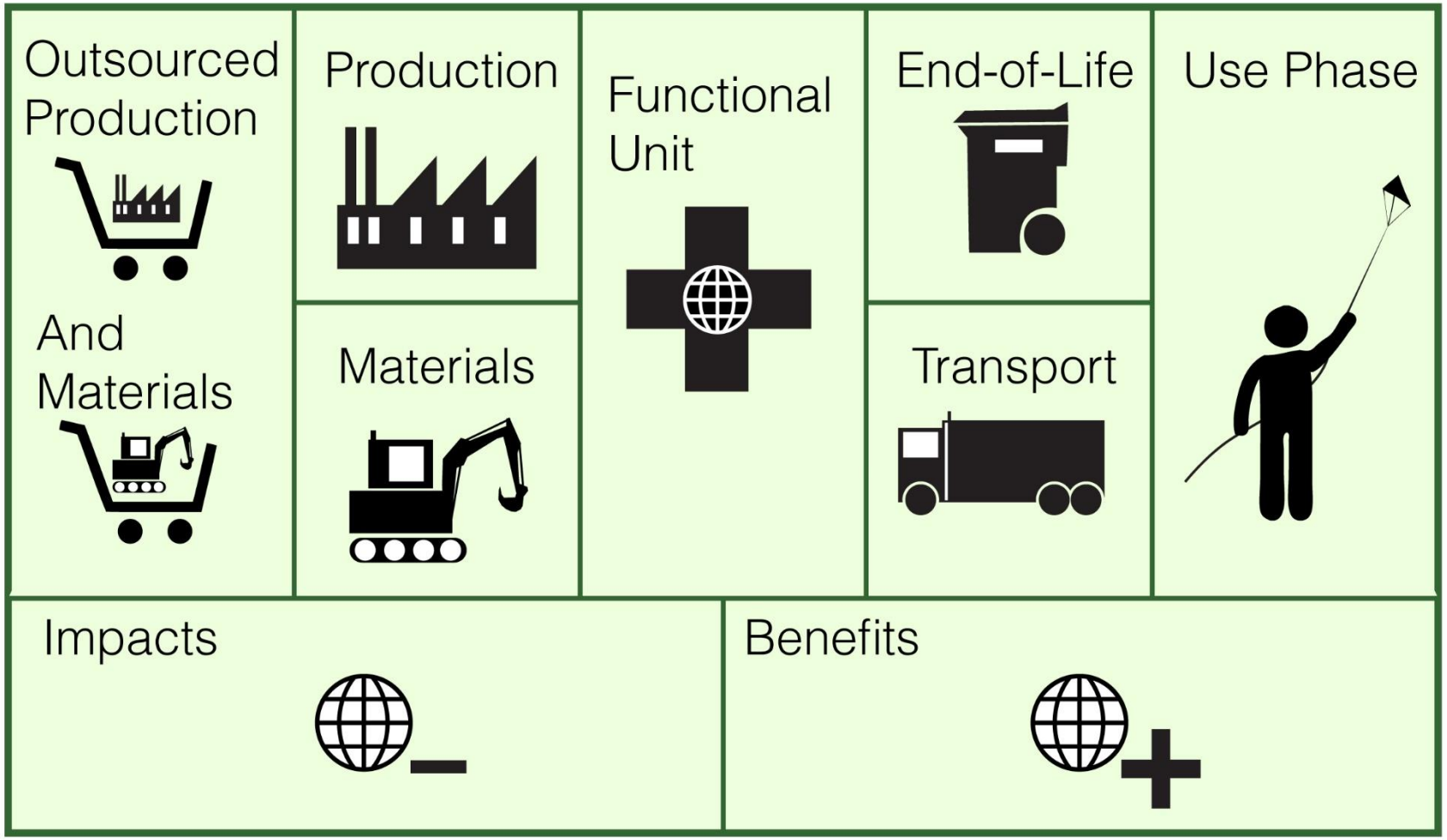
Osterwalder, A. and Pigneur, Y. (2010), Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers, John Wiley & Sons.

Triple layered business model canvas



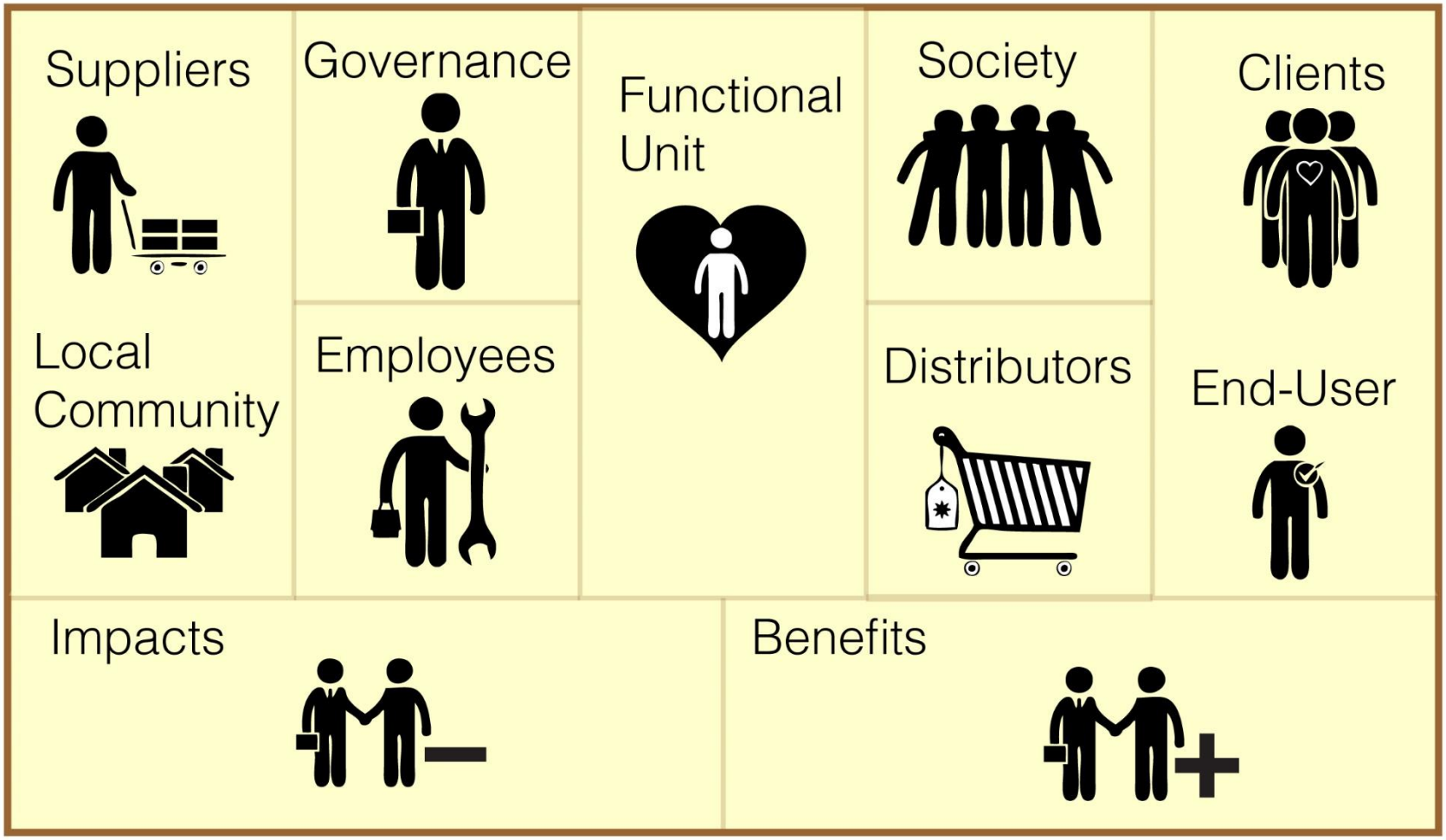
Joyce, A., & Paquin, R. L. (2016). The triple layered business model canvas: A tool to design more sustainable business models. Journal of Cleaner Production, 135: 1474-1486.

Environmental Buiness model Canvas



Joyce, A., & Paquin, R. L. (2016). The triple layered business model canvas: A tool to design more sustainable business models. Journal of Cleaner Production, 135: 1474-1486.

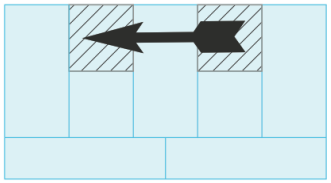
Social Buiness model Canvas



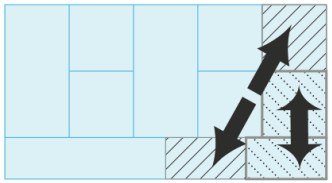
Joyce, A., & Paquin, R. L. (2016). The triple layered business model canvas: A tool to design more sustainable business models. Journal of Cleaner Production, 135: 1474-1486.

Economic business model patterns

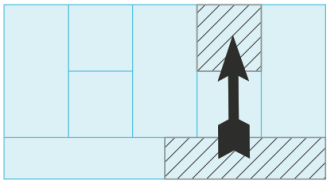
Product on demand



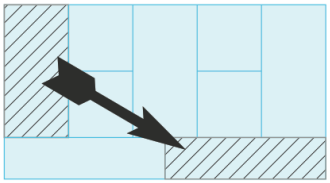
Differential pricing



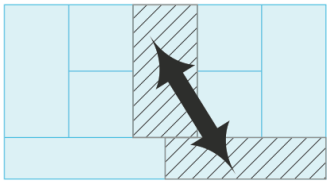
Freemium



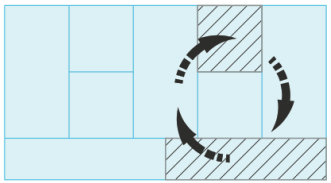
Crowdfunding



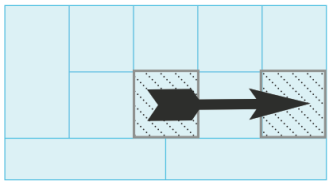
Pay for success



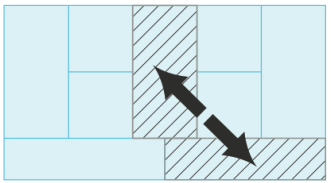
Subscription model



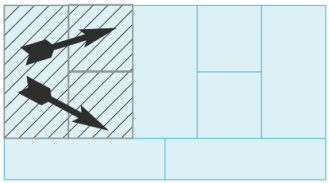
Alternative Marketplace



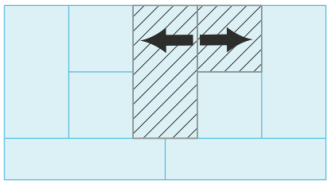
Product financing



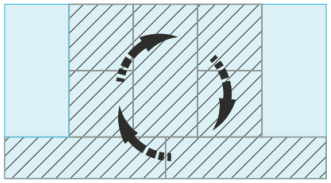
Open innovation



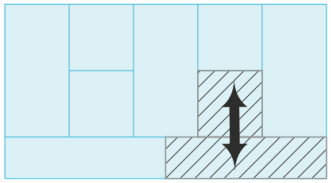
Bundling



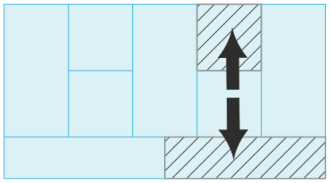
Design build finance operate



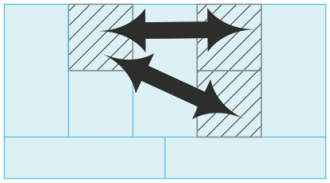
Franchising



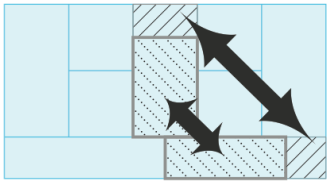
Auction



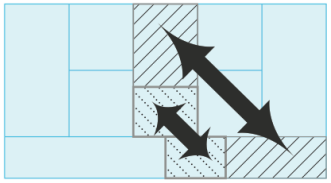
Multi-Level Marketing



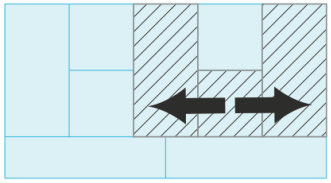
Razors & Blades



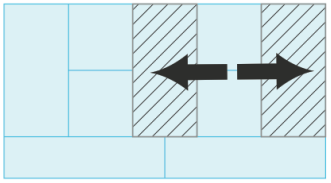
Reverse Razors & Blades



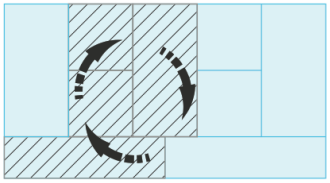
Disintermediation



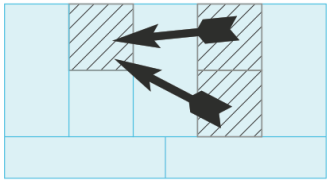
Good enough (Low cost)



Alter usual formula



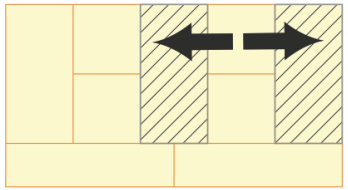
Product on demand



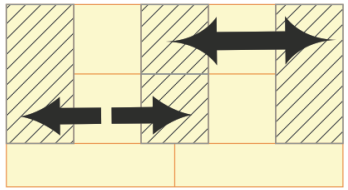
Lüdeke-Freund, Carroux, Joyce, Massa, & Breuer, H. (2018). The sustainable business model pattern taxonomy—45 patterns to support sustainability-oriented business model innovation. Sustainable Production and Consumption, 15, 145-162.

Stakeholder business model patterns

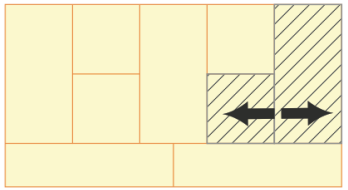
Building a marketplace



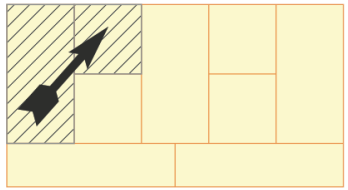
Buy one give one



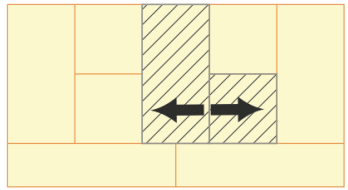
Micro-finance



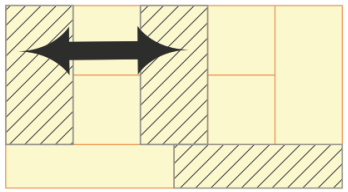
Cooperative ownership



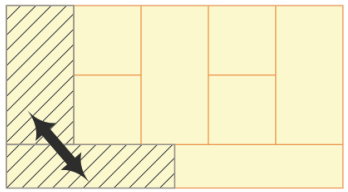
Micro-franchise



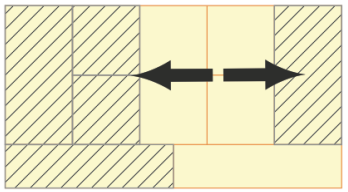
Inclusive sourcing



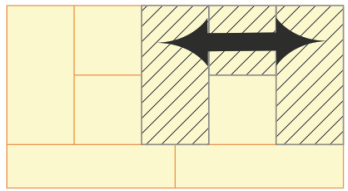
Fair trade



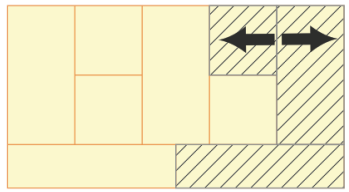
Radical transparency



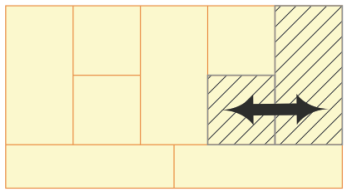
Behaviour change



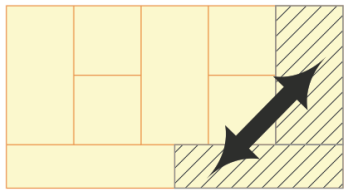
Consumer education



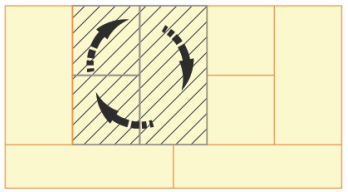
Base of the Pyramid



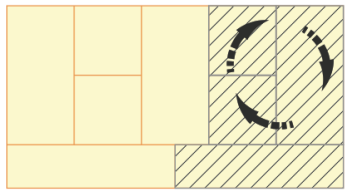
Consumer well being



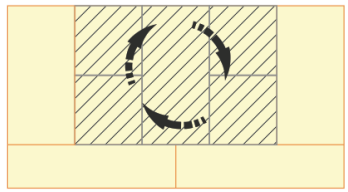
Shared resources



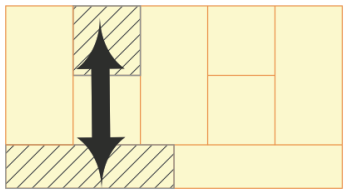
User communities



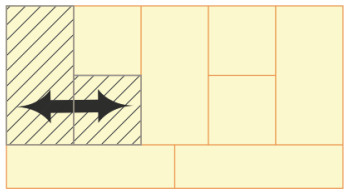
Entrepreneur support



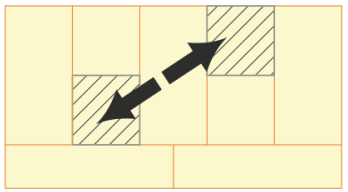
Organisational support



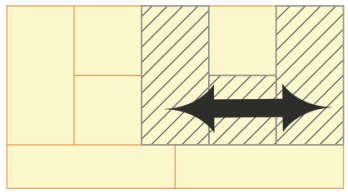
Employement



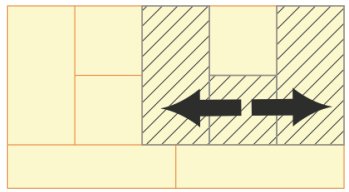
Fee-for-service



Market intermidiary



Market Linkage



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Environmental model patterns

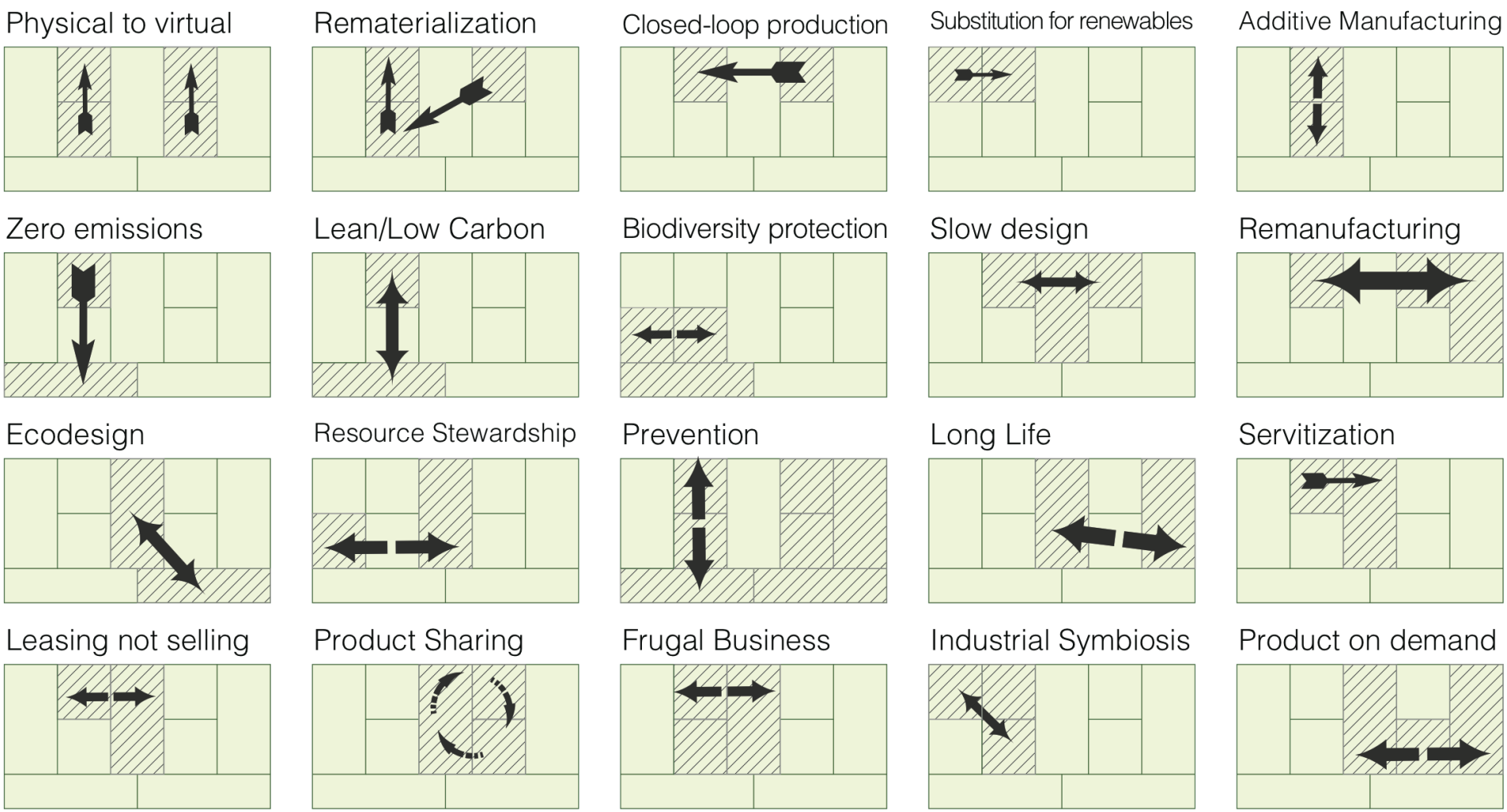

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Table 2
Sustainable business model pattern groups resulting from the Delphi card-sorting exercise.

Pattern groups	Included patterns
G1 Pricing & Revenue Patterns Patterns that primarily address the revenue model of a business model, i.e., how offerings are priced and revenues generated.	• P1.1 "Differential pricing" • P1.2 "Freemium" • P1.3 "Innovative product financing" • P1.4 "Subscription model" ***[Anchor]***
G2 Financing Patterns Patterns that address the financing model within a business model, i.e., how equity, debt and operating capital are acquired.	• P2.1 "Crowdfunding" ***[Anchor]*** • P2.2 "Microfinance" • P2.3 "Social business model: no dividends"
G3 Ecodesign Patterns Patterns that integrate ecological aspects into key activities and value propositions, i.e., how processes and offerings are designed to improve their ecological performance over their entire life cycle.	• P3.1 "Hybrid model/gap-exploiter model" * • P3.2 "Maximize material productivity and energy efficiency" • P3.3 "Product design" ***[Anchor]*** • P3.4 "Substitute with renewables and natural processes" * No consensus opinion reached according to 50% PAW-threshold.
G4 Closing-the-Loop Patterns Patterns that help integrate the idea of circular material and energy flows into partnerships, key activities, and customer channels, i.e., how materials and energy flow into, out of, and return to a company.	• P4.1 "Co-product generation" • P4.2 "Industrial symbiosis" ***[Anchor]*** • P4.3 "Online waste exchange platform" • P4.4 "Product recycling" • P4.5 "Remanufacturing/next life sales" • P4.6 "Repair" • P4.7 "Reuse" • P4.8 "Take back management" • P4.9 "Upgrading"

Lüdeke-Freund, Carroux, Joyce, Massa, & Breuer, H. (2018). The sustainable business model pattern taxonomy—45 patterns to support sustainability-oriented business model innovation. Sustainable Production and Consumption, 15, 145-162.

G5 Supply Chain Patterns Patterns that modify the upstream (partners, resources, capabilities) and/or downstream (customers, relationships, channels) components of a business model, i.e., how inputs are sourced and target groups are reached.	• P5.1 "Green supply chain management" ***[Anchor]*** • P5.2 "Inclusive sourcing" • P5.3 "Micro distribution and retail" • P5.4 "Physical to virtual" • P5.5 "Produce on demand" • P5.6 "Shorter supply chains"
G6 Giving Patterns Patterns that help donate products or services to target groups in need, i.e., how costs are covered and social target groups are reached.	• P6.1 "Buy one, give one" ***[Anchor]*** • P6.2 "Commercially utilized social mission"
G7 Access Provision Patterns Patterns that create markets for otherwise neglected target groups, involving modified value propositions, channels, revenue, pricing and cost models, i.e., how value propositions are designed, delivered, and to whom.	• P7.1 "Building a marketplace" ***[Anchor]*** • P7.2 "E-transaction platforms" • P7.3 "Experience-based customer credit" • P7.4 "Last-mile grid utilities" • P7.5 "Value-for-money degrees" • P7.6 "Value-for money housing"
G8 Social Mission Patterns Patterns that integrate social target groups in need, including otherwise neglected groups, either as customers or productive partners, i.e., how customers, partners, and employees are defined and integrated.	• P8.1 "Expertise broker" • P8.2 "Market-oriented social mission" ***[Anchor]*** • P8.3 "One-sided social mission" • P8.4 "Social business model: empowerment" • P8.5 "Two-sided social mission"
(Inclusion Patterns – deleted after the first Delphi round)	n.a.
G9 Service & Performance Patterns Patterns that emphasise the functional and service value of products and that offer performance management, i.e., how value propositions are defined and delivered.	• P9.1 "Pay for success" • P9.2 "Product-oriented services" • P9.3 "Result-oriented services" ***[Anchor]*** • P9.4 "Use-oriented services"
G10 Cooperative Patterns Patterns that integrate a broad range of stakeholders as co-owners and co-managers, how partners are defined and how the organisation is governed.	• P10.1 "Cooperative ownership" ***[Anchor]***
G11 Community Platform Patterns Patterns that substitute resource or product ownership with community-based access to resources and products, how value propositions are defined and delivered.	• P11.1 "Sharing business" ***[Anchor]***

Lüdeke-Freund, Carroux, Joyce, Massa, & Breuer, H. (2018). The sustainable business model pattern taxonomy—45 patterns to support sustainability-oriented business model innovation. Sustainable Production and Consumption, 15, 145-162.

1 Glossary of Business Models

There are numerous business models and many different ways to categorize them, about which we do not go into detail in this report but encourage further reading. For quick reference, we offer below a short-hand glossary of some of the business models highlighted in ***bold italic*** throughout this report.

Add-On The core offering is priced competitively, but extras drive the price up. Customers benefit from a variable offer they can adapt.
Affiliation Supporting others to sell products successfully and benefitting directly from successful transactions. Usually uses some kind of a pay-per-sale system.
Aikido Allows a company to offer something diametrically opposed to the image and mindset of the competition. The novelty of the offering attracts a particular type of customer.
Auction Selling a product or service to the highest bidder.
Base of the Pyramid The product or service targets customers positioned at the base of the wealth pyramid at an affordable price point. Despite small profits with each product sold, companies benefit from the higher sales numbers.
Barter Exchanging goods or services

De-Materialization Reduction in the amount of materials used in the production of products.
Differential Pricing Charging more to those able to afford, and subsidizing those who cannot.
Digitization Turning existing products or services into digital versions of themselves, offering advantages such as more rapid distribution.
Direct Selling Where products are available directly from the manufacturer or service provider. Savings from cutting out the middleman are passed on to the customer.
E-Commerce Traditional products or services are delivered through online channels only.
Experience Selling Value of a product or service is increased by an additional customer experience.
Flat Rate A single fixed fee is charged for a product or service, regardless of actual usage.


Q&A

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