



Advancing Sustainability of Process Industries through Digital and Circular Water Use Innovations

# AquaSPICE

WP8: Communication, Dissemination, Training and Social Awareness

AUDENCIA



The AquaSPICE project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 958396.



Advancing Sustainability of Process Industries through Digital and Circular Water Use Innovations

# FINANCE FOR THE FUTURE

Start-ups



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# Start-ups

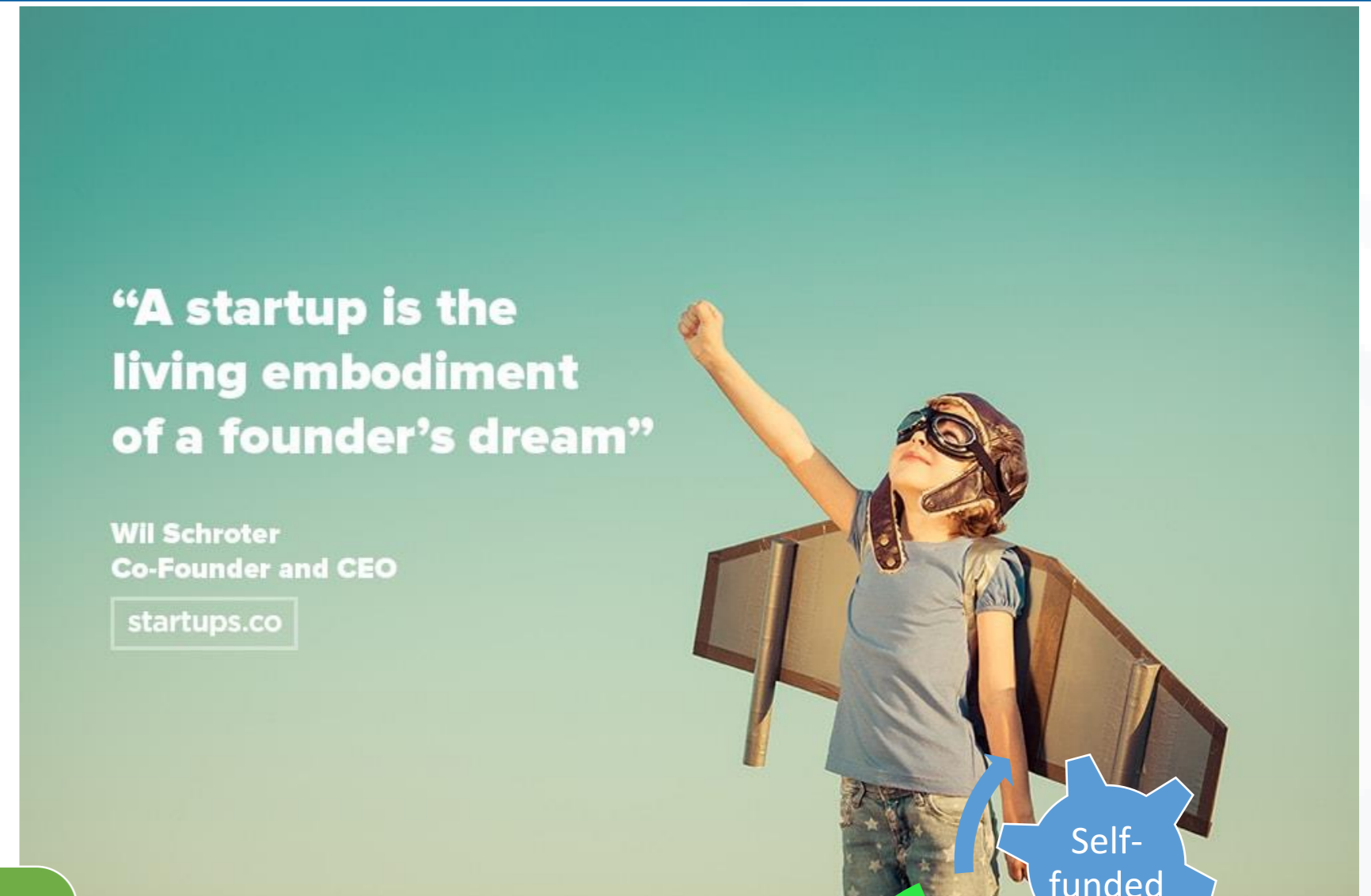
What is a start-up after all?

“A startup is a human institution designed to create a new product or service under conditions of extreme uncertainty.”  
-Eric Ries, the creator of the Lean Startup methodology

Entrepreneurial ventures are typically started by 1-3 founders who focus on capitalizing upon a perceived market demand by developing a viable product, service, or platform.

“A startup is a modern version of an inventor. It experiences a problem and then tries to solve it with ingenuity. A successful startup typically wants to solve a problem and make the world a better place.”  
- Jochem Wijnands, the Founder of a startup that was acquired by Apple in 2014 and TRVL.com

<https://www.wework.com/>



Video projections: <https://youtu.be/X2LwliKhcz0>  
<https://youtu.be/HVAESeO7dgc>

# Types of start-ups

## Lifestyle Startups

Lifestyle startups are companies that are centered around the founder's interests and passions.

## Small Business Startups

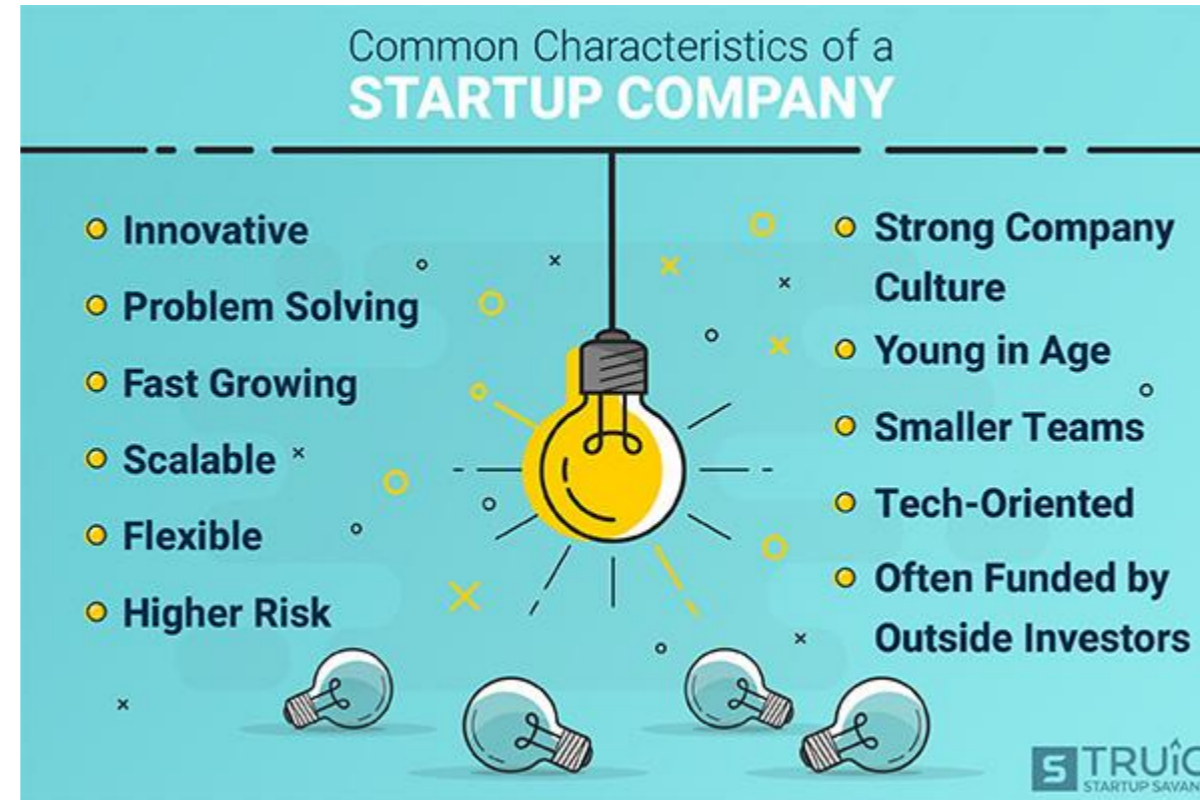
A small business startup isn't usually created with scalability in mind. These small startup companies are born out of a desire to start a business

## Scalable Startups

A scalable startup is a growth-oriented company that takes an idea or concept and works to rapidly grow the business and achieve the highest profit as quickly possible (think Silicon Valley or New York startups).

## Social Startups

Social startups are created to make a difference or positive impact on the world around them. Unlike other types of startups, social entrepreneurship startups are not created to gain wealth; though it is possible to profit from this type of startup business unless it is a nonprofit organization.



## Large Company Startups

Growing a big business takes innovation and reimagining; this is how (and why) large company startups are born. Startups that are created by large companies in order to introduce a new product, or to reach a new audience, are backed by the support and capital of the big business.

## Buyable Startups

Buyable startups are companies that are built with the intention of being acquired or bought in the future.

Source: startupsavant.com

# FUNDING OF A START-UP

## Bootstrapping

For startups, [bootstrapping](#) means to build your company with no outside financing. Essentially, you invest your own savings; utilizing the resources you already have to build your business from the ground up.

## Friends and Family

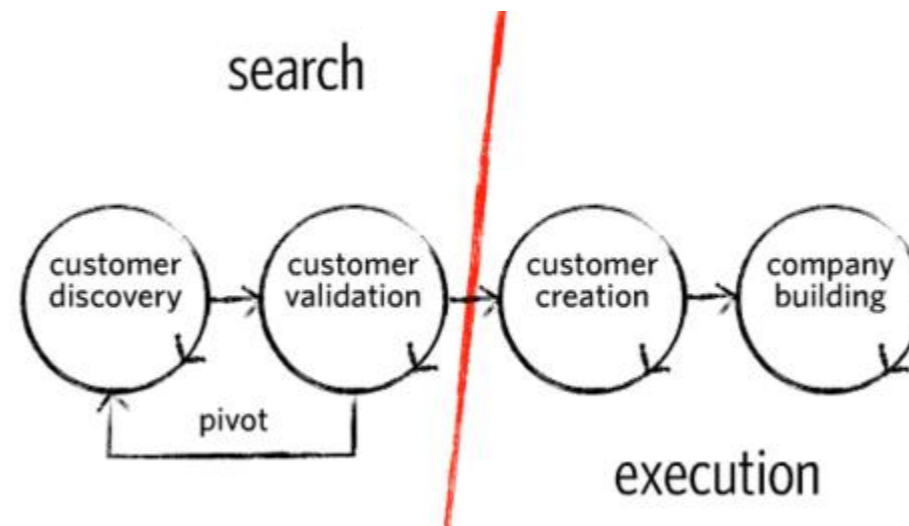
Most startups rely on [friends and family loans](#) to get their business off the ground.

## Crowdfunding

The rise of [crowdfunding](#) has largely revolutionized the way startups are funded. Some niche crowdfunding sites are aimed solely toward startup funding, but even mainstream crowdsourcing platforms like Indiegogo offer equity-based financing opportunities.

## Venture Capital (VC) Firms

[Venture capital \(VC\) firms](#) invest in startups to gain profit as the company grows through funding phases such as Series A, B, C, and D.



## Angel Investors

Similar to VC firms, an [angel investor](#) provides capital for startups in hopes of a high return on investment (ROI).

## Startup Accelerator

[Startup accelerators](#) are programs that offer funding and resources such as mentorship to startups in their early stages.

## Startup Incubator

[Startup incubators](#) are community-based programs for entrepreneurs in the early stages of their startup's lifespan that provide initial funding, mentorship, and training.

## Startup Grants

Unlike loans, [startup grants](#) provide capital for entrepreneurs that you don't have to pay back.

## Startup Loans

Startup loans are funding that is paid back to the lender.

Source: startupsavant.com

- **Apple**
  - Nearly everyone on the planet has heard of or personally possesses an Apple product of some sort. Whether it's the iPhone, iPad, MacBook, or Apple Watch, what started from a small idea initially became a multinational company that distributes high-quality products to customers worldwide.
- **Amazon**
  - Amazon is the leader in online commerce, but it wasn't always that way. In the early days of Amazon, Jeff Bezos decided to create an online bookstore where users can buy and sell books in a simple manner. As they grew over the years, Amazon has increased its product offerings to nearly any product imaginable.
- **Facebook**
  - Facebook began as a small startup that was intended to be a social network for students on college campuses. Over time, they continued to grow, develop their platform, and are now used by billions of people all over the world to stay in touch with friends and family.
- **Airbnb**
  - The hospitality industry was completely transformed by [Airbnb](#). Instead of staying in and booking hotels, travellers could now rent out someone's home and enjoy the benefits of staying in a cozy, homely space. Airbnb has now grown worldwide and is used by travellers for lodging and hosts as a source of income.

Source: startupsavant.com

- <https://www.startupclimateaction.com/>



**13 challenges**  
**13 champions**

 Green & Clean Transports	 AI for the Planet	 Sustainable Materials		
 Energy Efficiency	 Circular Economy	 Reduced Waste	 Reduced Carbon Emissions	 Energy Storage
 Carbon Capture & Storage	 The Human Ocean	 Renewable & Clean Energy	 Green Buildings	 The Future of Food



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# FINANCE FOR THE FUTURE

Social entrepreneurship



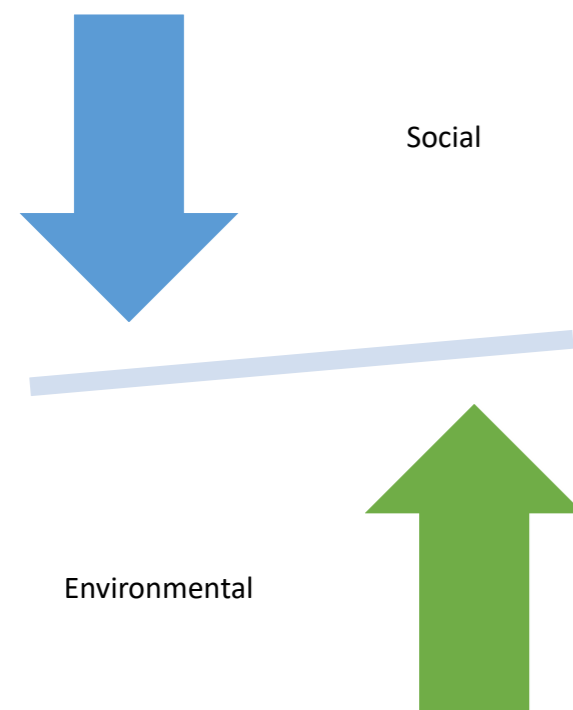
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# Social economy and inclusive entrepreneurship

- Social enterprise: a social enterprise combines entrepreneurial activity with a social purpose. Its main aim is to have a social impact, rather than maximise profit for owners or shareholders. Businesses providing social services and/or goods and services to vulnerable persons are a typical example of social enterprise.

- European Commission



In 2017, there were 2.8 million social enterprises in the EU, employing some 19.1 million people, which accounts for 6.3% of the total paid workforce in Europe (EESC, 2017).

**The Commission uses the term 'social enterprise' to cover the following types of business**

- Those for whom the social or societal objective of the common good is the reason for the commercial activity, often in the form of a high level of social innovation
- Those whose profits are mainly reinvested to achieve this social objective
- Those where the method of organisation or the ownership system reflects the enterprise's mission, using democratic or participatory principles or focusing on social justice

There is no single legal form for social enterprises. Many social enterprises operate in the form of social [cooperatives](#) some are registered as private companies limited by guarantee, some are mutual, and a lot of them are non-profit-distributing organisations like provident societies, associations, voluntary organisations, charities or foundations.

## SOCIAL ENTREPRENEURSHIP FIELD:

- **Despite their diversity, social enterprises mainly operate in the following 4 fields:**
- **Work integration** - training and integration of people with disabilities and unemployed people
- **Personal social services** - health, well-being and medical care, professional training, education, health services, childcare services, services for elderly people, or aid for disadvantaged people
- **Local development of disadvantaged areas** - social enterprises in remote rural areas, neighbourhood development/rehabilitation schemes in urban areas, development aid and development cooperation with third countries
- **Other** - including recycling, environmental protection, sports, arts, culture or historical preservation, science, research and innovation, consumer protection and amateur sports

# How to establish a social enterprise?

Step-to-step process

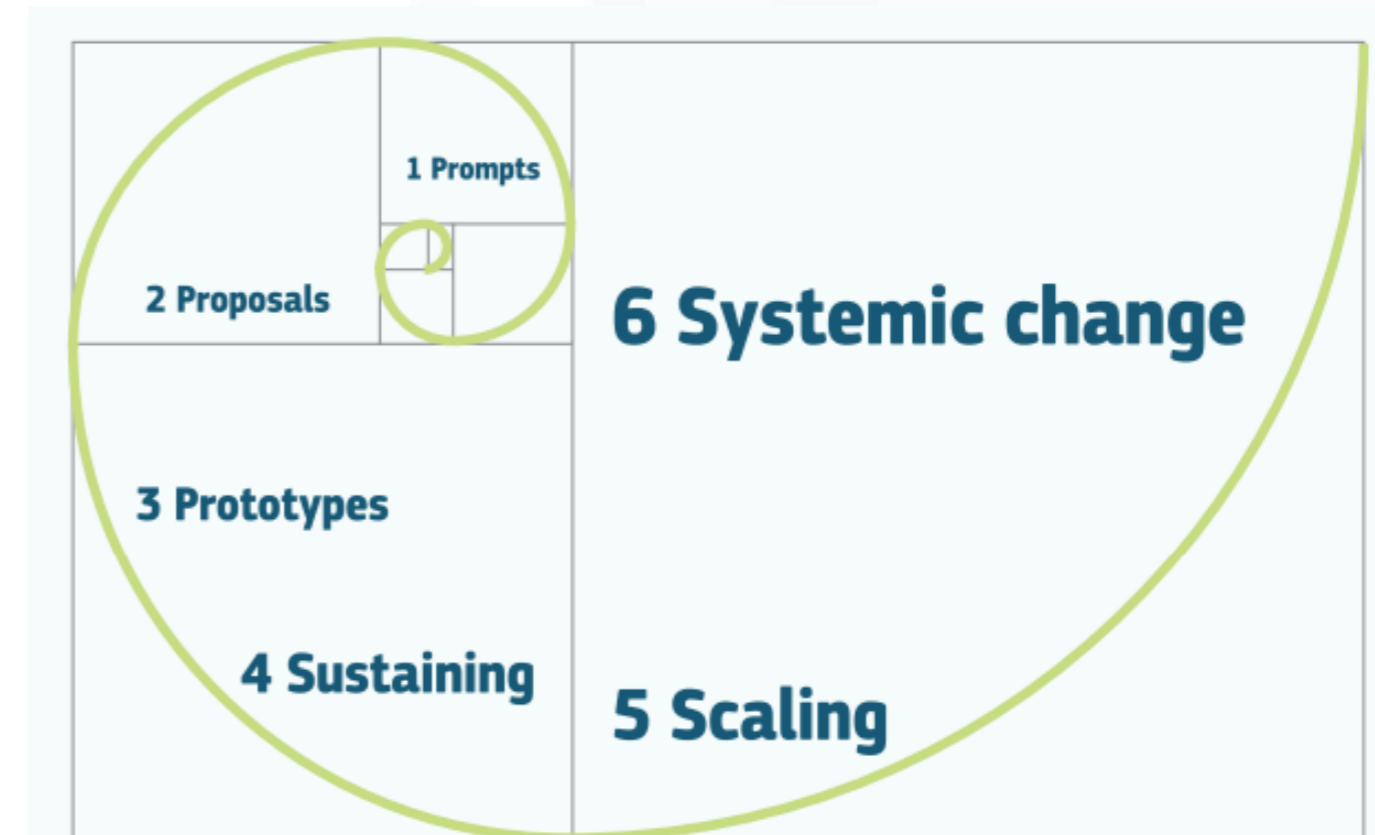
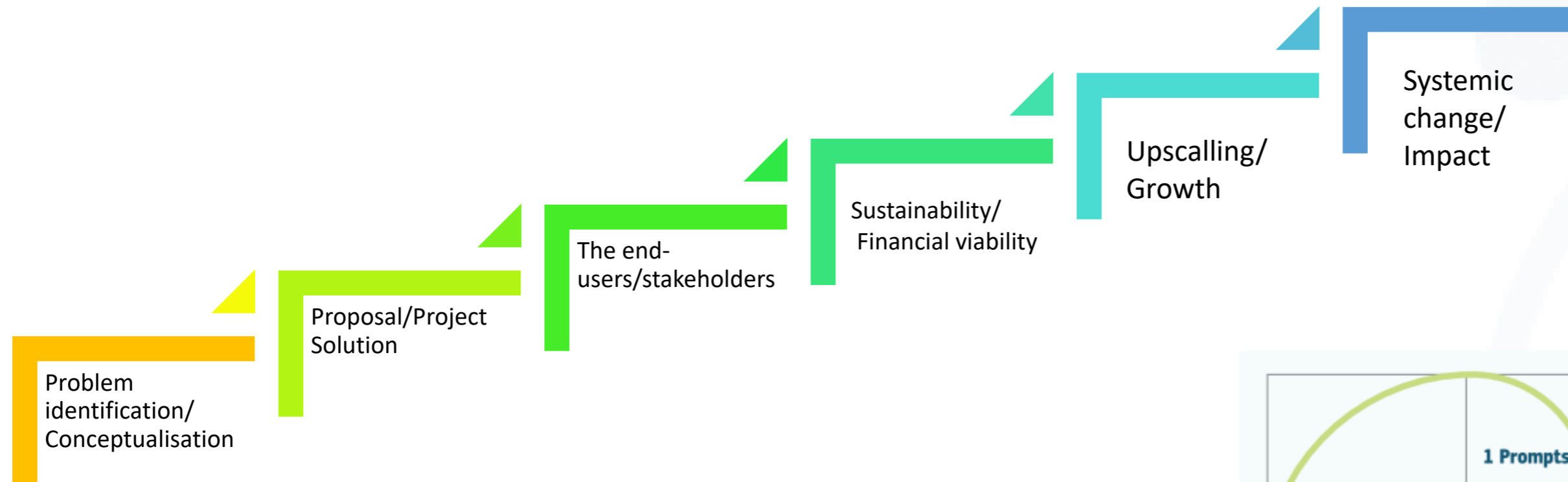
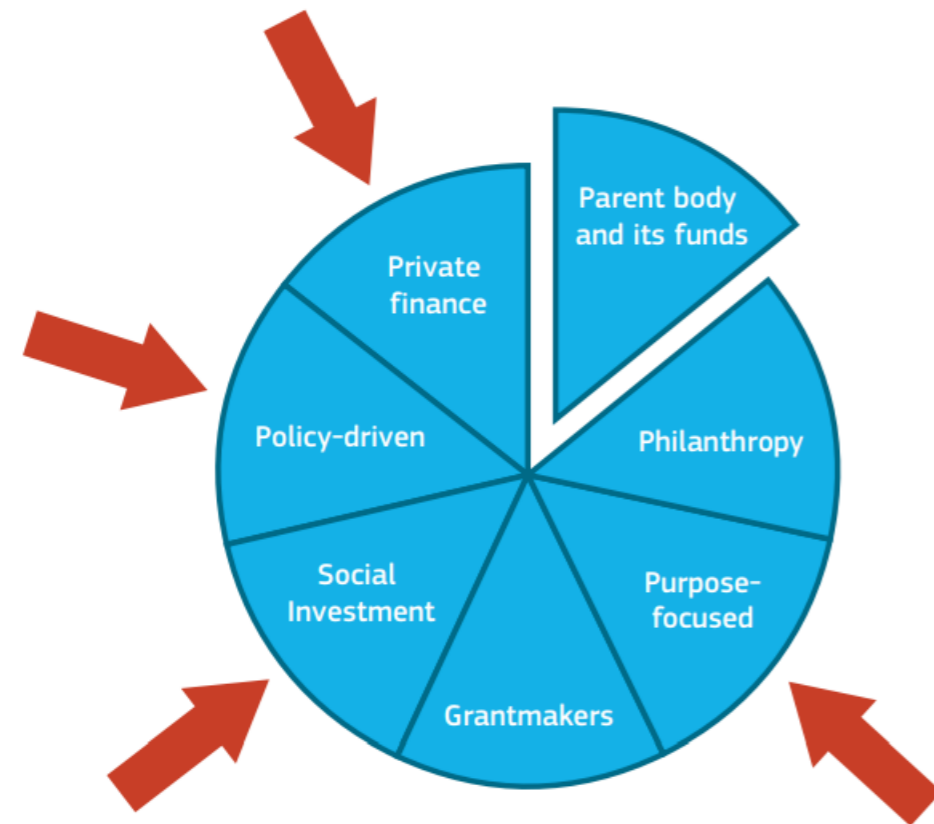


Figure 1: The innovation spiral

Figure 1: Sources of funding and investment for social enterprise (Clifford 2013)



## Public services:

Policy-driven and purpose-focused funding generally come from public sources, and may be in the form of investment, but are more usually as payment for services delivered. As such they span:

- the core grant (a grant of funding for establishing and maintaining a service-provider which is not a service-specific grant),
- a funding for direct costs of delivery, or
- a payment for results or success delivered (project-based financing)

## Philanthropy:

- Project-based financing or donation for specific purpose (foundations, companies, private donations, purpose-based donations)

## EU funding for social enterprises

- The EU is enabling access to investments of up to EUR 500,000 through the [Programme for Employment and Social Innovation \(EaSI\)](#). Available support includes a guarantee, capacity building investments, a funded instrument and advisory support for social enterprise finance providers.
- In addition, equity investments in social enterprises have been piloted under the [European Fund for Strategic Investments \(EFSI\) Equity instrument](#), namely via funds linked to incubators/accelerators and co-investments with social business angels.

## EU projects funding

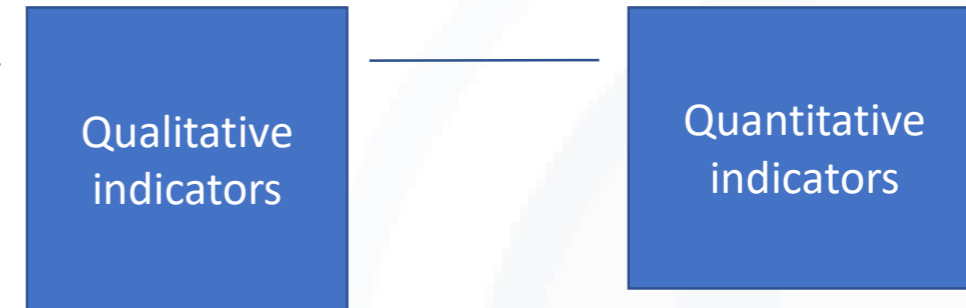
In addition to dedicated funding provided via the InvestEU and ESF+, several other EU funding programmes are providing opportunities for the social economy, social innovation and inclusive entrepreneurship:

- [Horizon Europe](#), including its [European Innovation Council \(EIC\)](#), [EIC Accelerator](#) and the [European Social Innovation Competition](#)
- Single Market Programme including support through the [Enterprise Europe Network](#), the [Erasmus for Young Entrepreneurs](#) and the [Joint cluster initiatives](#)
- [LIFE programme](#)
- [Erasmus+](#)
- [European Regional Development Fund](#)
- [Interreg Europe Programme](#)
- [European Agriculture Fund for Rural Development](#)
- [Digital Europe Programme](#) including support for [European Digital Innovation Hubs](#)
- [Citizens, Equality, Rights and Values Programme](#) which is implemented through [national contact points](#)
- [Asylum, Migration and Integration Fund](#)
- [Instrument for Pre-Accession Assistance](#)
- [Neighbourhood, Development and International Cooperation Instrument](#)

# Measuring social impact

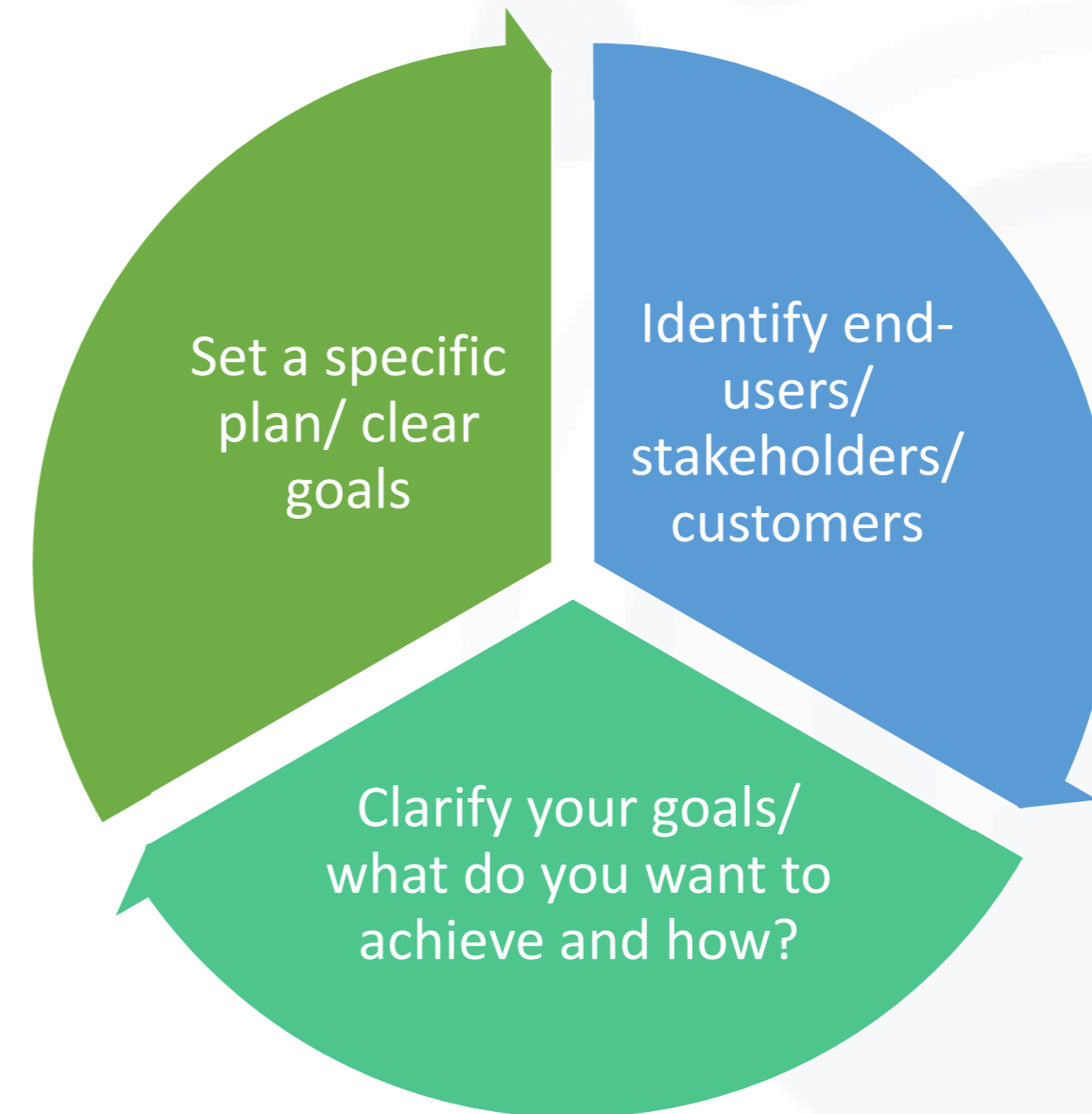
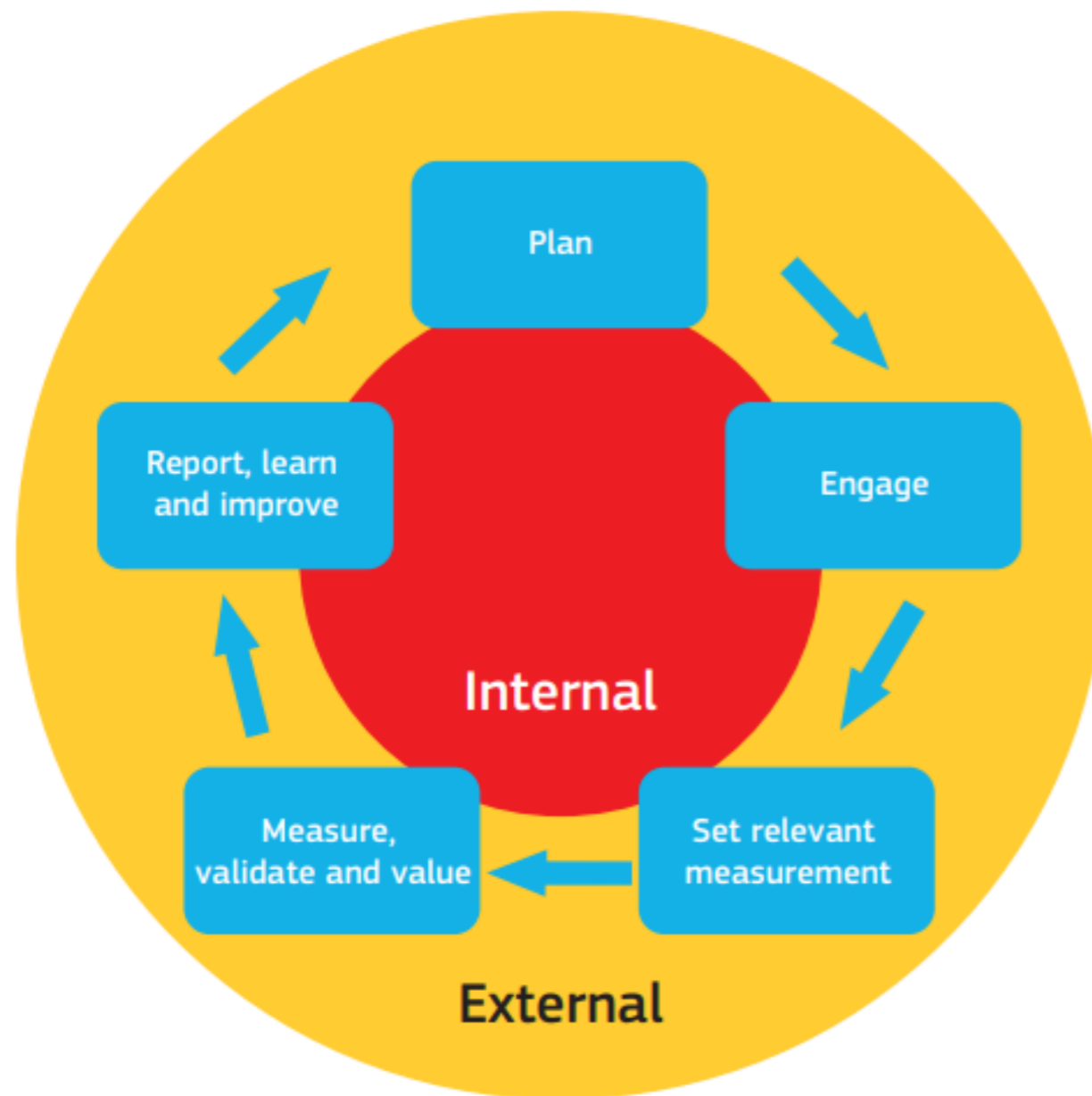
## Process of designing measurement techniques

4 ELEMENTS	PROPOSED STANDARD	EuSEF	EaSI
<b>Process</b>	Clear five-stage process to apply to all SI measurements. Appropriate endorsing and validation of these steps.	Five-stage process applies.	Five-stage process applies.
<b>Framework</b>	Development of a matrix of expected outcomes and sub-outcomes giving likely indicators within each. SE may choose to use others but must explain why they are more suited to the circumstances.	Expected use of framework or explain why another outcome indicator is better.	Expected use of framework or explain why another outcome indicator is better.
<b>Indicators</b>	Freedom as to which indicator to use, in order that the measurement remains appropriate to the intervention and stakeholders' needs.	Whilst financial measurement indicators may find favour in part, investors do not appear to insist on these, preferring a range of indicators. Fund Managers will work with SEs to select appropriate indicators.	The indicator, again, needs to be intervention-specific, but is there to support EC-reporting of effectiveness of the funding in achieving EC policy. The indicator therefore is selected based on the interaction between the intervention and the policy deliverables of EaSI microfinance and social innovation.
<b>Characteristics</b>	Clear minimum disclosure standards to maintain transparency.	Disclosure standards apply.	Disclosure standards (maybe) lower for smaller levels of investment or grant.



# Measuring social impact

Why measuring is needed?





Example: Social Enterprise X aims to create environmental impact in local community X based in X country.

### Inputs:

- Creation of employment for the local community (define local community)- X number of jobs
- Raise awareness about environmental impact and climate change
- Support renewable energies
- Invest on the rural development of X community

### Activities:

- Use of workshops, seminars and events for local farmers;
- Open events for local community on environmental awareness;
- Promotion of local farming products;
- Trade of bio products from local farmers, disadvantaged groups etc
- Attract investors to build new infrastructure in cooperation with public stakeholders and local municipality;
- Organising activities for energy saving for the local businessmen;
- Participation of schools in eco-farming projects;
- Communal gardens creation;

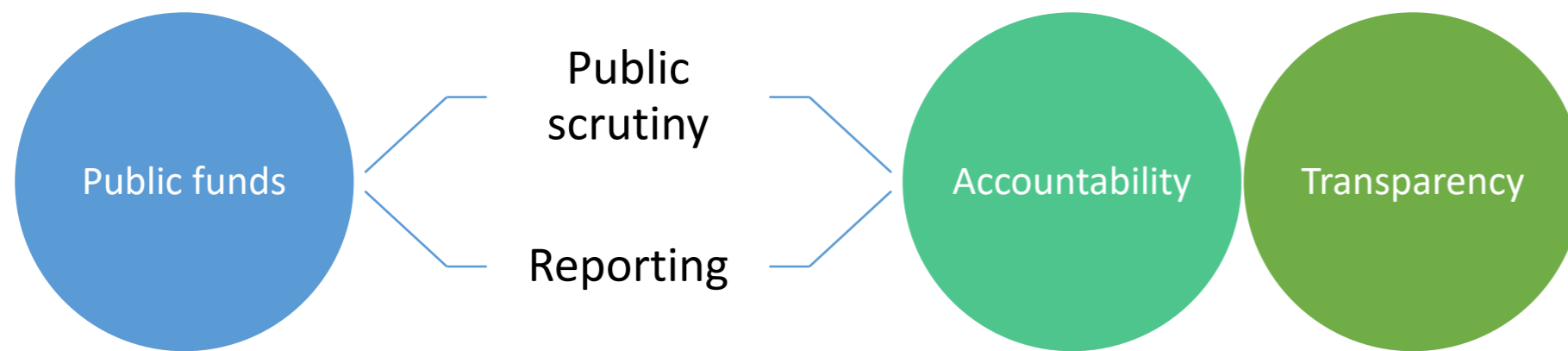
### Outputs:

- Number of local farmers involved;
- Number of local entrepreneurs participated in the activities;
- Bio-products sold during X months/years etc;
- Number of people informed through dissemination activities;

Figure 4: Key Definitions in Impact Measurement (from EVPA (draft) Guide 2012)



Resources (capital, human), invested in the activity	Concrete actions of the organisation	Tangible products from the activity	Changes, benefits, learnings, effects resulting from the activity	Attributions of an organisation's activities to broader & longer-term outcomes
€, number of people etc.	Development & implementation of programs, building new infrastructures etc.	Number of people reached, items sold, etc.	Effects on target population e.g. increased level of education	Take account of actions of others (alternative programs e.g. open air classes); unintended consequences etc.
EUR 50 000 invested, 5 people working on project	Land bought, school designed & built	New school built with 32 places	Places occupied by students: 8	New students with access to education: 2



- The measurement of Social Impact affects the use of public funds, and the delivery of public services. As such it needs to be capable of withstanding appropriate degrees of public scrutiny. That needs to embrace:
  - **Accountability:** the recognition of the duty to be accountable to the public that are served.
  - **Transparency:** how that accountability is addressed by the provision of information with clarity and explanation.
  - **Involvement:** how information provided, and the way in which it is provided demands a response from the public in terms of engagement and behaviour.

## Measurement example

- According to the impact study led by the consulting firm McKinsey, the Acta Vista work integration project in Bouches-du-Rhône permitted to 65% of its participants to leave with qualifications and find a 'positive' situation (4 times more than the national rate), generating at the same time a global profit from EUR 1.8 to 2.8 million for the only year 2010.
- On one side, it recruits 600 people each year on 20 different sites and provided about 300 work integration contracts in 2010, offering on average 980 hours of training per person and per year.
- On another side, each Acta Vista contract means a net profit from EUR 6900 to 10500 for local authorities. At the end, this social investment has generated economic savings of EUR 8000 per employee, a 60% return on investment.
- All of this is before taking into account the reduction of social costs associated with exclusion (health, crime, education, family problems, etc.) and the using of environmentally sensitive and traditional high quality techniques. Moreover, according to the study, an expansion of this device to the whole France would give the opportunity to create over than 5000 rehabilitation contracts per year and therefore generate annual profits for local authorities from EUR 36 to 54 million.

## CASE STUDY:

### GREAT GREEN WALL FRONTLINE

- As part of one of the most ambitious environmental projects ever devised, social enterprise Civic is leading the Great Green Wall Frontline in the Gambia, an initiative to involve local communities in a mammoth project to plant millions of trees in the Sahel to fight desertification. The Sahel – the 3 million sq km region between the Sahara desert and the African rainforest – is on the frontline of climate change, and over the past few decades, its natural resources have dwindled, leading to a loss of biodiversity, poverty, mass emigration, violence and food insecurity.
- Until now, environmental initiatives, often led by international NGOs with little local connections, have failed to have a lasting impact because of the lack of engagement with local people, says Kemo Fatty, member of the team at Civic and CEO of Green Up Gambia. Civic’s frontline project is aiming to put the power in the hands of the local community. “We need to get people on the frontline to restore land. This, I think, is the only hope for our continent,” says Fatty.



Kemo Fatty: “We need to get people on the frontline to restore land. This, I think, is the only hope for our continent”.

Credit: Great Green Wall Frontline

## CASE STUDY:

### ECOSIA

- Berlin-based Ecosia, founded in 2009, is a search engine that uses the profits from advertising to plant trees. It currently claims to fund a new tree every second, and has planted more than 125 million to date.
- The social business became Germany's first B Corporation in 2014, and four years later, founder and CEO Christian Kroll handed the stewardship of Ecosia to the Purpose Foundation, meaning shares cannot be sold at a profit or owned by people outside of the company, and that no profits can be taken out of the company.
- While nowhere near the scale of Google, Ecosia nevertheless is making an impact, combining environmental activism with a purpose-driven business model – and in the process nudging Microsoft to make stronger pledges to save the planet.

Source: [Pioneerpost.com](https://pioneerpost.com)



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# FINANCE FOR THE FUTURE

## FINTECHS



The AquaSPICE project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 958396.

# Fintech terminology

- FinTech stands for “financial technology” and refers to “all the technologies that are being utilized to enhance, digitize, or disrupt conventional financial services” ([Stephanie Walden, 2020](#)). FinTech refers to all “software, algorithms, and applications for both computer and mobile-based tools”. The term “fintech company” describes any business that uses technology to modify, enhance, or automate financial services for businesses or consumers.

Financial technology (‘fintech’) is emerging as a core disruptor of every aspect of today’s financial system. Fintech covers everything from mobile payment platforms to high-frequency trading (HFT), and from crowdfunding and virtual currencies to blockchain.

Novel application of a number of technologies in combination, notably involving:

- blockchain;
- the ‘Internet of things’ (IoT)
- artificial intelligence (AI)

# WHAT IS A FINTECH?

- Some examples include mobile banking, peer-to-peer payment services (e.g., Venmo, CashApp), automated portfolio managers (e.g., Wealthfront, Betterment), or trading platforms such as Robinhood. It can also apply to the development and trading of cryptocurrencies (e.g., Bitcoin, Dogecoin, Ether).[6](#); [Puschmann, 2017](#)).
- **Digital banking continues to grow:** Digital banking is easier to access than ever before. Many consumers already manage their money, request and pay loans, and purchase insurance through digital-first banks.
- **Blockchain:** Blockchain technology allows for decentralized transactions without a government entity or other third-party organization being involved. Blockchain technology and applications have been growing quickly for years, and 2022 is likely to continue this trend as more industries turn to advanced data encryption.
- **Artificial Intelligence (AI) and Machine Learning (ML):** AI and ML technologies have changed how fintech companies scale, redefining the services they offer to clients. AI and ML can reduce operational costs, increase the value provided to clients, and detect fraud.
- What FinTech bring?
  - Financial inclusion (business and individuals with affordable financing)
  - Making green technology investments accessible
  - Financial companies deliver cheaper financial solutions
  - Access to funding for SMEs and individuals (farmers etc) to invest in renewable energies and green solutions



# HOW FINTECH ALIGN WITH UN SUSTAINABLE development GOALS

- The [World Bank \(2022\)](#) defines financial inclusion as “the process where individuals and businesses have access to useful and affordable financial products and services that meet their needs like transactions, payments, savings, credit and insurance.” These services should be delivered responsibly and sustainably ([World Bank, 2022](#)).
- ” Financial inclusion, according to the [World Bank \(2022\)](#), is a critical facilitator for reducing extreme poverty and increasing shared prosperity.
- People can have access to savings, credit, insurance, money transfers, and new digital distribution methods, from any place of the world
- Companies' services are essential for fostering resilience among small-scale farmers. Cohen (2021) suggested that e-commerce and business-to-business software applications that focus on food systems have used algorithms to optimize logistics and cut out expensive intermediaries, cutting prices while increasing the wealth of farmers, supporting the small-holder farming business model.
- 1.7 billion adults still live in South Asia and Sub-Saharan Africa without access to formal financial services



	What FinTech can do to address the effects of climate change	Description
Proposals 1	FinTech enables innovation for long-term sustainable development and growth.	Innovative business models that specifically involve consumers in creative ways to fund the building of climate-smart infrastructure.
Proposal 2	FinTech provides better procedures and knowledge for generating more long-term sustainable financial decisions.	Financial decision-makers will have easier access to data on climate-smart infrastructures, such as project pipelines and impact evaluations.
Proposal 3	FinTech/Digital finance opens new lines of credit.	Systems and strategies for unlocking new sources of capital, increasing citizen participation in crowdfunding and trade, connecting investors, and developing new opportunities for climate-smart infrastructures.
Proposal 4	Digital finance provides a wide range of more environmentally friendly options.	Programs and services that connect and supply more consumers with climate-smart infrastructure through even more resource-efficient consumption and manufacturing possibilities.
Proposal 5	Financial inclusion and FinTech and Climate justice	Financial inclusion should be prioritized in nations that are sensitive to climate change

Source: Author's analysis.

### Positive impact of FinTech:

- access to inclusive financial products and services can help many individuals, families, and micro-businesses during times of natural disasters ([Jafry et al., 2019](#); [McArdle, 2021](#))
- increasing access to microfinance can help promote community-level environmental and climate action, and this will have a positive impact on local economies
- Link local communities with access to capital using FinTech technologies;

# WHY FINTECH

## Pros & cons

### Pros:

- FinTechs use cloud technology and cloud vendor services, such as AWS and Microsoft Azure = leaders in reducing carbon emissions (companies using AWS clouds can reduce their carbon emissions by 88%)
- FinTechs replacing traditional in-house financial centres (JPMorgan Chase & Co., Citigroup Inc., Wells Fargo & Co. and Bank of America Corp. financed \$5.3 trillion of credit exposure equivalent to an estimated 668 million metric tons of CO<sub>2</sub>, which is the same amount of emission with 145 million passenger vehicles driven for one year) Together, the eight banks have been the most prominent funding providers to the fossil-fuel industry
- Digital Banks taking the lead, i.e Tandem Bank, a UK based first green digital bank
- Big Data can be used for weather projections; measurement of potential risks of climate change scenarios





### Cons:

- Crypto mining activity demands competitive mining computers with specific (and costly) hardware requirements. They are extremely demanding in terms of energy consumption, and a massive number of these energy-hungry machines are required for a firm to be genuinely profitable (Bitcoins)
- The fintech industry often employs and requires powerful computers and many other electronic devices to sustain the business. Players in the sector modernise their hardware and dispose of outdated equipment regularly. These electronic scraps are often unrecyclable, and their disposal, often to an overseas landfill, contributes a significant amount of carbon footprint.
- The fintech industry, through its products, may spur consumerism, as it grants consumers more options to fund their purchases. This type of consumerism means an increase in the circulation of goods.
- Use of plastic products such as credit and debit cards, increase carbon footprint.




Derin, C., (2022) Top 5 Causes of Climate Change Related to the Fintech Sector, Available at: <https://fintechmagazine.com/sustainability/top-5-causes-climate-change-related-fintech-sector>

- One credit card.
- Zero carbon footprint.
- It's time to replace your Big Bank checking and savings accounts with a cash management account & debit card designed to do better for your wallet — and world. Apply online in minutes.

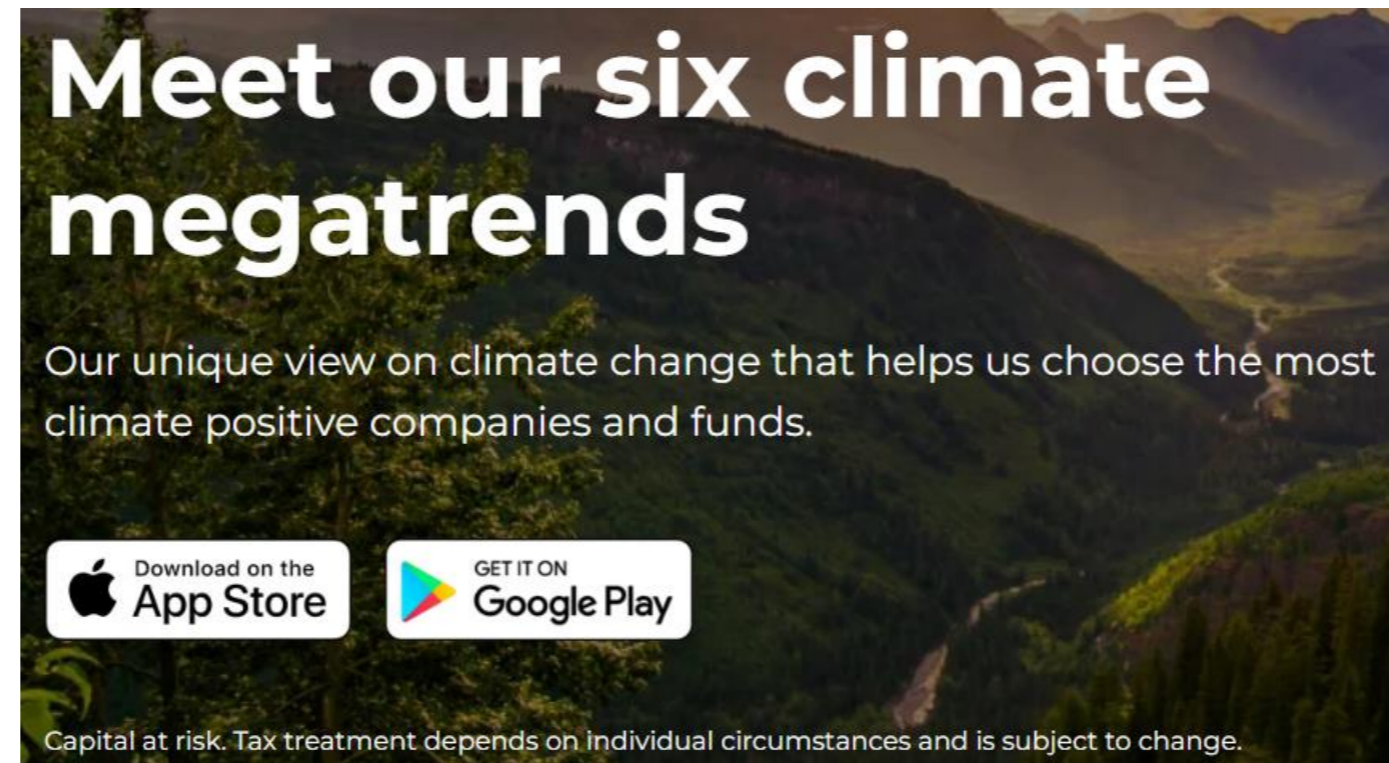
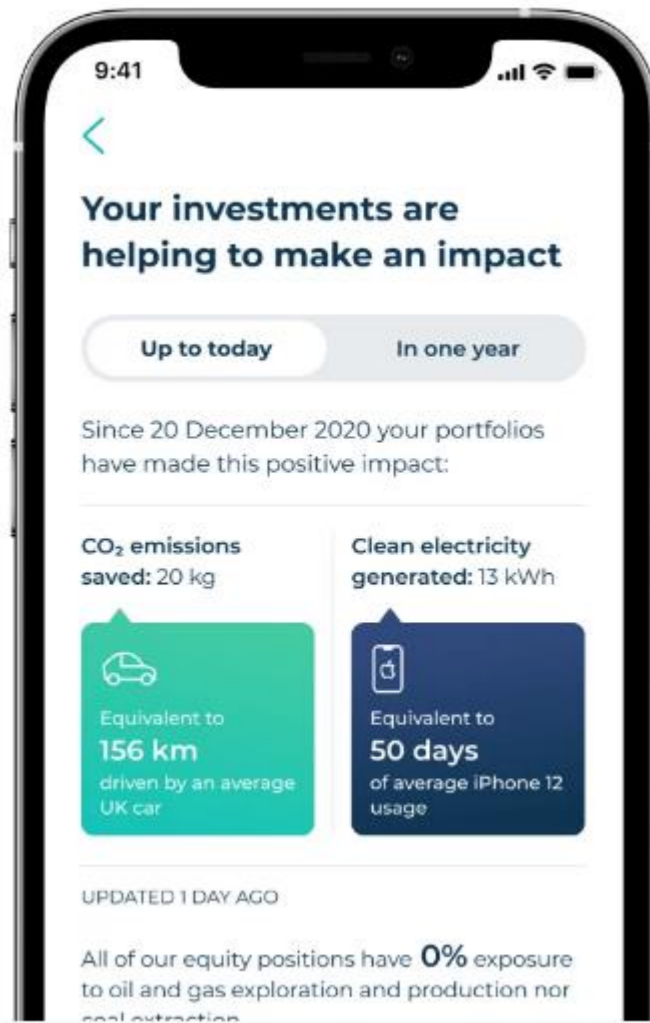
### Spend sustainably

-  Get paid up to 2 days early when you send your direct deposit to your Aspiration account
-  Monitor the impact of your spending on the Planet and People and get up to 10% cash back with your Aspiration Plus debit card purchases at socially responsible businesses
-  Access to more free ATMs than Bank of America, Wells Fargo, and Chase combined
-  Opt to plant a climate change-fighting tree with every purchase you make

### Save money, save the planet

-  Up to 29 times higher interest on your savings than traditional banks with Aspiration Plus. [Detailed APY breakdown](#)
-  Deposits will never fund oil or coal projects. Every \$1,000 you transfer to Aspiration from Big Banks has the annual planet-saving climate impact of up to 6,000 fewer miles driven by the average car.
-  Instant transfers between your Spend account and your Save account.

- Start investing from £25
- Manage companies' portfolios
- Open an ISA or transfer an existing one (Our Stocks & Shares ISA invests in funds which actively fight climate change)





Advancing Sustainability of Process Industries through Digital and Circular Water Use Innovations

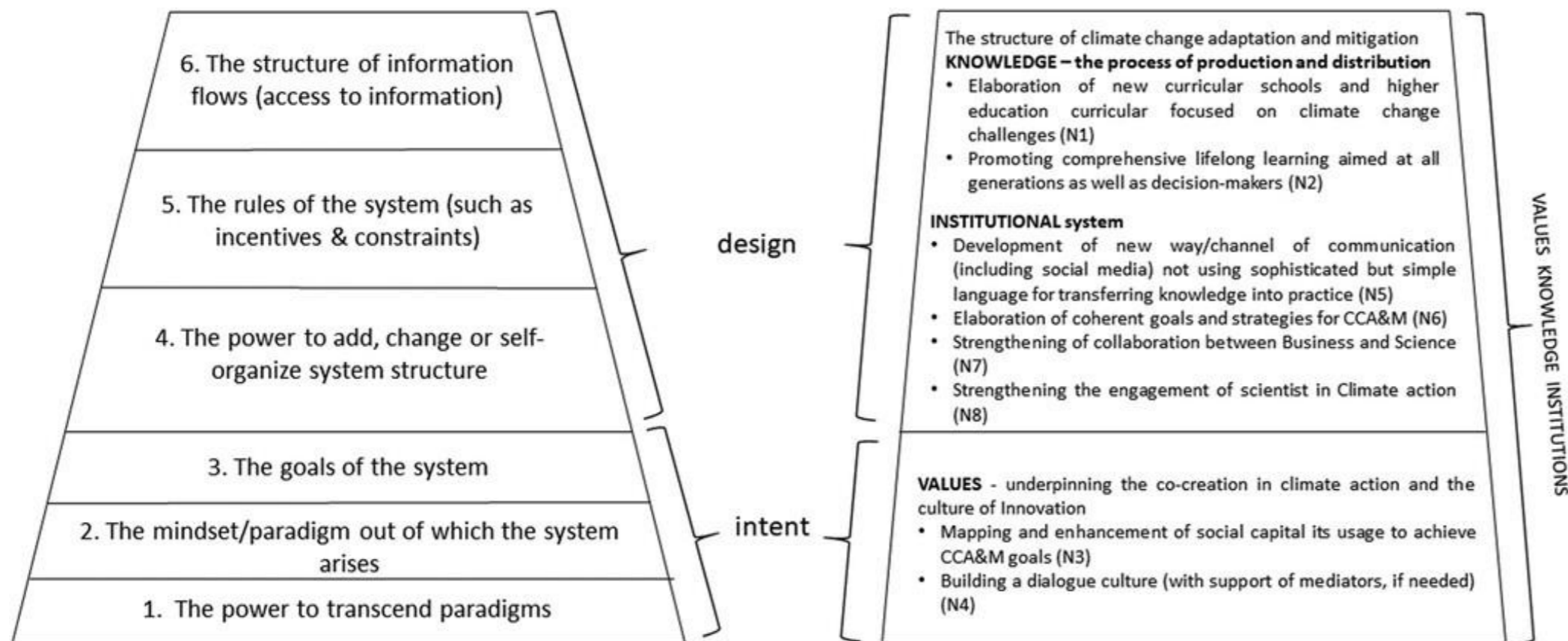
# OPEN INNOVATION & CO-CREATION PROCESS

Public-private synergies

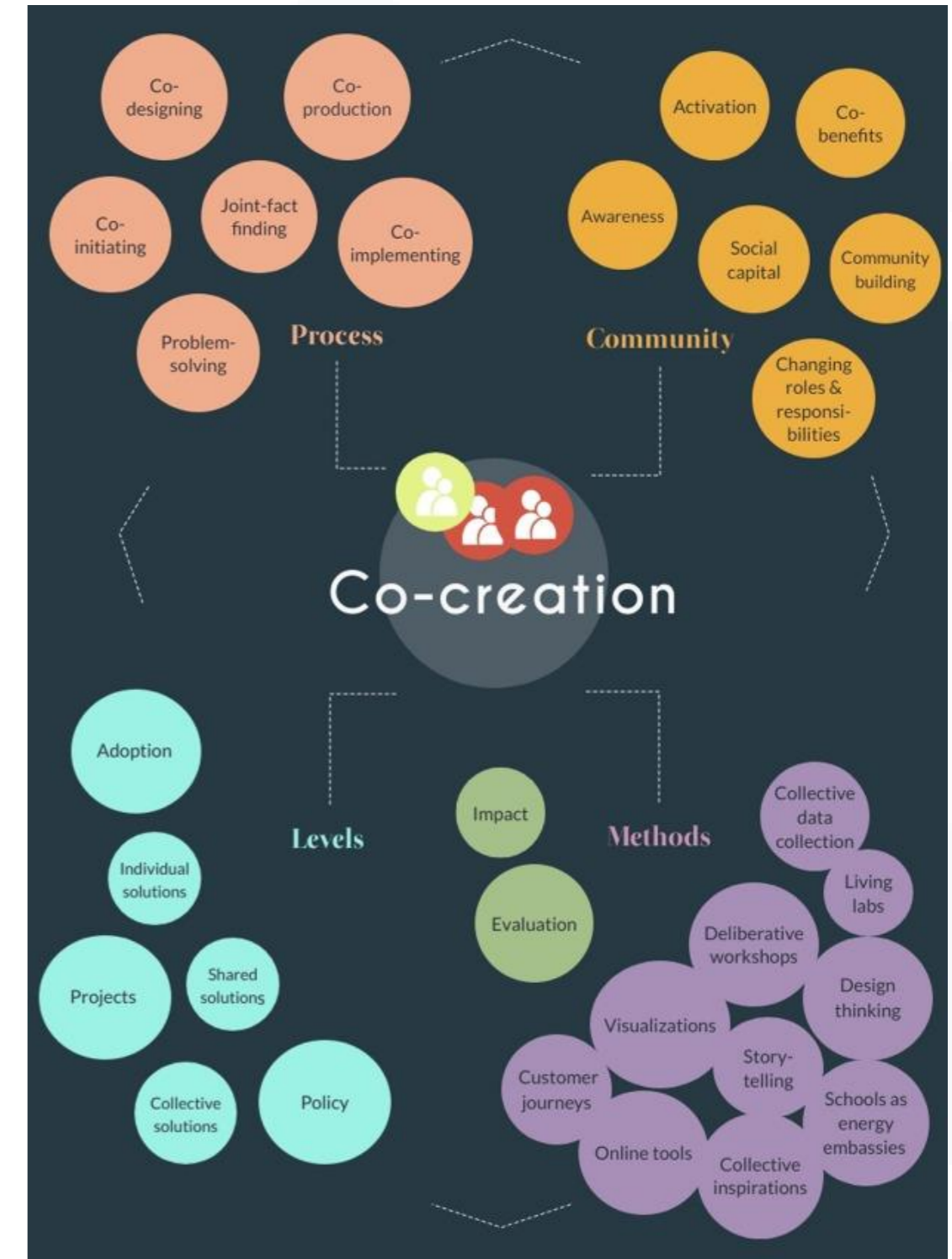


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- Co-creation process: it is an iterative, reflexive approach that can be useful in mitigating climate change as it encourages interaction between citizens and stakeholders potentially providing a means of facilitating rapid and extensive transitions



- Co-creation draws on the concept of polycentric governance systems in which there are 'multiple, semi-autonomous decision-making centers' held together with effective mechanisms of coordination which resist fragmentation or centralization and which have the capacity to self-correct;



# ROLES OF RELEVANT STAKEHOLDERS

## FOR CLIMATE ACTION

- Engaging multiple stakeholders needs a benefits-based policy. People usually get involved when they feel that their opinions and ideas really do matter and can change the reality by solving a given well-specified problem.

Relevant stakeholders	Main roles
Academia and education	<ul style="list-style-type: none"> <li>Generate, cocreate, and transfer knowledge</li> <li>Educate climate change experts</li> <li>Support development of innovation activities for CCA&amp;M of citizens, business, and policy makers</li> <li>Share research findings</li> <li>Provide data for decision-making</li> <li>Collaborate in awareness-raising activities</li> <li>Collaborate in policy development</li> </ul>
Business (large companies and SMEs)	<ul style="list-style-type: none"> <li>Develop proposals to obtain funding</li> <li>Provide funding for climate action events and campaigns</li> <li>Introduce good environmental practices</li> <li>Develop eco-innovations</li> <li>Facilitate knowledge transfer</li> <li>Collaborate in awareness-raising activities</li> </ul>
Local government	<ul style="list-style-type: none"> <li>Develop and approve adequate legislation and policies</li> <li>Publish and share national and regional climate data</li> <li>Coordinate intersectoral collaboration</li> <li>Identify climate priorities</li> <li>Develop support policy and financial tools</li> <li>Provide funding for CCA&amp;M</li> <li>Support the development of innovations</li> </ul>
CSOs	<ul style="list-style-type: none"> <li>Organize and facilitate the dialogue process</li> <li>Implement CCA&amp;M projects and/or support projects at community level</li> <li>Develop and implement awareness campaigns on climate change</li> <li>Organize educational events and festivals</li> <li>Participate at the consultations</li> <li>Introduce and promote good environmental activities</li> <li>Promote dialogue culture and networking</li> <li>Propose innovations in climate actions that are needed and relevant for the society</li> <li>Participate in citizens' panels and open debates</li> </ul>



- TeRRIFICA involves six European countries, bringing together three research institutions, three non-profit organisations, one public association of universities and one public institution for science promotion.
- Video projection:  
[https://youtu.be/F\\_MsclpyCwM?list=PLp6P8Wquyg9JwGaN9AYpFIhblFP-uA3kE](https://youtu.be/F_MsclpyCwM?list=PLp6P8Wquyg9JwGaN9AYpFIhblFP-uA3kE)
- <https://terrifica.eu/co-creation-and-climate-change-activities-in-brittany-paysdelaloire-normandy/>
- Co-creation and climate change activities in Brittany, Pays de la Loire and Normandy

- Castilla-Rubio C. J., Zadek, S., Robins, N., (2016) Fintech and Sustainable Development – Assessing the Implications, UNEP, Available at:  
[https://wedocs.unep.org/bitstream/handle/20.500.11822/20724/Fintech\\_and\\_Sustainable\\_Development\\_Assessing\\_the\\_Implications\\_Summary.pdf?sequence=1&isAllowed=](https://wedocs.unep.org/bitstream/handle/20.500.11822/20724/Fintech_and_Sustainable_Development_Assessing_the_Implications_Summary.pdf?sequence=1&isAllowed=)
- Mhlanga D (2022) The role of financial inclusion and FinTech in addressing climate-related challenges in the industry 4.0: Lessons for sustainable development goals. *Front. Clim.* 4:949178. doi: 10.3389/fclim.2022.949178
- Itten, A., Sherry-Brennan, F., Hoppe, T., Sundaram, A., Devine-Wright, P., (2021)
- Co-creation as a social process for unlocking sustainable heating transitions in Europe,
- *Energy Research & Social Science*, vo.74, 101956, <https://doi.org/10.1016/j.erss.2021.101956>.
- K. Fagiewicz<sup>1</sup>, P. Churski<sup>1</sup>, T. Herodowicz<sup>1</sup>, P. Kaczmarek<sup>1</sup>, P. Lupa<sup>1</sup>, J. Morawska-Jancelewicz<sup>1</sup>, and A. Mizgajski<sup>1</sup>, Cocreation for Climate Change—Needs for Actions to Vitalize Drivers and Diminish Barriers, American Meteorological Society, Faculty of Human Geography and Planning, Adam Mickiewicz University, Poznan, Poland