

IPRs and energy-related technologies - Implications for Policy

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Dr. Meir Perez Pugatch
University of Haifa



About technology transfer....

- Taking place on a daily basis – the essence of progress
- Concerns the technology itself, but may also include additional know-how, trade secrets and expertise
- Can be intentional or un-intentional, as well as be done on a voluntary or non-voluntary basis (illegal copying and downloading)
- *Proprietary technologies (i.e. protected by IPRs) are regarded as more valuable, given the time and resources needed for the development of the technology (otherwise there would be no debate...)*
- Different models of tech-transfer – licensing, partnerships, joint ventures, strategic alliances, sales, innovation by imitation, etc.

We know that the use of IPRs affects the outcome, but how?



“Existential” (and repetitious) questions

- Do IPRs promote or hinder the transfer of technology between different entities?
- What about IPRs and technology transfer in DCs and LDCs?
- Should we use CLs to expedite the transfer of technologies?
- Should we prefer non proprietary models (open source open standards) as the preferred way to transfer technologies?
- Should we create a more “modular” or a developmental global system of IPRs (to replace TRIPS) to encourage tech transfer?
- Should we adopt a global strategy for the use of IPRs for tech transfer (in health, energy, etc)?



200 years of debates, though now we do begin to have some more empirical data!

About environmentally sound technologies

- Highly diverse - Wind, Biomass / Biofuels, Solar, Ocean/ Wave, Waste, etc)
- Different levels of development and use (some of the technologies are very advanced but not yet in mass use or even at a stage of commercialisation)
- Unlike other fields (medicines, software) – the models for R&D are very different (in time, scope, complexity, capital, etc)
- Market structure and characteristics are still very dynamic



Implications: While we can draw on debates and data from other fields we should by NO MEANS assume that things are exactly the same for ESTs.

Process of the ESTs Licensing Survey

Stage I - **Consultation** – internally and with external organizations (April 09)

Stage II - **Creation of the ESTs Survey** (May 09)

Stage III – **Identification of relevant potential respondents** (June)

Stage IV – **Outreach** - serious collaborative effort, including the creation of an [Online Survey](#) and targeted follow-up by the EPO team (July – October 09)

Stage V – **Analysis** (October – December 2009)

Stage IV – **Submission of results** (January 2010)



Characteristics of respondents

1. The majority of the responding organizations **were private companies** (66%), followed by academic institutions (18%) and governmental bodies (10%).
2. More than half of the responding organizations are either **multinational companies or large companies** that are focused on domestic activities.
3. Most of the responding organizations in the sample reported that their **headquarters are based in developed countries**, primarily in Germany (28%), USA (21%), Japan (14%), UK (6%), France (5%), and the Netherlands (5%).
4. Most of the responding organizations (42%) **are oriented towards full-scale R&D activities** – from the early stages of research up to the final stages of development, including the ability to introduce new and innovative products to the market.
5. About a third of the respondents (32%) categorized themselves as having **significant R&D capabilities**, though mostly focusing on the early and middle phase of R&D

Key findings #1

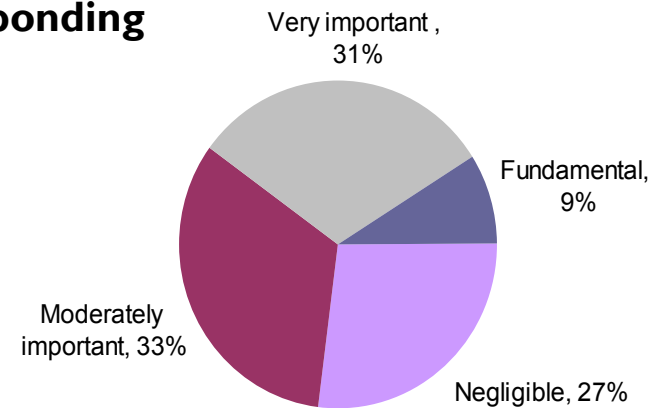
Licensing is an important instrument in the transfer of and utilization of ESTs

1. 73% of the responding organizations consider *out-licensing* activities to be an important part of their commercial activities.
2. “EST-intensive” organizations attach *an even greater* importance to out-licensing activities (84% of the EST-intensive organizations attach importance to this type of activity)
3. Public bodies and academic institutions attach the *greatest importance* to out-licensing activities (94% of the responding public bodies and 86% of the responding academic institutions replied that this activity is important to them).
4. Private companies also attach importance to out-licensing, though to a lesser degree (65% of the responding companies confirmed the importance of this type of activity)
5. Conversely, when it comes to *in-licensing*, private companies attach the greatest importance to this type of activity, compared with other organizations. 67% of the responding companies noted the importance of this activity (vis a vis 29% and 26% of public bodies and academic institutions)

Key findings #1

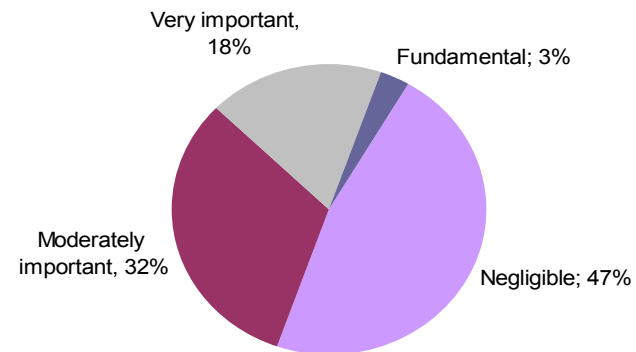
Importance of out-licensing activities to the responding organizations (Part A, Question 2a)

Importance of <i>out-licensing</i> activities	% of total respondents
Negligible	27%
Moderately important	33%
Very important	31%
Fundamental	9%



Importance of *in-licensing* activities to the responding organizations (Part A, Question 2b)

Importance of <i>in-licensing</i> activities	% of total respondents
Negligible	47%
Moderately important	32%
Very important	18%
Fundamental	3%



Key findings #2

There seems to be growing support towards the use of licensing over time

1. Over a third of the responding organizations (39%) reported that their business strategy has become more supportive of licensing, compared with 3% of the organizations reporting the opposite trend.
2. The trend towards the use of licensing is also visible among EST-intensive organizations, although to a slightly lesser extent compared with the sample as a whole (34%).
3. Public bodies reported the most visible shift towards licensing (54%), followed by academic institutes (44%) and private companies (33%).
4. Interestingly, 40% of the responding multinational companies reported a positive shift in their business strategy towards licensing, while only 25% of the responding SMEs reported the same shift.

Key findings #2

Part A Q3 - Has there been a shift in your organization's business strategy towards licensing of ESTs in the past three years?

Change in business strategy towards licensing in the past three years	% of total respondents
Less supportive of licensing	3%
No change	54%
More supportive of licensing	39%
ESTs licensing is not a part of my business strategy	4%

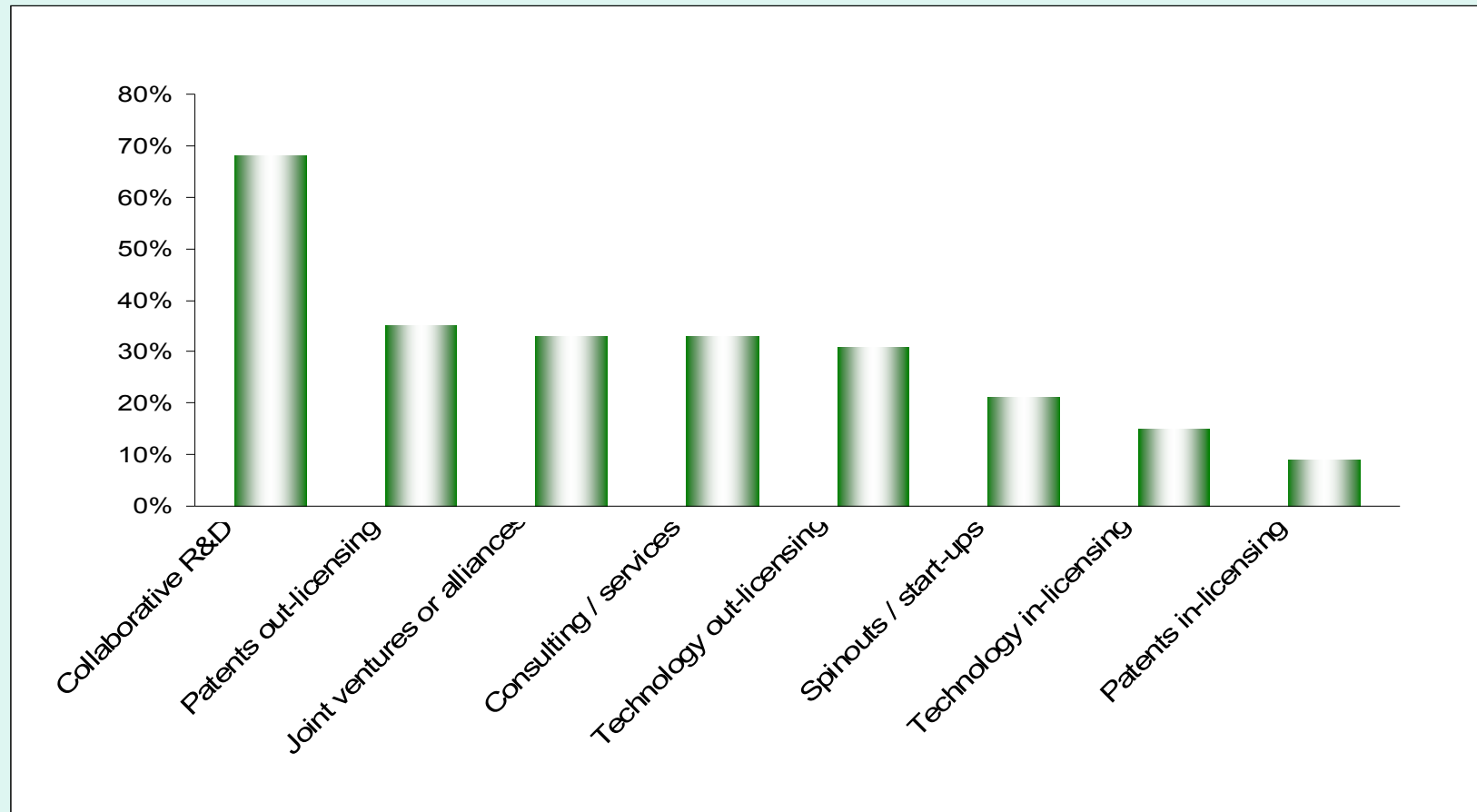
Key findings #3

Cooperative R&D efforts seem to be the most common form of technological development and transfer of ESTs

1. The vast majority of the responding organizations (83%) indicated that they are involved in *cooperative R&D efforts*, such as strategic partnerships, joint ventures, etc
2. On the other hand, less than half of the responding organizations (48%) indicated that they are involved in *collaborative IP-based mechanisms*, such as patent pools and cross-licensing.
3. 68% of the responding organizations identified *collaborative R&D agreements*, as having the highest intensity in terms of using this mechanism in their overall activities
4. Additional IP-related activities that were identified as having high intensity include patent out-licensing (35%), joint ventures or alliances (33%), consulting and services(33%), and technology out-licensing (31%).

Key findings #3

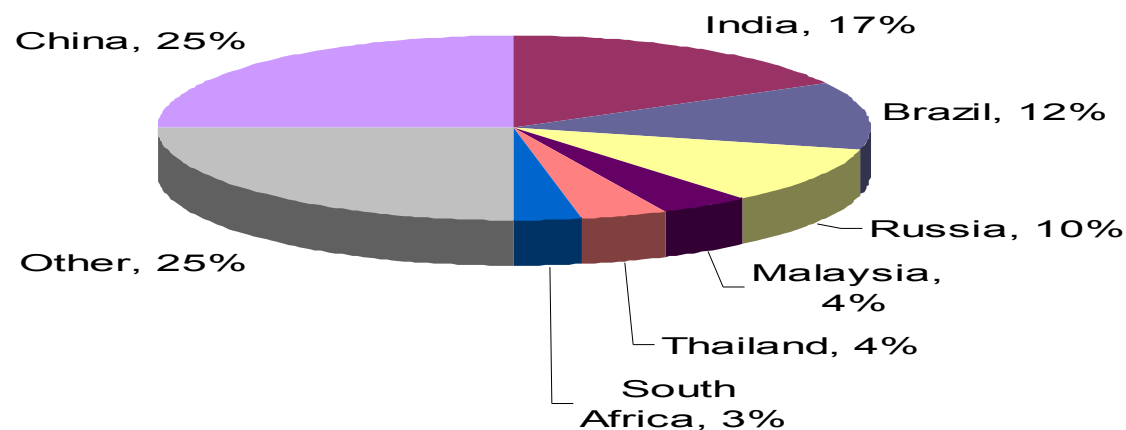
Share of responding organizations reporting a high intensity in their use of different IP-based activities relating to ESTs-patents and technology (Part A, Question 5)



Findings relating to the licensing of ESTs in developing countries #1

The majority of responding organizations have yet to enter into licensing agreements with entities that are based in developing countries

1. 58% of the responding organizations indicated that they have never entered into licensing agreements that involve recipients from developing countries.
2. **China, India and Brazil** were identified as the countries with which the responding organizations have been most involved with regard to licensing agreements or other IP-based activities involving ESTs.



Findings relating to the licensing of ESTs in developing countries #2

IPRs are important to tech transfer in developing countries but so are other factors!

1. Overall, the survey finds that, together with other macroeconomic factors, **the protection of intellectual property is an important factor** affecting the decision to enter into licensing agreements with recipients that are based in developing countries.
2. That being said, the report also suggests that **IPRs should be treated as one of many factors** affecting licensing decisions.
3. Favorable market conditions, a favorable investment climate, existence of scientific capabilities, infrastructure and human capital and protection of IPRs, **all seem to have a similar weight** in the decision to enter into licensing agreements.
4. The protection of IPRs seem to carry a **slightly greater weight among licensing-intensive respondents** (89% confirming its importance) compared with the other macroeconomic factors (scientific capabilities, infrastructure and human capital - 87%; favorable market conditions - 86%; and favorable investment climate - 87%).

Findings relating to the licensing of ESTs in developing countries #2

Importance of macroeconomic factors in the decision to enter into licensing agreements (and other collaborative IP-base activities) with recipients that are based in developing countries – *licensing-intensive organizations (grey) vis-à-vis all respondents*

	Protection of intellectual property rights	Scientific capabilities, infrastructure and human capital	Favorable market conditions	Favorable investment climate
Not a factor	18%	13%	16%	15%
	11%	13%	14%	13%
A basic precondition for doing business, but not a driving factor	28%	37%	26%	27%
	34%	36%	29%	29%
Significantly attractive condition, would encourage negotiation	29%	37%	44%	42%
	31%	38%	42%	40%
Compelling reason toward an agreement	25%	13%	14%	16%
	24%	13%	15%	18%

Findings relating to the licensing of ESTs in developing countries #3

There is a willingness for flexibility as far as licensing is concerned

1. Most of the responding organizations (70%) indicated that they would be willing to provide more flexible licensing terms to recipients that are based in developing countries and that may be more financially limited in terms of their ability to meet the original ("standard") terms of the license.
2. An even greater share of licensing-intensive respondents (78%) indicated that they are willing to make their licensing terms more flexible vis-à-vis recipients from developing countries with more limited financial resources.
3. Academic institutions seem to be the most willing to provide more flexible licensing terms to recipients with limited financial capabilities that are based in developing countries. 83% of the responding academic institutions indicated that they are willing to provide more flexible licensing terms, followed by public bodies (75%) and private companies (64%).

Findings relating to the licensing of ESTs in developing countries #3

Willingness of ESTs patent owners to provide more flexible licensing terms (including monetary ones) to entities that are based in developing countries (Part B, Question 4)

Willingness to provide for more flexible licensing terms	% of total respondents
No difference in licensing terms	30%
Licensing terms are more flexible	50%
Licensing terms are much more accommodating	15%
Licensing terms are <i>substantially</i> more accommodating	5%

Considerations for policy

- In order to move forward we have to focus not only on the transfer of ESTs but also on the adaptation capacity of the potential recipients – this is key!
- Evidence suggests that there is the positive potential for the long-term relationship between IPRs, tech-transfer and energy, including with regard to developing countries
- However, the IP system cannot be considered in isolation to other macroeconomic factors which are just as important
- The use of IPRs should be adjusted to the context - no need for slogans but for a more effective analysis of needs, of supply and demand
- International organizations can play a role in recognizing and sharing best practices, fill in knowledge gaps, and become more involved in facilitating joint initiatives

Thank you for your attention

Dr. Meir Perez Pugatch (Ms.C., Ph.D.)

**Senior Lecturer, IP Policy and Commercialisation of Knowledge Assets
University of Haifa**

meirp@pugatch.co.il

mpugatch@univ.haifa.ac.il