



WIPO International Conference on Intellectual Property (IP) and Development – Innovation in Green Technologies for Sustainable Development

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The Role of Intellectual Property in the Field of Green Technology

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IPR and Sustainability

Shift from neo-classical economics to ecological economics

- From growth to development, questioning „trickle down“ assumption, recognizing limited resources, tipping points, importance of human wellbeing
- Quest for **balancing property rights, including responsibilities connected to these rights**

IPR: Open vs. closed debate:

- **Open: Sharing IP and IPR** beyond organizational boundaries to accelerate sustainable innovations
- **Closed: IP and IPR protection** to attract investments and gain competitive advantage
- **IPR as enabler for technology transfer**

Intellectual Property Models to accelerate sustainability transitions – Objectives



Evidence-based view on different **IP models** and how they **accelerate** or **delay** the **development and diffusion of sustainable innovations**

Help stakeholders to select and to support **appropriate IP models that accelerate sustainability transitions**



Intellectual Property Models for Accelerating Sustainability Transitions (IPACST) Project



Research Team: HTW Berlin and Freie University Berlin (Germany)
 Indian Institute of Science (India), University of Cambridge (UK), and
 Lund University (Sweden).



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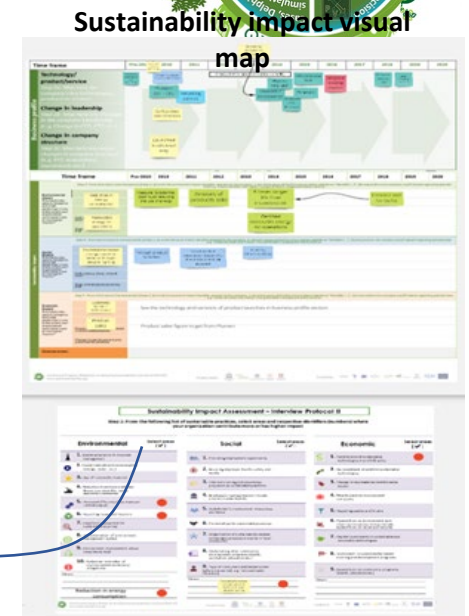
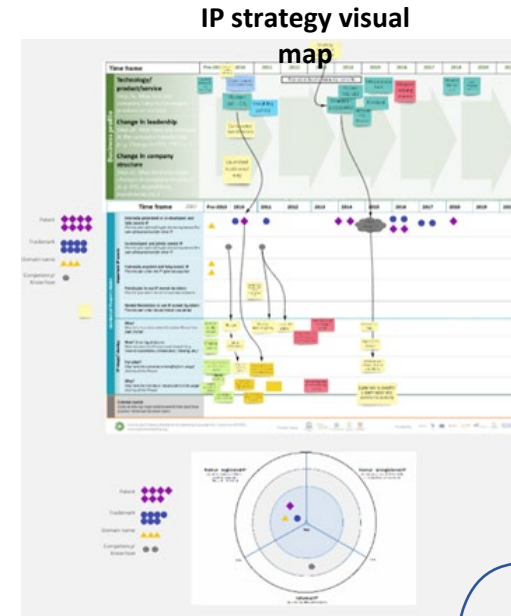
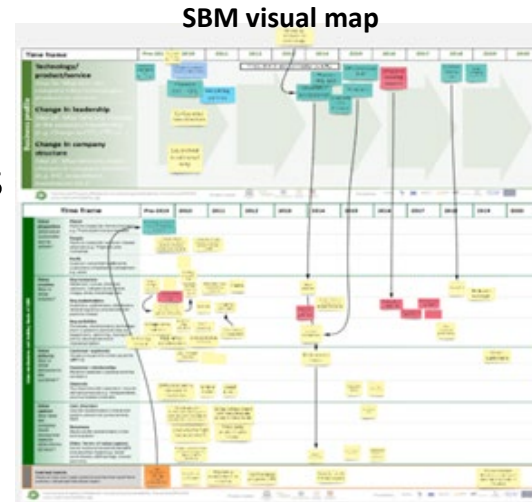
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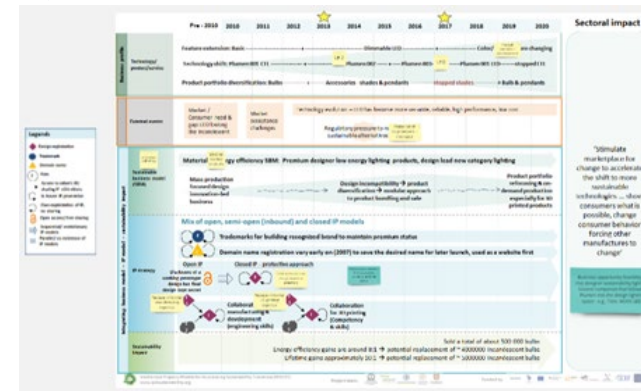
Case Research Process



- Comparative case study analysis
- 28 in-depth cases using visual maps
- Born sustainable and turned sustainable, SME and large corporations
- Manufacturing (Chemical, Electronics, Materials) Clean Energy, Recycling and Waste Treatment
- Headquarters: Europe, India, USA, Australia but markets and supply chains include further regions in Africa and Asia



Sample visual maps generated during interviews



Integrated visual map



IP Models from closed to open

Degree of openness	- (Closed) (Semi Open)			+ (Open)
Type of model	Private IP model – closed	Club IP model – selected sharing	Common IP model – broad sharing	Public IP model – open sharing
IP ownership right allocation	Ownership is highly concentrated	Ownership is concentrated or distributed among several owners		No one owns the IP (anymore). IP is in the public domain
Access to not publicly disclosed IP ¹	Owners prevent others from accessing their IP	Only members of the club can access IP. Entry barriers are high for outsiders	Entry barriers are relatively low for outsiders. Almost anyone can access the IP with or without contributing IP	IP is accessible to anyone
Commercial usage of IP ²	Owners restrict commercial usage by others entirely	Only members of the club are entitled to commercial usage. Non-members are prohibited from commercial usage	Owners allow almost anyone to use the IP with restrictions	Owners cannot/do not restrict commercial usage by anyone
Examples	Trade secrets, IPR for own usage	Exclusive licensing, Cross-licensing, restricted patent pools	FRAND licensing, open source with usage restriction, open patent pools	IPR lapsed- in public domain, pure open access, defensive publishing

¹Across all models, owners cannot restrict access to their publicly disclosed IP (e.g.. in patent documents).

²Across all models, owners may not be able to restrict non-commercial under certain exemptions (e.g.. for research, academic use)

Some Findings



- Almost all rely on collaboration and IP of others in early innovation phases
- Different IP models at market diffusion
- Very few use and think of IPR as a tool to increase sustainability impact
- IPR for investors and acquisitions, larger sharing for social business investors
- Differentiated licensing approaches for economic development in LMIC (low and middle income countries)

IPR: Potentials to increase transfer of adaptation and mitigation technologies



Willingness to share more but no action

- ➔ Support infrastructure and intermediaries (technology sharing platforms, standard licensing schemes to overcome information bias)
- ➔ Incentivise businesses to reflect sustainability impact of IPR, e.g. include IPR in sustainability reporting standards, in circular economy directives and design guidelines, in research and start-up funding
- ➔ Raise awareness of sustainability impact benefits of different licensing and IP sharing models



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Please find some resources at
<https://ip4sustainability.org/>

- IP models
- Case examples
- Business toolkit and teaching kit (will be added early 2022)

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IP models for increasing sustainability impact through sharing

