



Intellectual Property Models to accelerate Sustainability Transitions

Objectives and research questions

Which intellectual property (IP) models are of relevance for sustainability transitions?

How do different types of IP models and business models accelerate (or prevent) the development, adoption and diffusion of sustainable innovations?

Under what conditions (technological, regulatory, cultural, demand-supply factors, infrastructures) do different IP models best accelerate sustainability transitions?

What can we learn from best practice in sustainable businesses? What successful models exist?

These are some of the ambitious questions the IPACST project addresses. IPACST is a major international and interdisciplinary research project that brings together the fields of sustainability, IP and innovation management, together with political sciences and engineering to transform our understanding of the role played by different IP models in accelerating sustainability transitions and help stakeholders, such as inventors, business leaders and policymakers choose appropriate IP models that accelerate sustainability transitions. IPACST adopted an exploratory case study approach to develop evidence-based insights to the above questions.

Methods: Our cases, workshops, and survey

Our Cases: We completed 28 in-depth case studies of sustainable businesses which span across renewable energy, recycling, transportation, electronics, and manufacturing sectors.

In terms of geographical distribution, the headquarters of these sustainable cases studied are based in Europe, India, Australia, North America, but supply chains and collaboration partners cover also further regions in ASEAN, and Africa. We used a custom developed visual mapping templates to collect primary data from sustainable businesses about the role of IP models for sustainability. We generated four maps in two phases of interviews for each of the sustainable businesses studied.

Anonymized raw data of selected case companies are available upon request for research purposes.

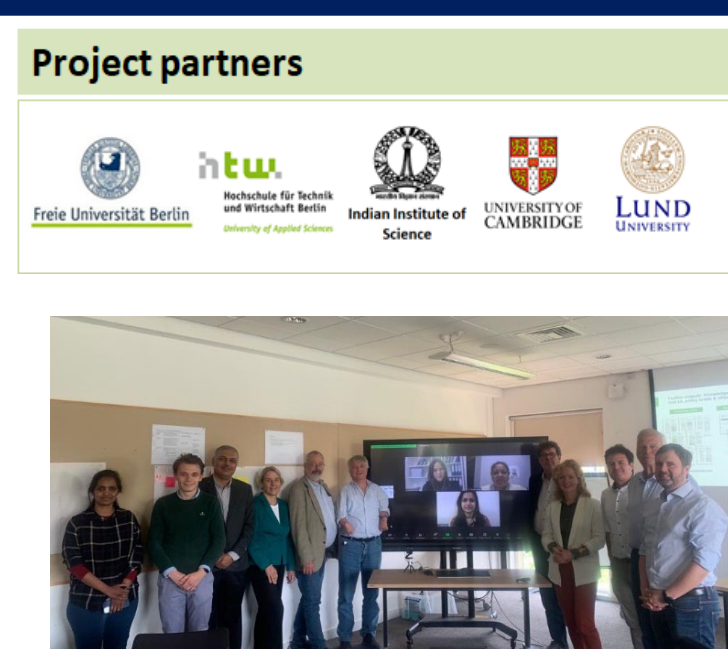
Workshops: We conducted about 30 interactive stakeholder workshops to test and validate the knowledge briefs and toolkits.

Survey: We tested propositions about IP models for accelerating sustainability transitions in a survey with experts in sustainability and intellectual property from Asia, Europe, North- and South Americas.

Team and Advisory Board

The IPACST team is grateful to all the advisory board members for their valuable time, and effort in guiding the project throughout its journey. Tapping into the rich expertise and experience of the international and interdisciplinary board members has proved to be a fruitful endeavour for the IPACST project.

Photo source: IPACST Advisory Board meeting, May 2022, Cambridge, UK



Funding

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Results

Analysis of the case companies shows that,

- Companies use different IP Models (closed, restricted, broad, open) for different business segments and technologies.
- Almost all businesses studied rely on collaboration and sharing at early stages of innovation. The findings confirm the importance of formal IPR (trademarks, and in particular patents) in combination with trade secrets (e.g., process knowhow) to enable collaboration, and to attract investments for scale-up.
- The majority of the sustainable businesses studied uses closed IP models and restricted licensing and sharing for their sustainable core technologies and core products. Broader sharing and licensing models are more common for IP assets with social sustainable impact.
- Incumbent firms tend to prefer a sequential IP sharing approach: a first, selected sharing with collaboration partners is followed after a lead-time by a broad or open sharing model benefitting from economies of scale.
- IP asset licensing can increase positive sustainability impact in several ways, such as: (i) co-branding and trademark licensing combined with sustainability performance criteria can facilitate the development of sustainable business ecosystem; and (ii) Licensing of IP assets for technology transfer combined with sustainability criteria can increase capacity development for sustainable technologies and in developing countries
- Many case companies expressed a willingness to license and share more of their IP assets if being asked / approached by potential licensees, acknowledging that they cannot serve a global market and other regions would benefit from the innovation. However, they do not allocate resources for actively pursuing out-licensing and sharing.

Open access IPACST outputs

The knowledge briefs, business toolkit and teaching kit and journal publications are available as an open access publication for anyone to download under the terms of the Creative Commons Attribution By License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original authors and source are credited.

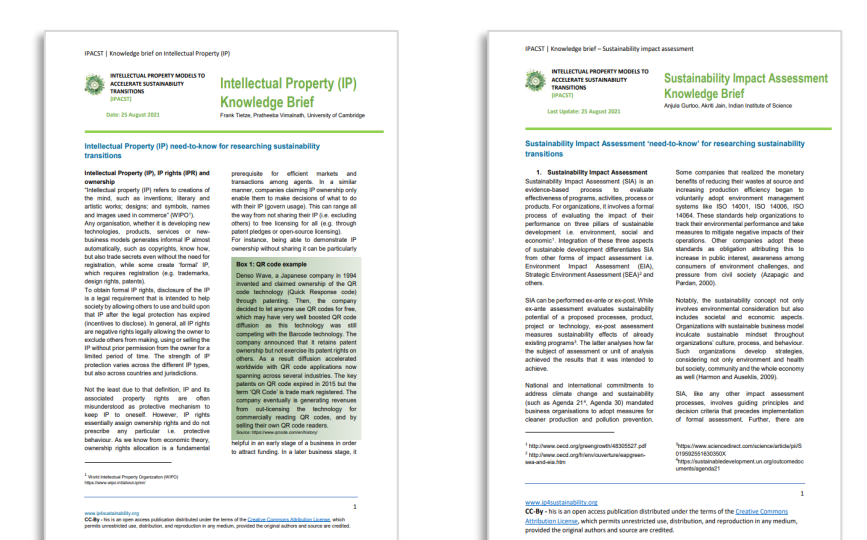
Publications: Findings from the IPACST project are published in peer-reviewed journals and were presented in various international conferences. Access IPACST publications at www.ip4sustainability.org/publications/.

Knowledge briefs and business toolkit: A series of short knowledge briefs various topics related to IP models and sustainability. Business toolkit to reflect and improve IP models for sustainability impact, co-developed and tested with about 20 practitioners. Download knowledge briefs and business toolkit at www.ip4sustainability.org/knowledge-briefs/.

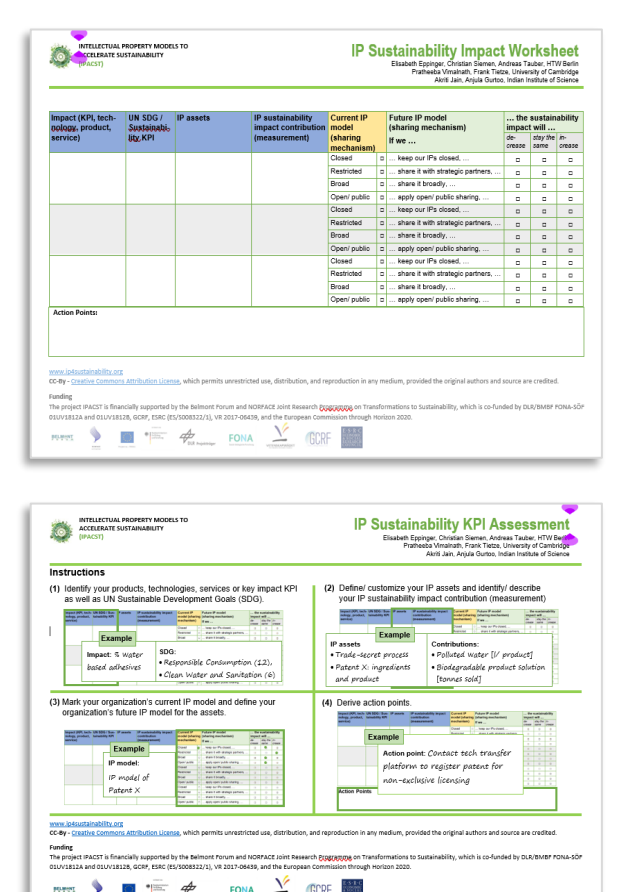
Teaching kit: A set of teaching materials introducing IP, sustainable business model, and sustainability transition; a detailed social impact teaching case; case study examples of sustainable companies using IP for sustainability; and IP and sustainability focused reading lists. Download the teaching kit at www.ip4sustainability.org/teaching-kit/.

Policy brief: Engagement with policy makers to create awareness about different IP sharing models and potential sustainability impact. Conducted a workshop with research funding organizations to discuss guidelines in funding regarding IPR and sustainability impact, equivalent to open access publishing. . Download the policy brief at www.ip4sustainability.org/knowledge-briefs/.

Knowledge brief samples



Business toolkit templates



Teaching kit samples

