



Intellectual property and climate change–related efforts in developing countries

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„Fetishisation” of patents for environmental technologies

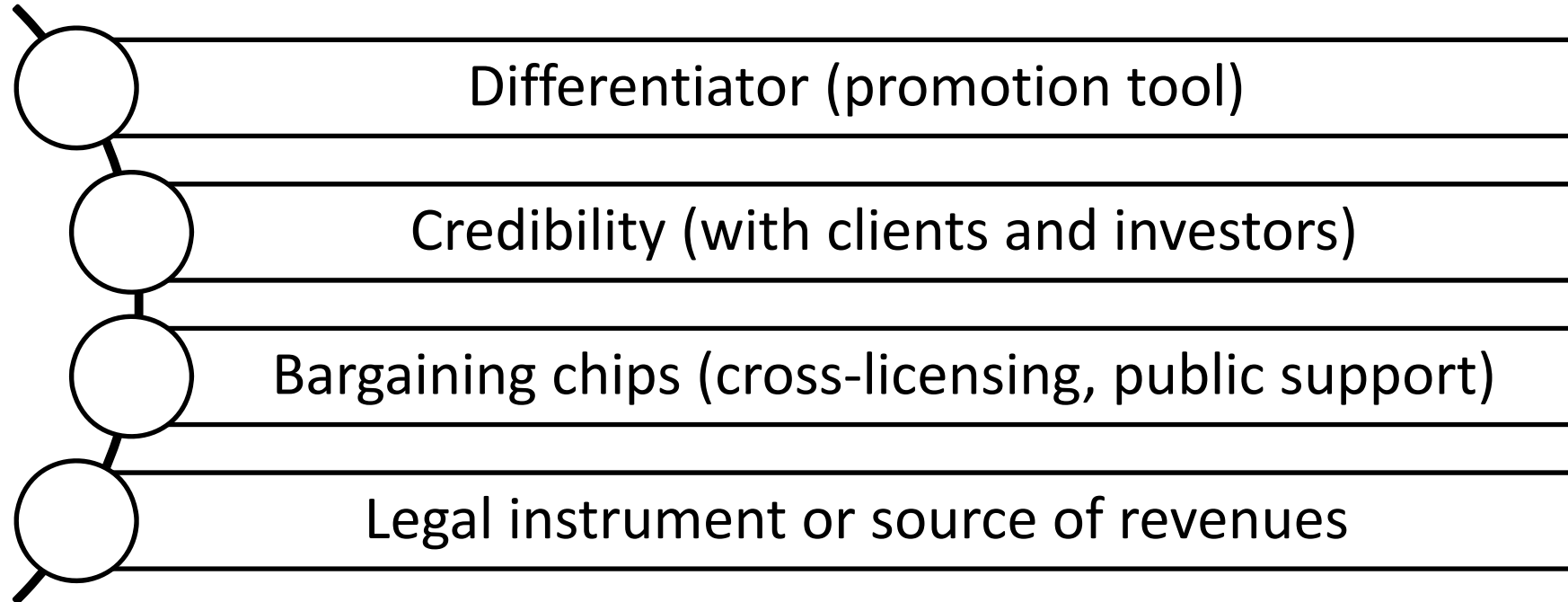
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- Many technologies are not patent-protected in specific jurisdictions
- Patents are territorial rights
- Patents are not products
- Patented technologies have substitutes
- Patent owners usually have no motivation to block the use of patents



What are patents for environmental technologies used for?



This explains:

- proliferation of patents
- low valuations of many patents



Opinions of environmental technology providers from Poland

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“There is only the question, whether it makes sense and whether there is a need for this. [...] Because, when we attend trade fairs, or on Internet websites, we publish construction diagrams and so on, so one does not need to have business intelligence to copy something. [...] We innovate all the time. One more factor is the automatics, because the body of a device can be copied, since they come to trade fairs and snap photos. [...] They would photograph it from all sides. There is no point concealing it, as somebody can always [just] order the product - it was developed with the sales in mind.”

Source: Klineciewicz, K. (2013) The market for environmental technologies in Poland – experiences of technology providers, lessons learned for public institutions. Synthesis report. Warsaw: Ministry of Environment, pp. 18-19



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“Some technologies and elements of technologies are better not patented in this segment, as the patenting offers our competitors [insights into] sources of our competitive advantage. We sometimes review [patents] and see what our rivals are working on.”

Source: Klinecicz, K. (2013) The market for environmental technologies in Poland – experiences of technology providers, lessons learned for public institutions. Synthesis report. Warsaw: Ministry of Environment, pp. 18-19



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“Patenting something in [name of technological category] is like patenting a paperclip. There are components, which one could patent, but we prefer not to disclose them. We have a better protection when nobody knows about it, rather than having some sort of a patent. We do not think that a patent is the best protection for a product. We have elements that were elaborated on our own and even people, who prepare them, do not know that this is some untypical solution. This masking of the system is better.”

Source: Klineciewicz, K. (2013) The market for environmental technologies in Poland – experiences of technology providers, lessons learned for public institutions. Synthesis report. Warsaw: Ministry of Environment, pp. 18-19



Patents as territorial rights

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- „Global” patents do not exist
- Limited number of countries per patent
- Special situation of LDCs

„What is not protected, can be used freely”



Patents as territorial rights - checklist

1. Protection only in countries where the patent was applied for (*past decision by patent owners*)
2. Protection only in countries where the patent was granted (*differences in national IPR laws regarding patentability*)
3. Scope of protection defined by the patent granted (*patent claims might differ between countries, comp. prosecution history estoppel in the US*)
4. Protection only if the patentee was making regular payments of patent maintenance fees
5. Protection only until the patent expiry date

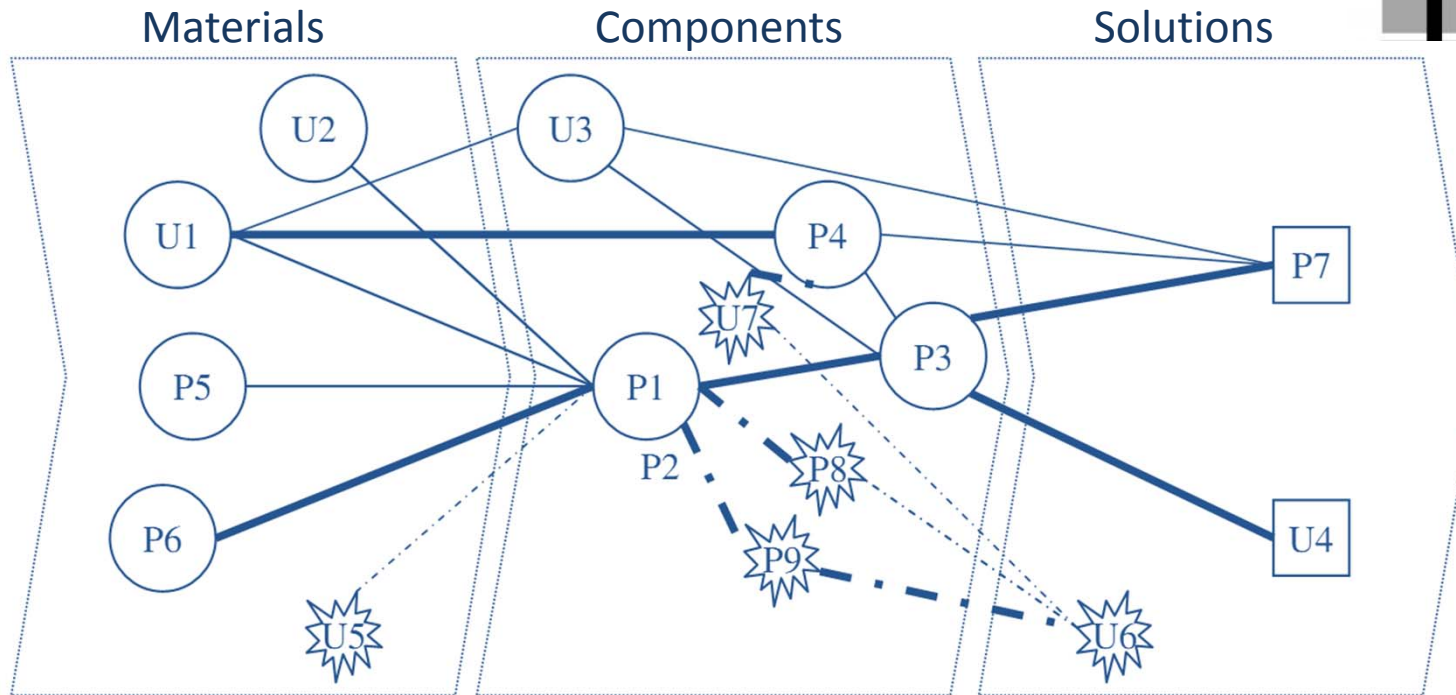


Freedom-to-operate (FTO) analysis



- Analysis of prior art intended to verify:
 - if any IPR infringements would occur?
 - what patents should be licensed?
 - is the licensing necessary?
- FTO analysis could be supported by national authorities
 - State Intellectual Property Office, China – „*Measures for the record filing of patent licensing contracts*” (专利实施许可合同备案办法, 2011)
 - need to verify WTO compliance of national policies
- FTO can neutralize activities of „patent trolls”

Patent ≠ technology ≠ product



- technologies key for a given value chain
- - - technologies alternative to a given value chain
- . - . technologies key for a future value chain
- technologies alternative to a future value chain

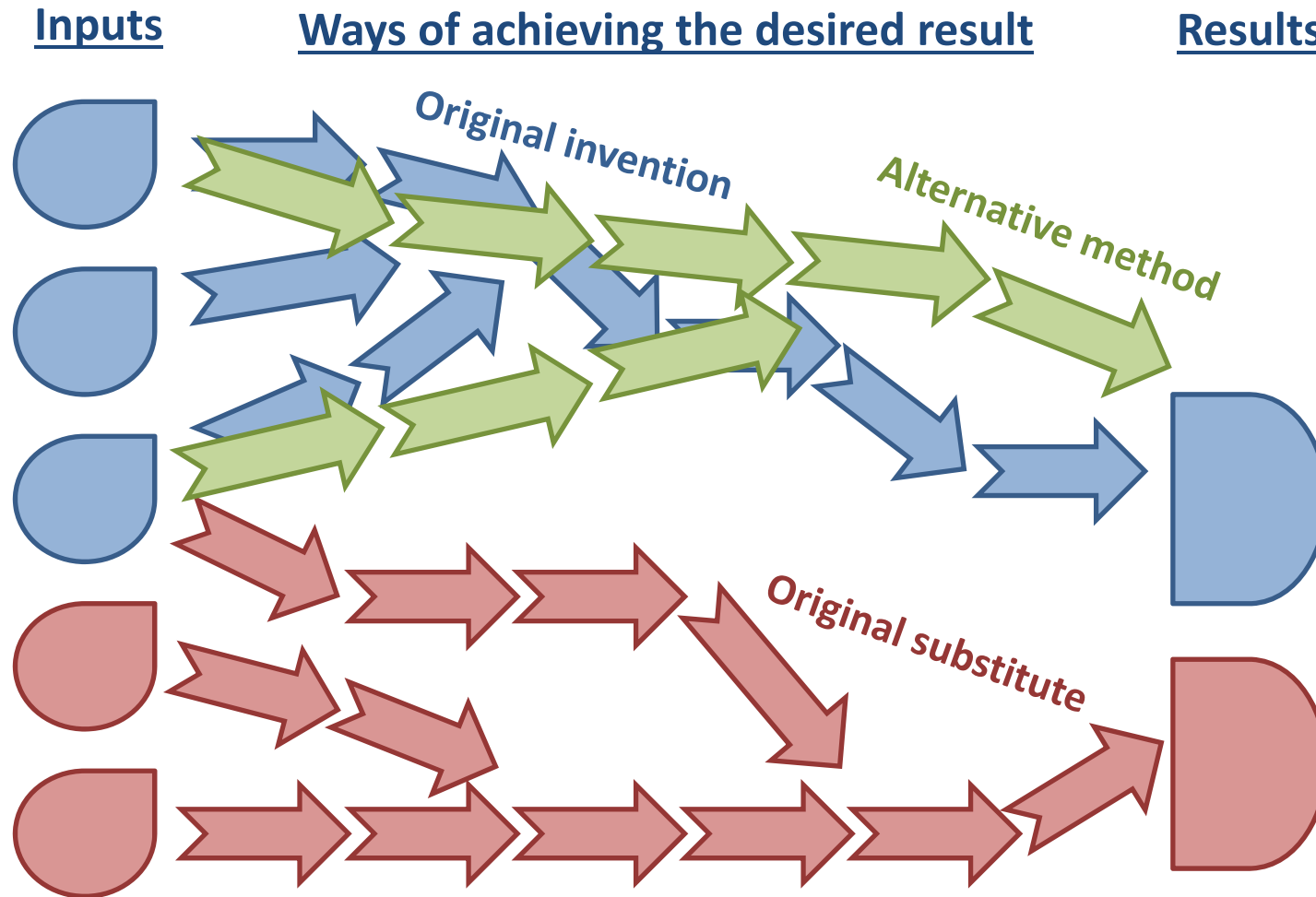
Source: Wartburg, I. von, Teichert, T. (2008) *Valuing patents and licenses from a business strategy perspective – Extending valuation considerations using the case of nanotechnology*. *World Patent Information*, 30, pp. 106–114



Patented technologies and their substitutes

- Multiple, often incommensurable alternatives exist for each climate technology
- Individual technology suppliers do not have real monopolies due to the existence of competition
- Equifinality – different measures can lead to similar results
- Market situation very different from e.g. pharmaceuticals
- Technology suppliers trying to do things differently (differentiate their offerings)
– „*blue ocean strategy*” (Kim & Mauborgne)

Patented technologies have substitutes





Example: development of shale gas technologies in Poland

- Shares of energy from renewable sources in gross energy consumption (Eurostat, 2012): Poland 11.0%, Belgium 6.8%, France 13.4%, Germany 12.4%, Ireland 7.2%, Italy 13.5%, Netherlands 4.5%, Spain 14.3%, United Kingdom 4.2%
- Exploitation of shale gas to further reduce GHG emissions in energy and industrial sectors

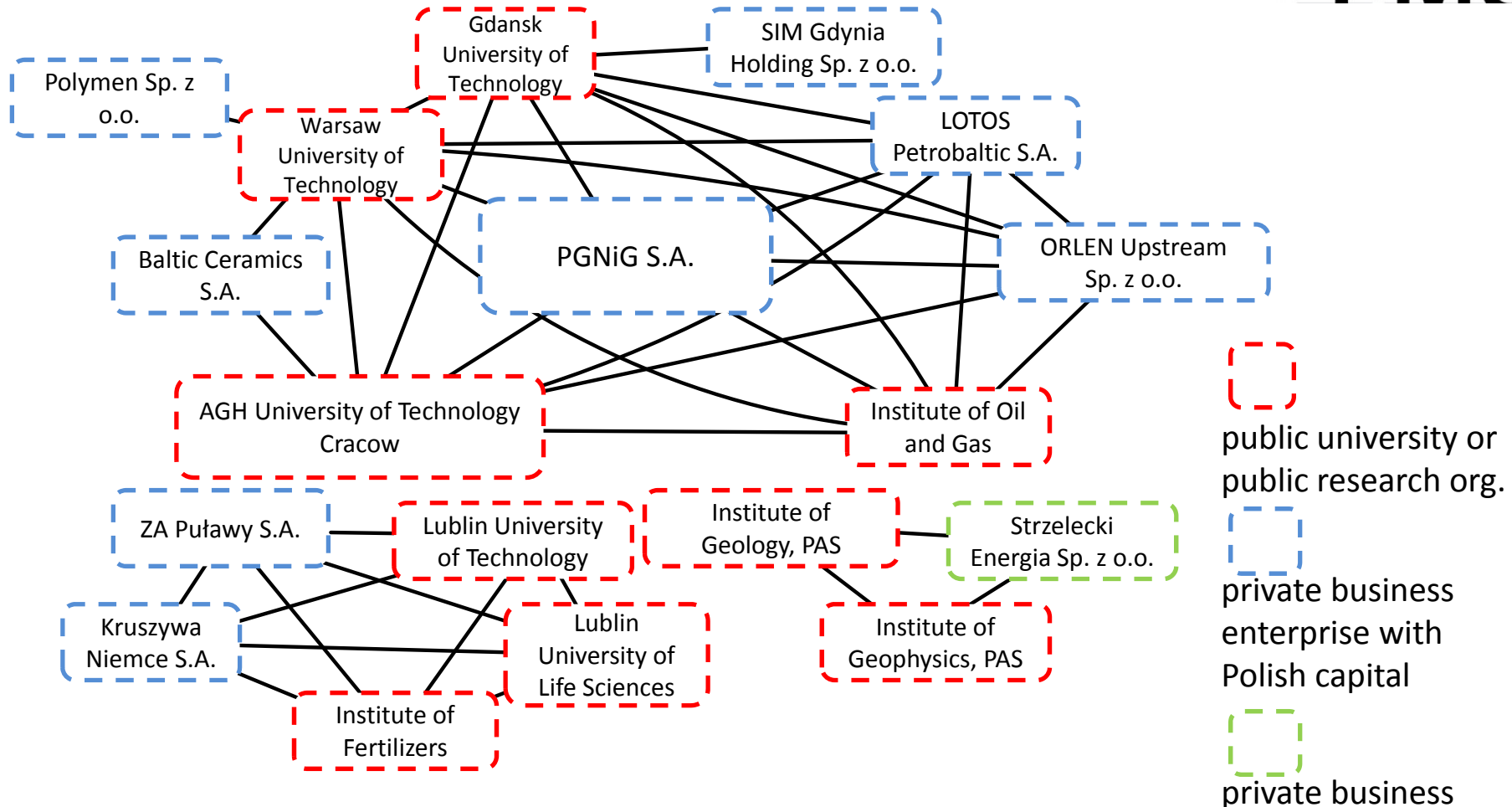


Shale gas patents

- US patents for shale gas technologies irrelevant
 - other types of geological formations
 - stringent environmental requirements of the EU
 - need to adapt technologies and innovate
 - some process innovations not patented
- Way forward
 - unlikely to need to license individual patents
 - some patents are embedded in products and used whenever a machine is purchased or rented
 - many patents not valid in Poland



Public-private partnerships in shale gas technology development



Source: Klincewicz (2014) based on the list of signed contracts with R&D consortia receiving public support in BLUE-GAS program, National Centre for Research and Development



Perspective of patent owners

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- Patent does not mean a real monopoly
 - Patent claims are very specific - exclusive rights do not extend beyond these claims
 - Multiple restrictions resulting from legal regulations of a given country
 - Dramatically short lasting power – only until a substitute is developed

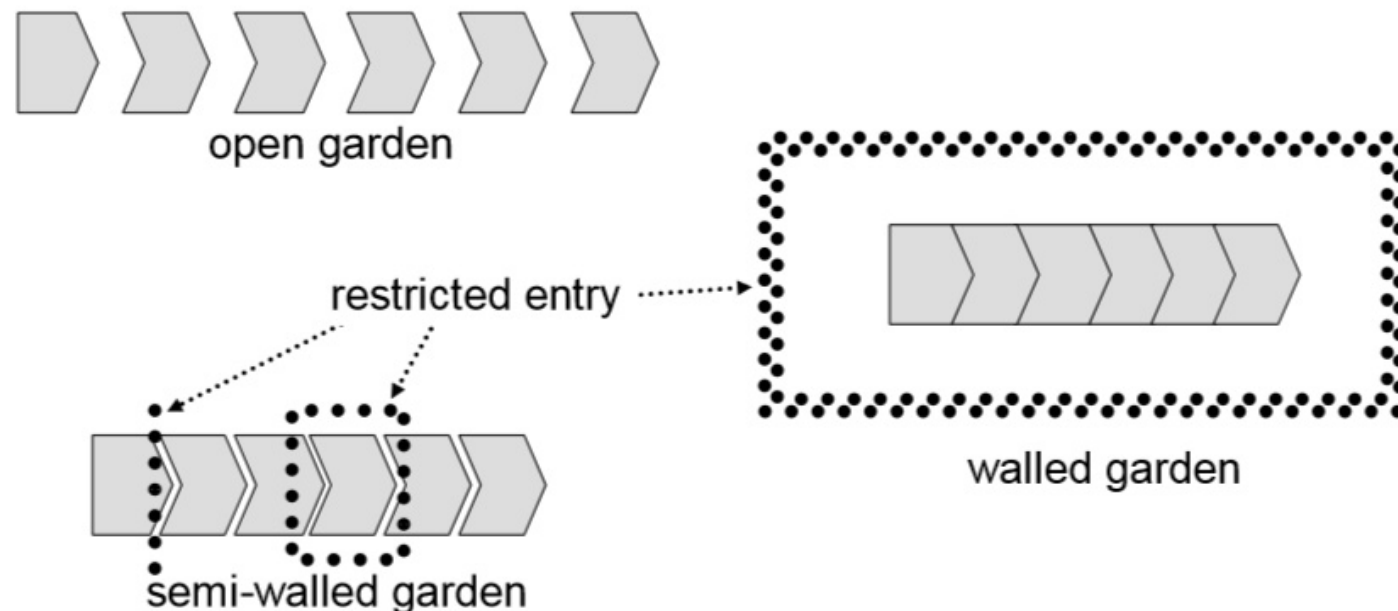


Perspective of patent owners



- Lack of co-operation or abuse of position could trigger retaliation
 - impact on corporate reputation
 - difficulties in finding partners, distributors, collaborators
 - risk of disruptive innovations by competitors
 - risk of anti-trust procedures
 - risk of compulsory licensing

Inclusive partnership strategies



Source: Klincewicz, K. (2005) *Strategic alliances in the high-tech industry*. Berlin: Logos Verlag, p. 61

Making the technology available to other companies stimulates its diffusion, helps establish „dominant designs” or standards and avoid „blind alleys” (technological lock-outs) (comp. Sony Betamax vs JVC VHS)



Blocking patents

- No substitutes or alternatives
 - key irreplaceable components
 - single essential method used in multiple technologies
- Licensing terms as a solution to blocking patents
 - extensive experiences of technology standards (FRAND: fair, reasonable, and non-discriminatory terms of patent licensing)
 - FRAND licensing not yet identified as necessary in the area of climate technologies
- UNFCCC Technology Executive Committee was trying in 2012 and 2013 to identify relevant specific examples of blocking patents
 - „*based upon evidence on a case by case basis*” (Report on activities and performance of the Technology Executive Committee for 2012, para. 35g)
 - no specific examples were actually identified by the TEC or expert observers



Navigating existing patents

1. Verification of patent validity (FTO analysis)
2. Analysis of conduct of the patent holder (domestic competition law)
3. Investigation of possible substitutes / alternative approaches (market search)
4. Offering incentives to patent holder to co-operate (national innovation policy)
5. Decision whether to license - or to support R&D efforts in order to develop alternative solutions

Well-targeted activities

Funds for licensing used only when unavoidable



Economic inefficiency of publicly (co-)funded patent pools



- Expenses on patent valuation
- Valuation of patents likely to be over-estimated (maximum number of countries, most optimistic scenarios of patent usage, estimates of revenues lost)
- Diverse ownership of individual patents
- Inclusion of patents not necessary to implement a given solution
- Subsequent innovations undermine the value of existing patent portfolios (depreciation over time)



Trade-off for public funding

- Financing deployment projects for mitigation/adaptation?
(=supporting Parties in need)?
- Or: financing patent pools?
(=inefficiently using public funding)



Importance of enabling environments (national systems of innovation)



- Domestic policy measures
 - encouraging patent holders to transfer technologies (including through foreign direct investments, forming partnerships with local companies, participating in public procurement, R&D support in adapting technologies to local market)
 - knowledge-based support for project developers (including FTO analysis)
 - stimulating R&D in desired areas (communicating the needs to universities, public research organizations and local private companies; technology roadmaps; links to TNAs)
 - framework conditions (market access, protection of private property, rule of law, stability of legal regulations, facilitating access to private finance, education and vocational training)
- Offering incentives to license out technologies or deliver technological products



Thank you!

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