



# Impact R&D Agenda

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## Positioning

The vision of the PI Initiative is an impact-based economy. This is an economy that delivers solutions for impact needs (economic, social and environmental) based on the direct financial value of those impacts. Such impact-based solutions optimize the ratio between the cost of investment versus impacts achieved. They will be powered by the 4<sup>th</sup> industrial revolution.

In this impact-based economy, the delivery of positive impacts drives the business model and creates the financial value. In such impact-based business models, impacts are no longer externalities. In fact, the more positive impact is delivered, the more cash flow and revenue is generated. The two are therefore directly linked.

The belief of the PI Initiative is that only an impact-based economy can deliver on the SDGs (see [Rethinking Impact](#)). As per the diagramme below, the journey towards and impact-based economy is not linear but disruptive. The role of the PI Initiative is to promote and contribute to a research and development agenda that will build-up the ecosystem and body of knowledge necessary to reach the tipping point in this journey.

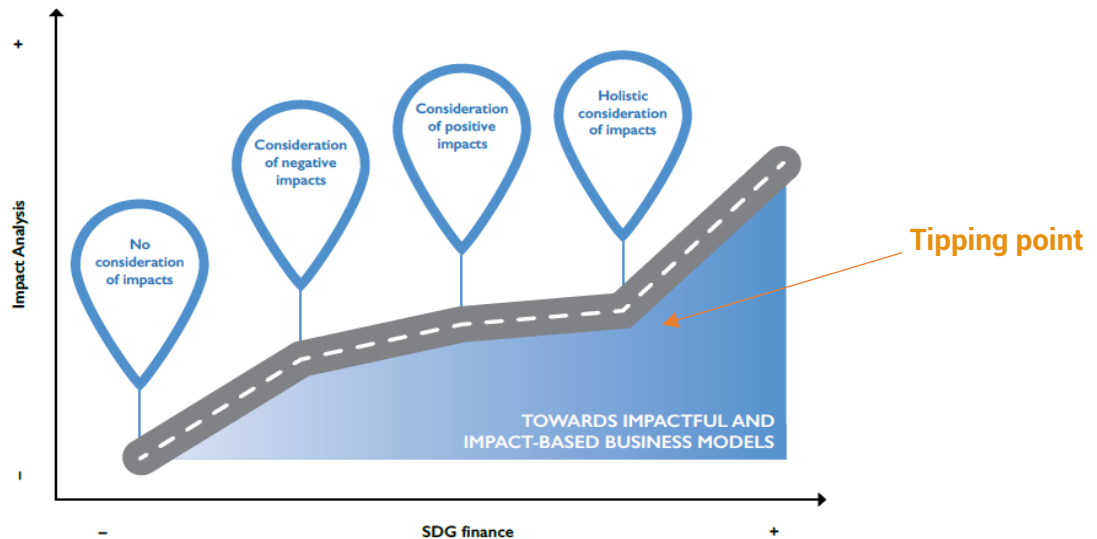


Fig.1 Towards an impact-based economy

*Note: It is not implied by the above that all business models will be impact-based; these will cohabit with 'traditional' business models, where the focus will be on managing negative impacts and maximizing positive impacts.*

## Towards an impact-based economy

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**The emergence of an impact-based economy, starting from the adoption of a global theory of impact that identifies impact as a value creator, requires the definition and observance of general principles of practice for holistic and transparent impact analysis and management, which in turn is reliant on reliable impact science and appropriate data management, followed by impact modelling – all of which, ultimately, enable the set-up of impact-based programmes and business models.**

There are multiple challenges and gaps to achieve the transition to an impact-based economy and the mainstreaming of impact-based business and financing models:

- **Impact science & impact data management**  
Further refinement of our understanding of impact areas and organizing ourselves to enable proper collection and distribution of impact data is foundational – without this the development of impact-based activity cannot proceed. However there as yet many gaps in data availability as well as in data accessibility by stakeholders?
- **Impact modeling for impact analysis and management**  
Once the 'raw materials' and 'systems' are in place, models are necessary to bring this data to life, to make the data useable. Understanding interrelations between impacts and having the ability to project impact scenarios is as yet in its infancy.
- **Impact value chains and impact-based business models**  
The final layer is the interpretation and translation of impact knowledge into business. For this understanding the links between impacts and value creation and establishing the value chains of impact is key.

The figure below shows the building blocks for an impact-based economy, the main challenges and gaps to achieve this, and the PII's contributions to-date. A more detailed review of specific R&D topics follows in the next section.

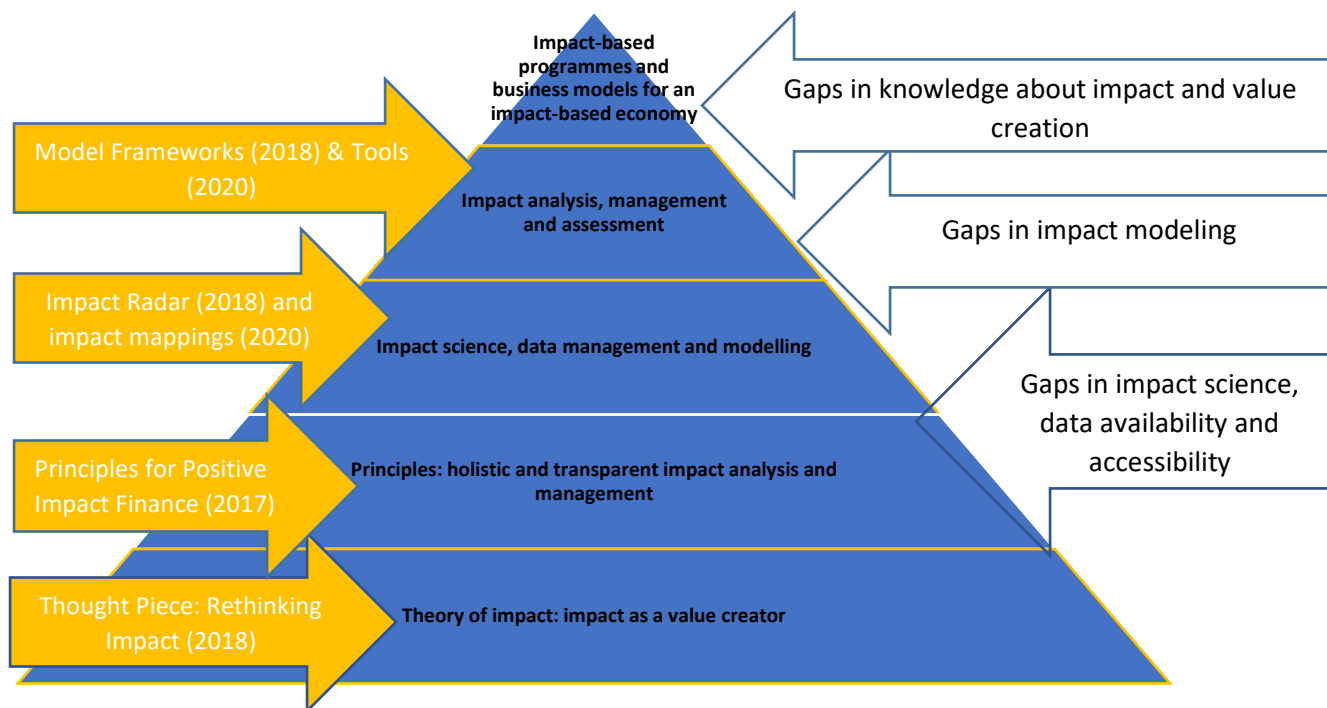


Fig.2: Building blocks for an impact-based economy

## Impact R&D Topics

Items marked with one asterisk (\*) denote areas in which UNEP FI has already delivered some R&D. Items marked with two asterisks (\*\*) denote areas in which there is a body of work to build on and/or under development. Items marked with three asterisks (\*\*\*) denote areas in which UNEP FI has delivered some R&D and there is a body of work to build on and/or under development.

### 1. Impact science & Impact data management

#### A. Impact Science

A grounding step for the construction of an impact-based economy is the definition and measurement (collectively referred to as “science”) of the impacts that are to be promoted and avoided. Specific research questions include:

- i) Is there a need for consolidation and/or harmonization of impact area definitions?\*

- ii) Are current impact area definitions “operational”, i.e. used by governments for policy-making, and by the private sector to conduct business? Where/what are the gaps and correspondences?
- iii) What indicators are used for each of the impact areas by a range of players, and is there consistency between them? Consider: indicators used by governments (e.g. as expressed in their SDG VNRs) MDBs /DFIs, reporting and accounting standards like GRI, IRRC, investor/ finance focused initiatives such as SASB, GIIN, EU Taxonomy, etc.\*\*
- iv) What measurement methodologies are being used? What are the discrepancies in results (e.g. multiple methods to calculate avoided CO2)? What is the link/ correlation between impacts at micro and macro levels? For instance: at the macro level should CO2 avoided be calculated on the basis of currency invested or on energy saved? At stake here are policy decisions: should governments put policies in place to subsidize investments or should they focus directly on impacts (in this case, energy savings)?
- v) How can gaps be filled where there are no measurement methodologies in place (e.g. decent job creation)?\*\*
- vi) How to determine at the micro level impact indicators that have a direct financial value (savings or revenues) and that make the link with impact targets set by governments at the macro level?

*\*PII work: PI Impact Radar (2018) and impact mappings (part of the 2020 tools)*

*\*\*Efforts are currently underway by corporate sustainability accounting/reporting/disclosure frameworks to compare, harmonise, and identify gaps. Same thing for impact investor and MDB generated indicators.*

## **B. Impact data collection, organisation and governance**

Ultimately the idea of an impact-based economy rests on the availability and flow of data. Availability, reliability and accessibility of data remain core challenges to-date. The question of data collection and organization are therefore key. Relatedly and critically comes the question of data governance and democratic checks and balances. This line of research could involve:

- i) Revisiting the data architecture as provided by industry classification codes (e.g. ISIC, GICS, NACE, NAICS, etc.) – consider alignment options, missing sectors, adapt for the purpose of better impact management and ultimately for the impact-based economy.\*
- ii) Build/ obtain reference data sets for establishing baselines and performance benchmarks against each of the impact areas (e.g. what are the thresholds for good/ not good, in what context).

- iii) Clarifying how and where to get reliable data, and separate incontrovertible factual data from interpretive value judgments. Consider reviewing and explaining the discrepancies in data providers' and rating agencies' findings (e.g. on whether an organisation meets or doesn't meet certain standards).\*\*\*  
Specifically:
  - data and methodologies for/concerning corporates (including sectors, location, nature of fixed assets, key impacts etc.)
  - data and methodologies for/concerning banks and other FIs (including sectors, location, nature of fixed assets, financed key impacts etc.)
- iv) Assessment of data infrastructure options (centralised or distributed, proprietary or open-source, etc.) and comparative review of current/ next generation technologies for:
  - data storage (local, cloud, DLT, Linked Data, etc.)
  - algorithms for search, retrieval, browsing, and aggregation / disaggregate of data (e.g. google, quant, etc.), and
  - connectivity (Huawei, Nokia, etc.) providers.
  - building prototypes to test and demonstrate how technologies can be applied in real-world situations.
- v) Considering the means to collect data where data gaps exist, e.g. via digital cameras, sensors, internet, wifi,lifi, Bluetooth, the creation of data lakes, data pods. This should include a review of associated issues (protection of privacy, access to data etc..) and possible solutions (e.g. data pods). Research could be conducted at different levels: countries, regions, municipalities, private sector, etc. Specifically focus on how data can be originated by organisations at the base level, and rolled up to other levels for onward usage. \*\*
- vi) Develop AI models and extrapolation models to create estimated data, when actual data cannot be collected or access is not possible.
- vii) Continue to develop holistic data handling workflows where needed and develop inter-operability mechanisms between frameworks, data capture tools, data sets, etc. (i.e. capture data once, exploit in multiple ways: strategy development, disclosures, compliance (e.g EU Taxonomy), etc.).\*

*\*PII work: Methodologies developed in the form of impact analysis tools (banking and corporate)*

*\*\* Multiple data providers and sustainability reporting/disclosure frameworks exist. Efforts are currently underway by corporate sustainability accounting/reporting/disclosure frameworks to compare, harmonise, and identify gaps. Other stakeholders are exploring tech solutions for data collection, analysis, disclosure and protection.*

## **2. Enabling impact analysis and management in the current and future (impact-based) economy**

Once definitions, indicators, metrics, processes and means for data collection are in place, the table is set for action. In order to make the right decisions and set up the right plans and targets two further things are required however: impact modeling and a better understanding of impact value chains and business models. The different use cases for this material should be borne in mind: corporates, FIs, public sector (countries, regions, cities of different sizes, etc.).

### C. Holistic impact modelling

Targets can only be set when baselines are clearly understood and scenarii are available for different levels of attainment. Individual (i.e. topic-specific) impact modelling is still under-developed; a good example is that of climate, where multisector scenarii have been set to reach Paris Agreement by the IEA and the IPCC. In addition, the interactions between impact areas need to be understood and managed.

This line of research includes items such as:

- i) Developing environmental scenarii (e.g. for water, air, biodiversity, soil, etc.)\*\*
- ii) Developing social scenarii (e.g. for job creation, security, health, education, etc.)\*\*
- iii) Developing economic convergence scenario \*\*
- iv) Holistic modelling (matrix) of links between impact areas, but also relative to locations, economic sectors, type of economic agents, etc.\*
- v) Developing predictive models at the micro level to predict and manage the impacts of entities on the different impact areas.

*\*PII work: the PII has developed a series of one-way mappings (definition of impact areas, sector/impact associations, key sectors to impacts, country impact needs, interrelation between impact areas). It has then patched these together into a holistic viewing. This line of research should seek to overcome the two-dimensional set of mappings and modelise the matrix of a holistic approach, where impact areas, impact associations and needs, and stakeholders (public and private), all come together.*

*\*\*Efforts underway by multilateral organizations/ MDB/DFIs and various other entities (e.g. on biodiversity)*

### D. Impact value chains and impact- based business models

Once macro and micro scenarii and predictive models are available, there is still a need to develop a more precise understanding of impact value chains and impact-based business models in order to translate data, models and predictions into financial business models and, ultimately, into solutions. Contrary to traditional business models that revolve around a specific solution and technology set, impact-based solutions are

bespoke depending on the impact needs, and factor in the constant technological evolutions as these will directly impact business model. R&D could focus on one country/region and/or on specific impact areas and/or one specific sector or even on one specific organization:

#### **Impact area focus\***

This line of research could map out impact value chains for impact areas such as: energy, food, housing, health & sanitation, mobility, communication & information, education, culture & heritage, integrity and security of person, etc. This would involve:

- Identifying all the items of the value chain
- Considering which players of the value chain might play an “integrator” role and how this might drive down cost/impact ratios
- Identifying/testing specific cases

For the specific impact area of employment, a somewhat different line of investigation is required, considering the employment needs and projections within each of the impact value chains. \*

#### **Geographic focus**

Research could focus on key country or regional issues. For example:

- from a financial approach to retirement systems to an impact-based approach
- the potential for social integration through the availability of remote services

#### **Sector focus\***

Specific sectors could be reviewed in light of the above-mentioned impact value chains.

For example:

- the car industry and transport industries vis a vis the mobility impact value chain
- the mining industry vis a vis circular economy objectives

#### **Organisation focus**

Individual organizations and their potential role in integrating an impact value chain or delivering a new, impact-based business model could be researched.\*

*\*PII work: Concept of impact value chains depicted in Rethinking Impact. The tool for corporate impact analysis is aimed at promoting engagements between corporates and their (private and public) financiers and investors on their impact profile and options for developing impact-based business.*