



Practical measures to encourage the diffusion of green technologies:

- Licensing
- Fast tracking of green patents
- The GreenXchange Platform

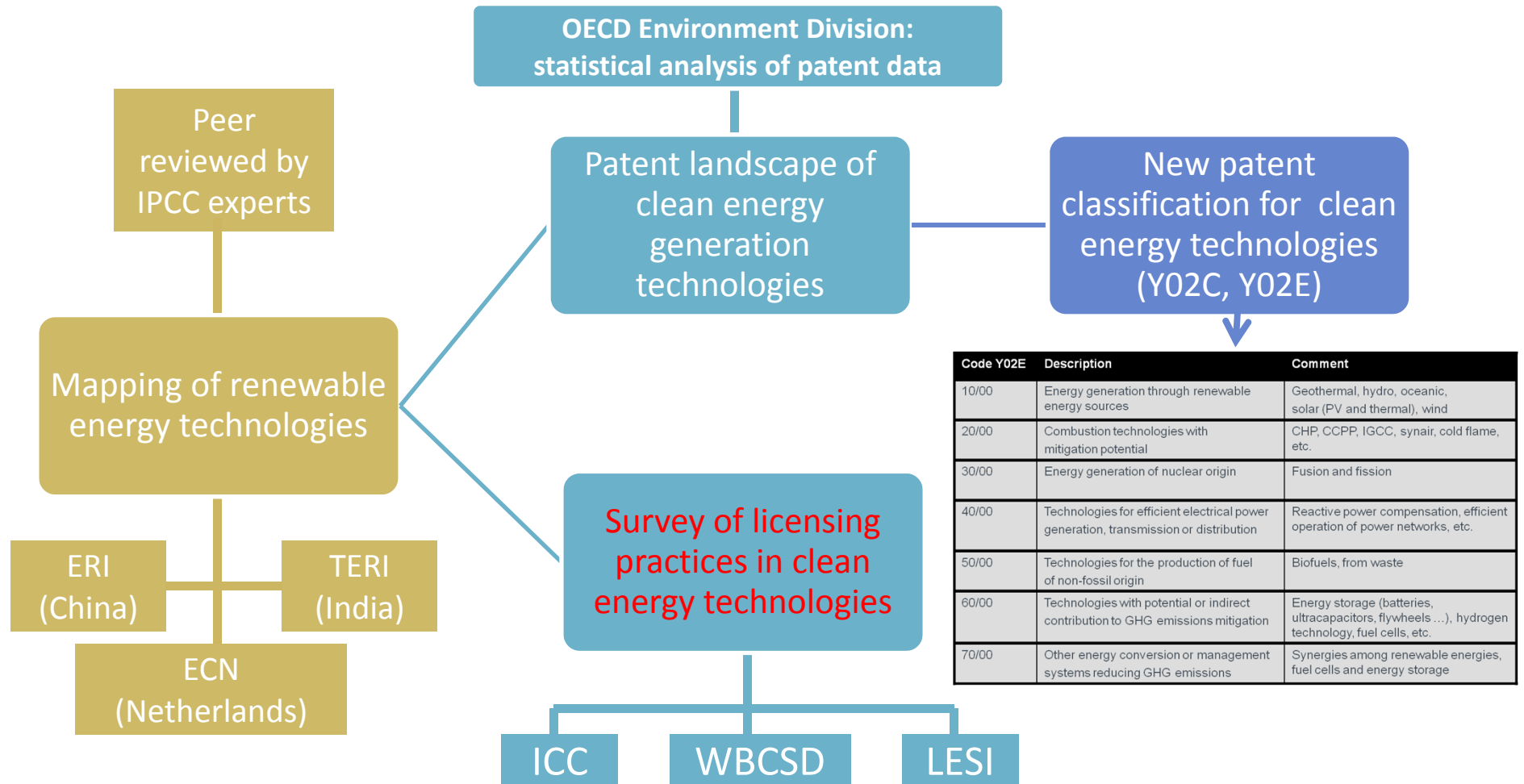
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WTO Regional Workshop on IPRs and Green Technologies
12th November 2014
Hong Kong



UNEP-EPO-ICTSD Report on Patents and Clean Energy



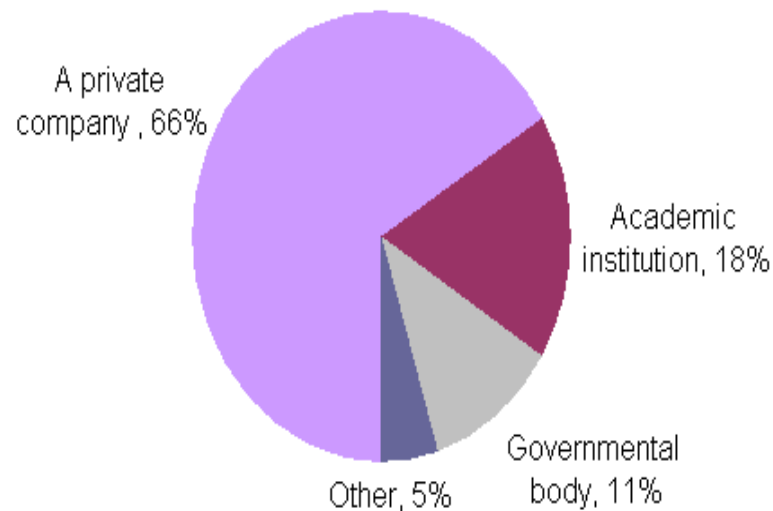
Licensing Survey in Clean Energy Technologies

- **Part A: General questions**
 - Proportion of CET-related patents
 - Importance and trends in in- and out-licensing activities
 - Collaborative IP mechanisms, importance for overall business strategy
- **Part B: Developing countries (DCs)**
 - Licensing activities in DCs? Which ones?
 - Factors affecting licensing agreements in DCs?
 - Flexibility of licensing terms in DCs?
- **Part C: General statistics**
 - Type of organization, country of headquarter, size, CET fields, R&D

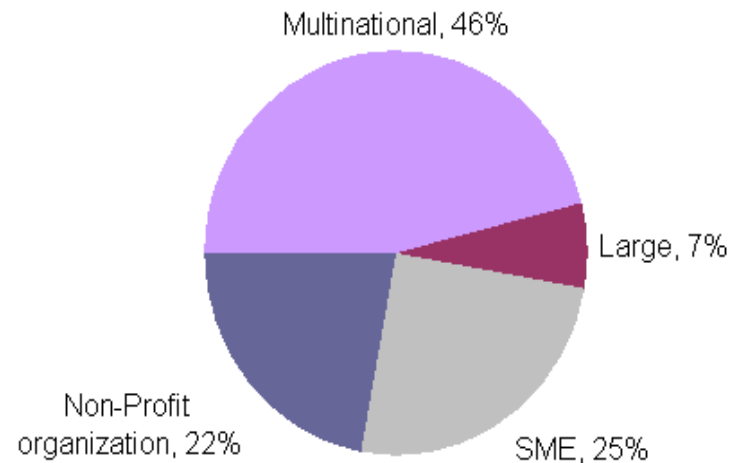
Survey Sample structure

- Some 150 questionnaires received (50% via on-line survey)
- Wide range of responding organizations (multinationals, universities, government agencies)

Character

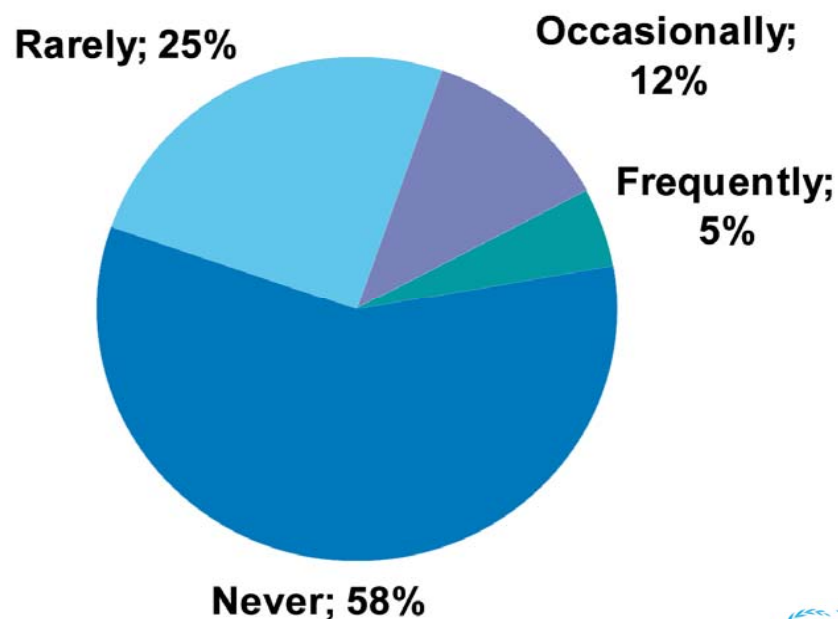


Size



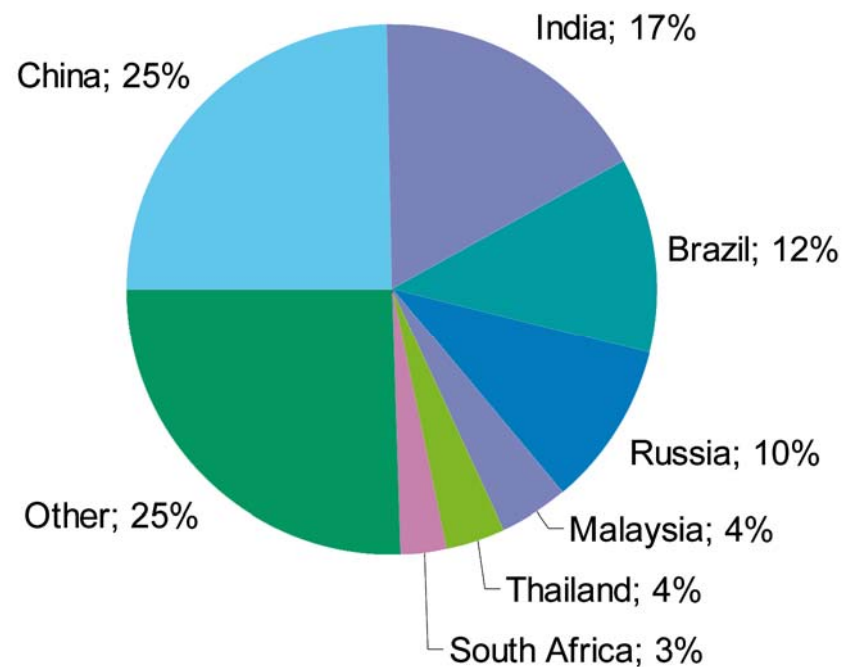
Limited Licensing towards developing countries

'To what extent has your organisation entered licensing agreements that involve licensees (which are not majority-controlled subsidiaries) based in developing countries in the last three years?'



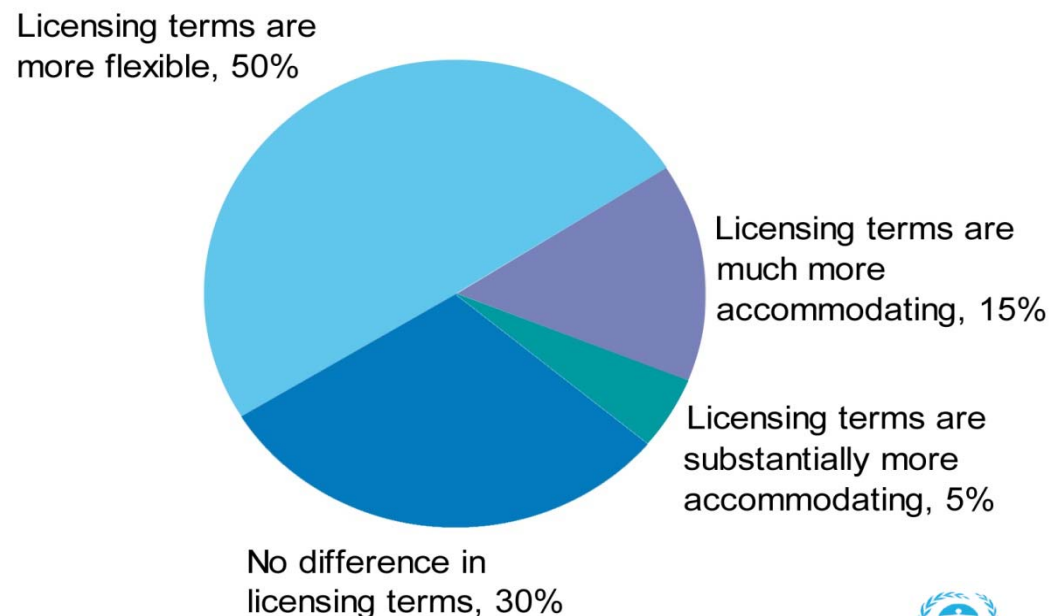
BRIC countries important for licensing

With which countries has your organisation been most involved in licensing or other commercialization activities of intellectual property in the field of CETs



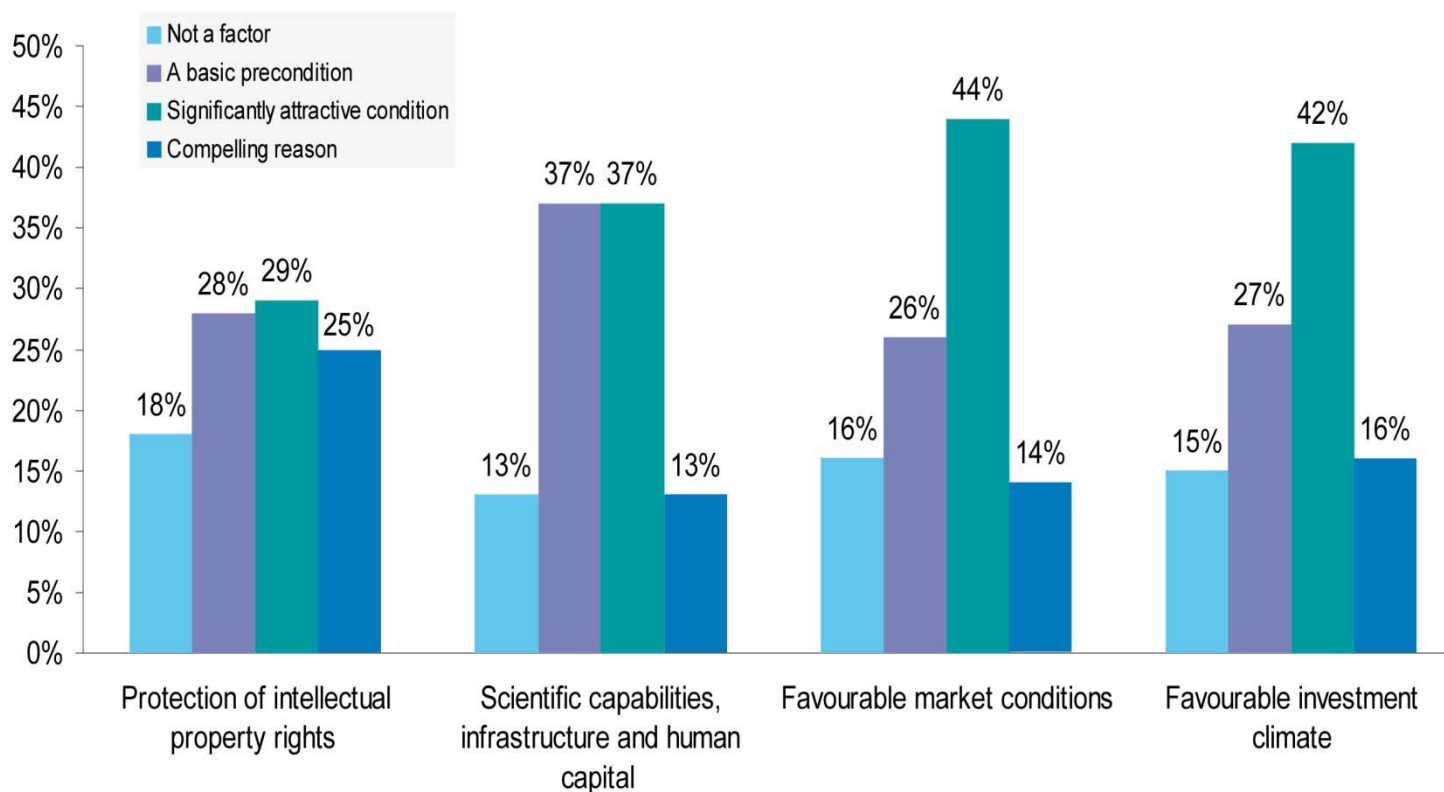
More lenient licensing terms towards developing countries

'When entering into an out-license agreement with parties that are based in developing countries, to what extent do the monetary terms of your license reflect your willingness to introduce greater lenience due to differences in the purchasing power of the parties?'



Factors affecting Licensing with developing countries

When your organisation is making a decision whether or not to enter into a licensing or co-operative development agreement with a party in a developing country, to what extent would the following factors positively affect your assessment?



WIPO-ICTSD-Delft university workshop on Licensing of Clean Energy Technologies (November, 2013)

- **Dialogue** examined knowledge gaps concerning the licensing of climate change technologies to developing countries from the viewpoint of a diverse range of stakeholders.
- Programme and presentations available at: <http://www.ictsd.org/themes/climate-and-energy/events/licensing-of-climate-change-related-technologies-to-developing>

Some proposals for future work on licensing

- **Like minded group of developing countries UNFCCC submission (2014):**
 - “The establishment of an international mechanism on IPRs by developed country Parties and the provision of financial resources for technology development and transfer to developing countries through a specific window for technology development and transfer under the Green Climate Fund.”
- **Global Licensing Facility (GLF) for clean energy technologies?**
- Possible **guidelines/principles** for licensing clean energy technologies to developing countries ?
 - **CEO Climate Policy Recommendations to G8 Leaders, July 2008, WBCSD/WEF:**
“an international set of core contractual principles for business engaging in clean energy technology licensing in developing countries”

Programmes to « fast track » ‘green’ patent applications

- **Programmes to fast track ‘green’ patent applications in 9 intellectual property offices**

Australia, Canada, Israel, Japan, Republic of Korea, UK, US
(pilot programme now closed) China and Brazil

- **Objective**

- Allow patents covering green technologies to be examined as a matter of priority
- Reduce time needed to obtain a granted patent

- **Consequences**

- Start selling/licensing technology sooner
- ➔ Accelerate the diffusion of clean technologies

ICTSD Study on Fast Track programmes (2013) By Antoine Dechezleprêtre, LSE

- Provides an up-to-date picture of the green patent fast-track programmes landscape
 - **Based on data from 7 offices** (China and Brazil just started)
- Asks whether these programmes are useful
 - **Do they accelerate the diffusion of clean technologies?**

▶ **The first empirical paper on green patents fast-tracking programmes**

Overview of fast track programmes (I)

A mild participation

Country	Number of fast-tracked green patent applications	As a percentage of green patents in same period
Australia	43	0.76%
Canada	67	1.64%
Israel	78	13.13%
Japan	220	1.48%
Korea	604	1.88%
UK	776	20.91%
US	3500	8.15%

Overview of fast track programmes (II)

Understanding the low usage rate

- Accelerated examination may **add costs** to the application in some patent offices
- **Awareness** of the programmes is **low**
- Patent applicants have an incentive to have their patent applications **granted late** in the examination process

BUT

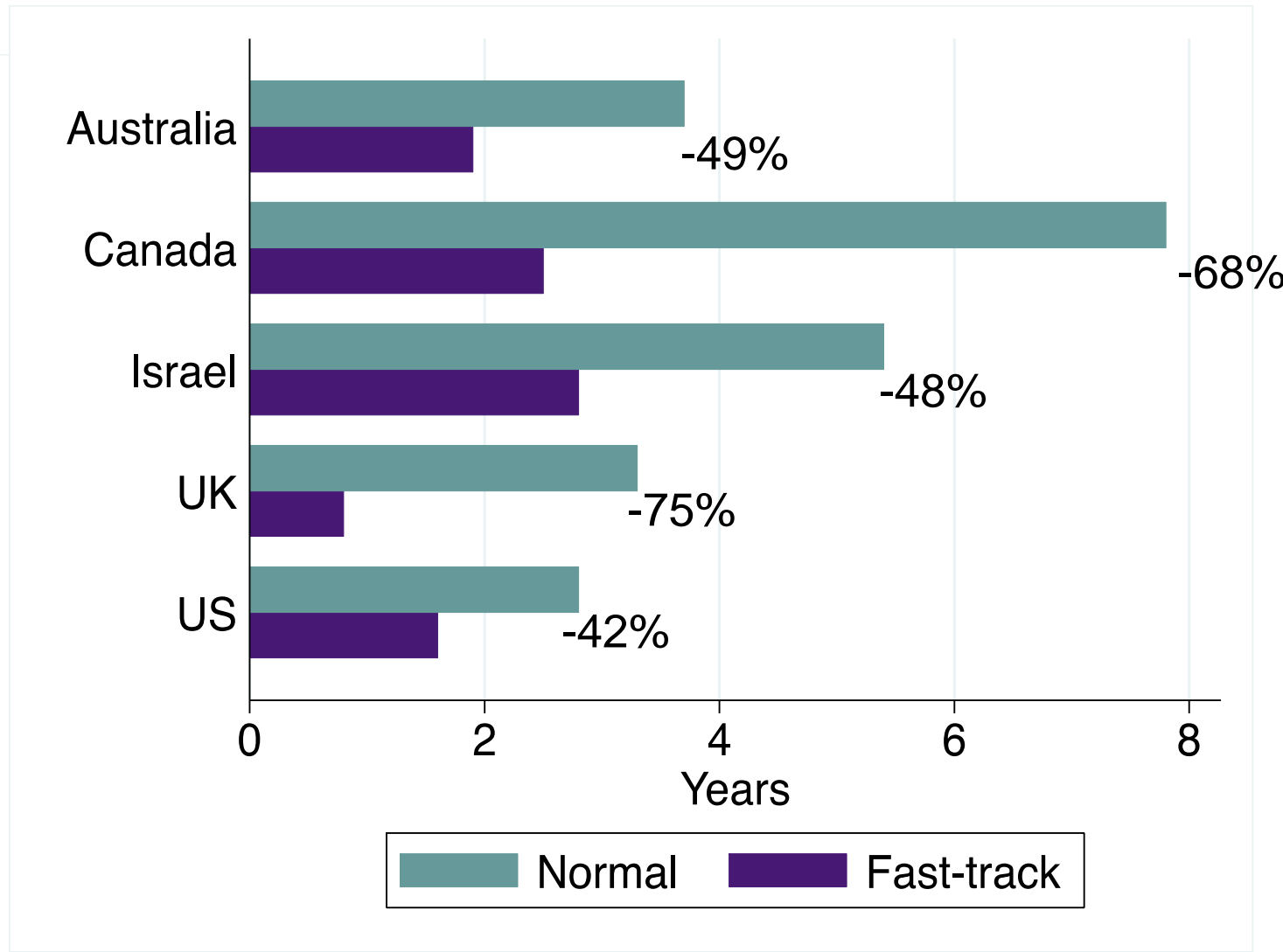
- Patent applicants have an interest in using fast-tracking programmes ***only under specific circumstances***
 - suspicion of infringement
 - capital raising activity
 - securing commercial partnerships
- **High participation rate in the UK** shows that there is a clear demand for this type of mechanism

Characteristics of patents (I) Technology distribution

- **Majority of patent applications: climate change-related technologies** (in particular mitigation/renewables)
 - Main technology in Australia and Canada is CCS
- **Other environmental technologies** (recycling, pollution control) = 20%
 - Israel: 30% of patent applications cover water-saving technologies

Characteristics of patents (II)

Fast-tracking reduces time to grant



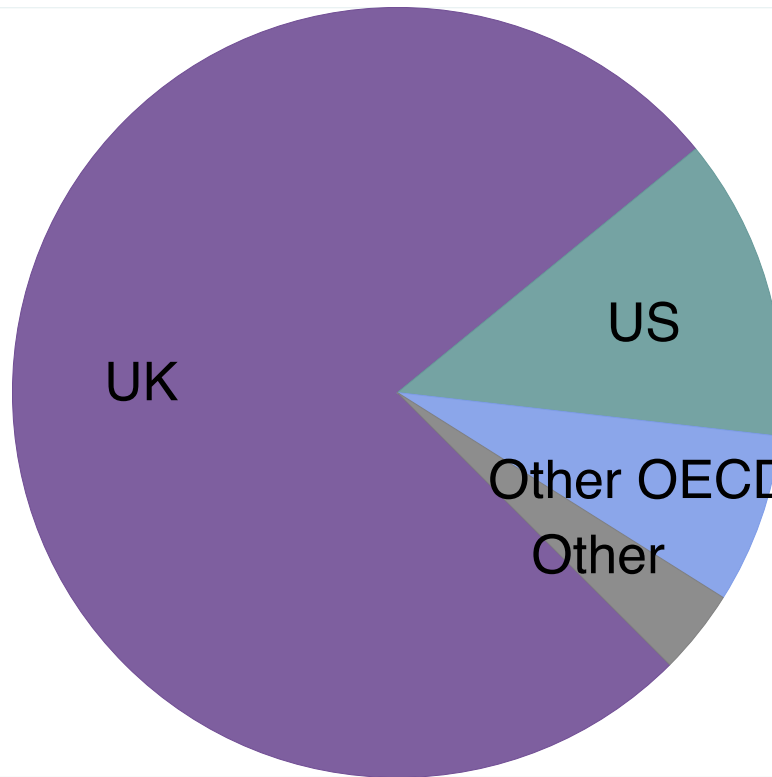
Characteristics of patents (III)

Faster knowledge diffusion

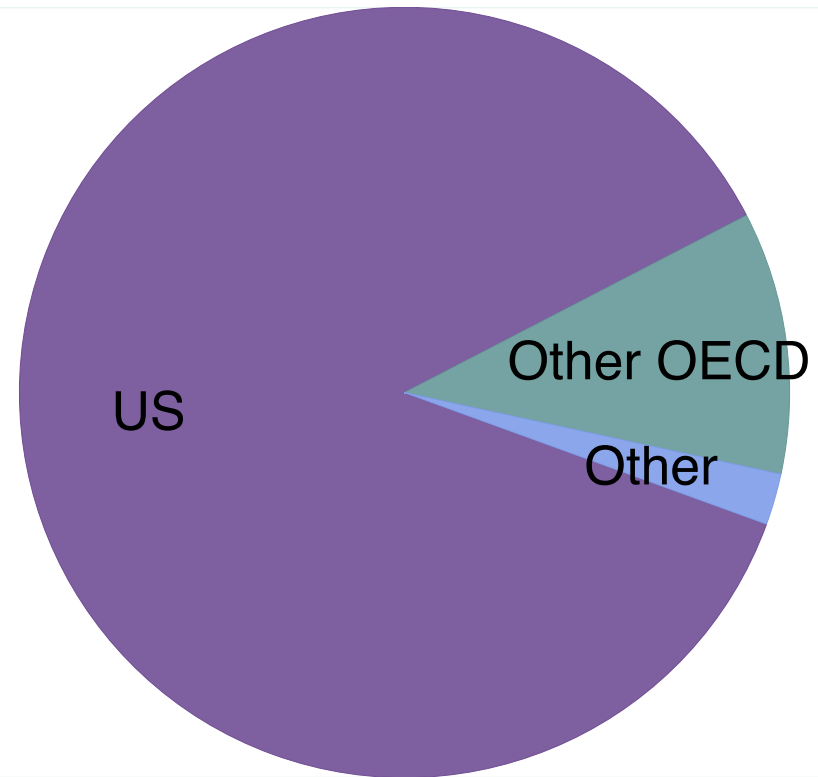
- Patent citations are used to analyse diffusion of technological knowledge
 - When a patent is filed, it must include citations to previous patents upon which the inventor has built
- Compared with other patents (filed in the same month & of similar quality), fast-tracked patents received **twice as many citations** in the same time period
- Fast-tracking programmes accelerate the diffusion of knowledge in green technologies *in the short run*

Profile of users (I) Applicants are mostly domestic

UK

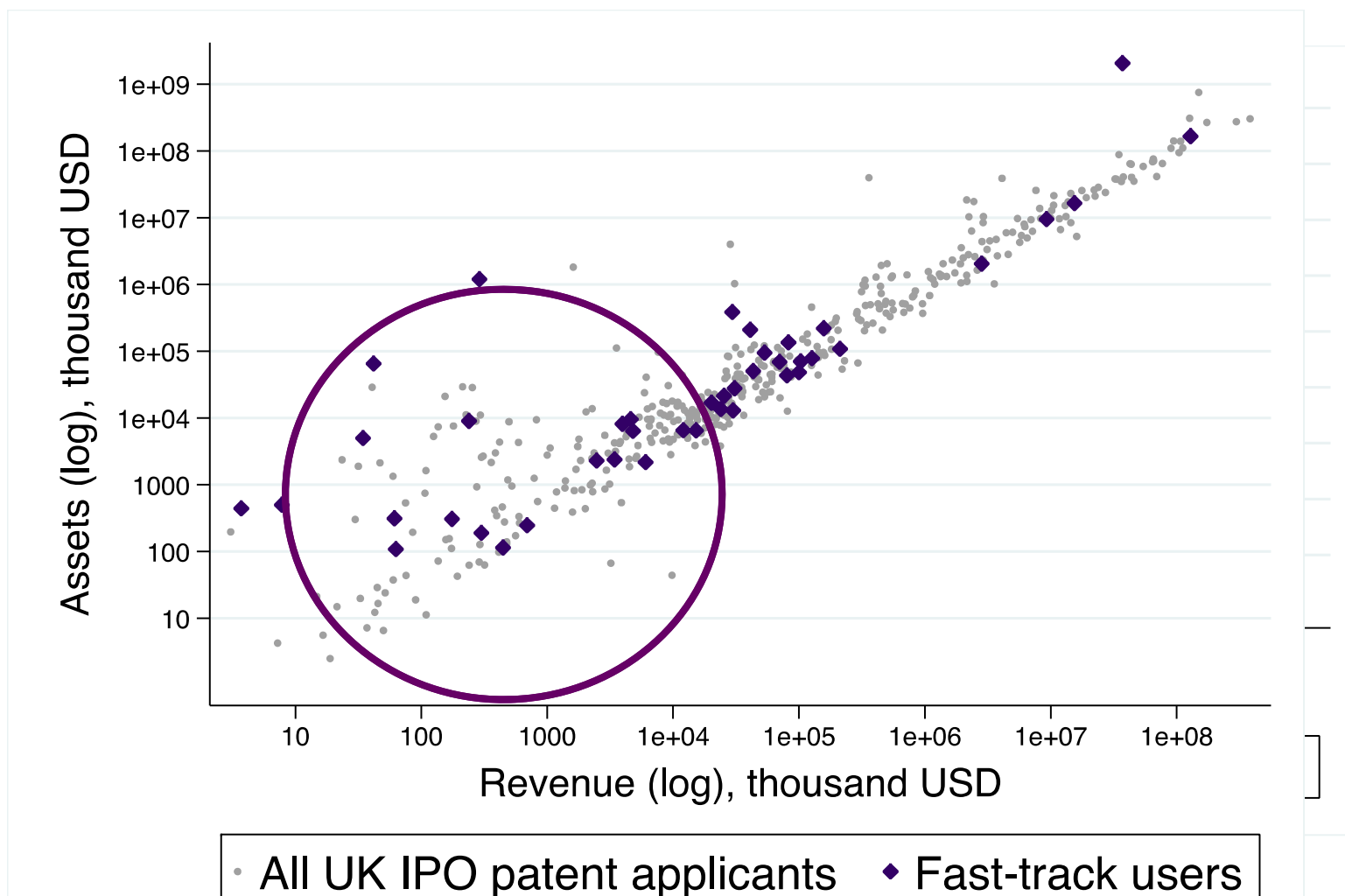


US



Profile of users (II)

Start-ups use fast track a lot



Lessons (I)

There is a demand for fast-tracking programmes

- Only a small share (<20%) of green patents request accelerated examination, but this was to be expected
 - Applicants prefer to delay their patent applications in the examination process
 - Participation could be enhanced in many patent offices by increasing communication over the programmes
- Overall participation and the high usage rate in the UK show that there is a clear demand for this type of mechanism

Lessons (II)

Encouraging technology diffusion

- Time from application to grant is reduced by 42% to 75%
- Granted patents can be licenced sooner, so the technologies can diffuse
- Fast-tracking programmes have accelerated the diffusion of technological knowledge in green technologies *in the short run*.
 - This is encouraging
 - Whether this effect will remain in the long run is an open question

The GreenXchange (GX) Platform

- The **GreenXchange platform** was launched by **Nike** and nine other organizations in 2010 as a web-based marketplace for intellectual property (IP), founded on the “belief that the best way to **stimulate sustainable innovation is through open innovation.**”
- The GX combines **technology and the Creative Commons licensing structure** to provide a platform for companies to both issue licenses to use their patents and acquire the rights to use the patents of others.
- However, the GX's has had limited success. It is home to just **463 patents: 444** of those were posted by **Nike** soon after it launched the exchange, **15** were subsequently posted by **Best Buy**, and **4** were posted by the University of California at Berkeley.

The GreenXchange (GX) Platform

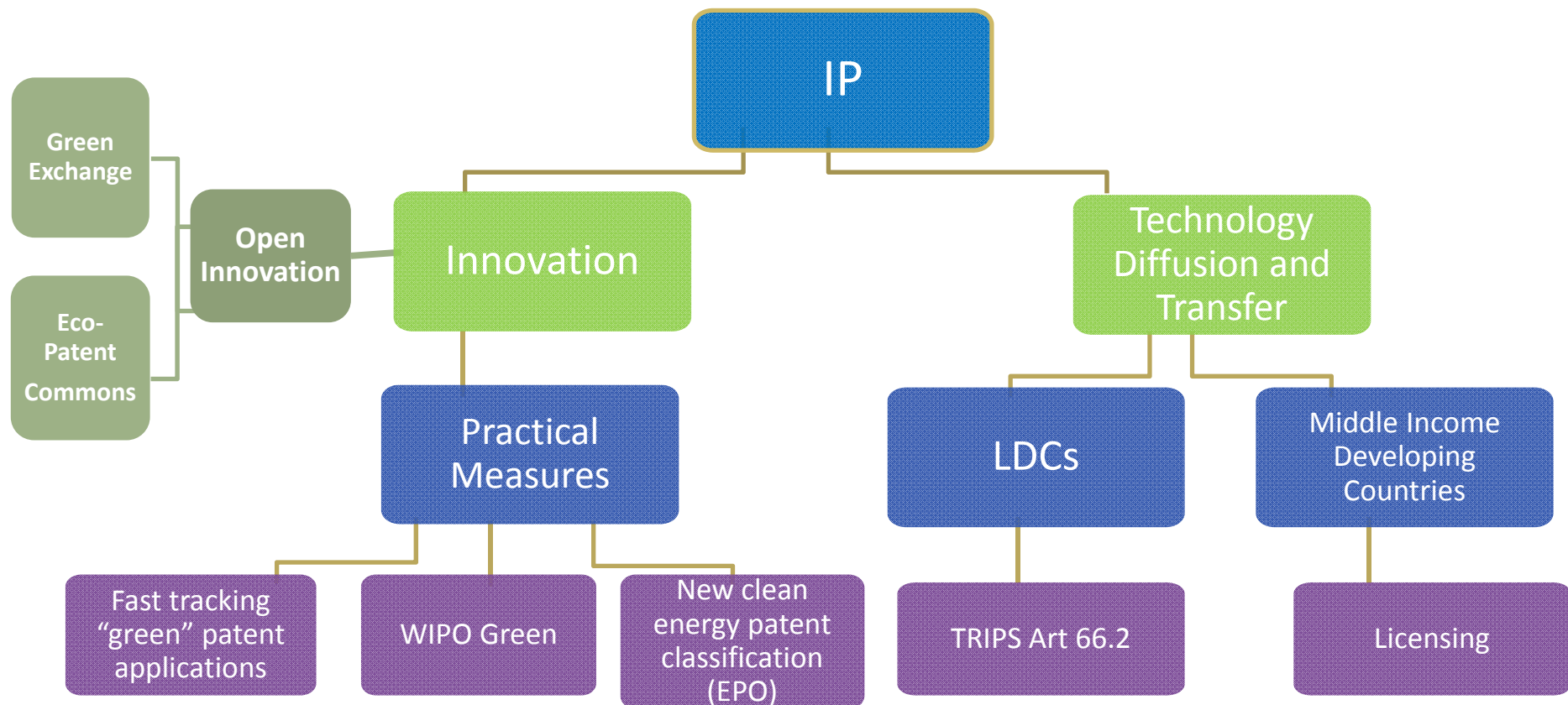
Challenges facing the development of GX:

- The strength of the **prevailing paradigm on IP protection and management;**
 - Lack of consensus amongst patent holders regarding the safety and utility of such platforms and exchanges.
- The realisation that **patents in and of themselves are not necessarily the most integral part of open innovation-inspired attempts** to promote sustainability business models;
 - More interest in gaining access to the knowledge behind the creation of the patents than there was in simply obtaining the patents themselves.
- GX moved focus from accruing assets on a web-based platform and toward an emphasis on **building relationships between parties with mutual interests and mutually beneficial knowledge regarding sustainability.**

Broader implications

- The protection and enforcement of IPRs **should** contribute to the promotion of technological **innovation** and to the **transfer and dissemination of technology** to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations (**TRIPS Article 7: Objectives**).
- It is possible to consider **practical measures** in the IPRs system to **accelerate the diffusion of clean technologies** beyond just the status quo.

IP, Green Innovation and Technology Transfer



Reference studies

- **Licensing survey**
 - UNEP, EPO, ICTSD Report on Patents and Clean Energy, 2010.
- **Fast track of green patents**
 - Antoine Dechezleprêtre, *Fast-tracking Green Patent Applications: An Empirical Analysis*; Issue Paper No. 37, CTSD, 2013.
- **GreenXchange**
 - Roya Ghafele, and Robert D. O'Brien; *Open innovation for Sustainability: Lessons from the GreenXchange Experience*; Policy Brief No. 13; ICTSD, 2012.

Thank You

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<http://ictsd.org/programmes/ip/>

