



***Intellectual Property and its Role in the Generation and
Diffusion of Green Technologies,
Hong Kong China
11 November 2014***

***Session II: Provisions of the TRIPS
Agreement that are relevant to the
discussion on the generation and
diffusion of green technologies***

Jayashree Watal

WTO



OVERVIEW

- Skepticism about adequacy of TRIPS provisions in relation to climate change
- Which IPRs are relevant to the development and diffusion of green technologies?
- TRIPS provisions
 - General provisions and basic principles
 - Patent provisions
 - LDC-specific provisions
- Concluding remarks



Skepticism about TRIPS provisions and green technologies

- TRIPS imposes minimum standards of patent protection that **may** impede technological development and transfer in developing countries (Hutchison, 2006)
- The TRIPS Agreement, in its current form, **does not provide an appropriate environment** for large-scale climate-change- related technology transfer to developing countries. (Littleton, UNDESA, 2008)



IPRs relevant to green technologies

- Patents

- A patent is the IPR that is granted **to protect eligible new inventions**
- **Separately applied for and granted in each jurisdiction.** Unprotected inventions in the public domain
- Publicly funded technologies may also be patented (or subject to trade secrets)
- Patents may be licensed or assigned by their owners; also CL possible

- Trademarks

- A trademark is **a sign or a combination of signs** that is used to distinguish the goods or services of one enterprise from those of another. **Certification marks** certify that the product bearing the mark has certain characteristics such as a particular mode of production.

- Trade secrets

- Commercially valuable information that is protected against acquisition through dishonest means, provided its owner has taken reasonable steps to keep it secret

- Plant variety protection

- Protects new plant varieties that are new and distinctive from known varieties, whose characteristics can be reproduced with uniformity and stability.

- ✓ Laws/regulations relating to the suppression of unfair competition

- ✓ Acts contrary to honest commercial practices
- ✓ Misleading/passing off

TRIPS general principles and basic provisions



TRIPS general provisions and basic principles

- **Preamble**
 - Members recognize the underlying public policy objectives of national systems for the protection of IP, including developmental and technological objectives
- **Article 3, 4**
 - National treatment
 - Most-favoured-nation treatment
- **Article 7**
 - The protection and enforcement of intellectual property rights should contribute to the
 - promotion of **technological innovation** and
 - to the **transfer and dissemination of technology**
- **Article 8**
 - Members may **adopt measures to promote the public interest in sectors of vital importance to their socio-economic and technological development**
 - Members may need to take appropriate **measures** provided they are TRIPS-consistent) **to prevent the abuse of intellectual property rights** by right holders or the resort to practices which unreasonably restrain trade or adversely affect the international transfer of technology (See also Art. 40).



Article 6: Exhaustion of IPRs

- The exercise of the exclusive rights under a patent is also limited by the exhaustion of rights.
- The term "**exhaustion**" refers to the generally accepted principle in intellectual property law that **a right owner's exclusive right to control the distribution of a protected item lapses after the first act of distribution.**
 - In many countries, once the item **has been put on the market by or with the consent of the right owner anywhere in the world**, the exclusive distribution right is "exhausted" and further circulation of that item can no longer be controlled by the right holder.
- Article 6 of the TRIPS Agreement states that a Member's practices in this area, other than the application of the principles of national treatment and m.f.n, cannot be challenged under the WTO dispute settlement system.



TRIPS provisions on patents

Patentable subject matter

- Patentable subject matter (Art.27.1)
 - Patents shall be available for **any inventions, whether products or processes**, in all fields of technology
 - **no definition of invention**, but only of patentable invention
 - patents are **not automatically granted** for eligible inventions – application to be made, criteria to be met, principle of territoriality
 - Indeed in the great majority of developing countries and least-developed countries, much "patented" green technology is likely already to be in the public domain, i.e. free to be used without patent constraint (provided there are no other laws/regulations that prevent its use).

Criteria for patentability

- Three criteria for patentability
 - **Novelty:**
 - world wide vs. local?
 - **Inventive step** (US: non-obviousness):
 - person skilled in the art?
 - Overlap with the concept of invention?
 - Level of non-obviousness
 - **Industrial applicability** (US: usefulness)
 - Utility?

Exclusions from patent grant - Art.27.2

- Members **may** exclude from patentability
 - An invention **the prevention of the commercial exploitation of which is necessary to protect *ordre public* or morality**, including
 - To protect human, animal or plant life or health.
 - **To avoid serious prejudice to the environment.**
 - provided that such exclusion is not made merely because the exploitation is **prohibited by law** .
- For example, a device whose explicit and only use is to de-activate a widely-used instrument that monitors GHG emissions may be seriously prejudicial to the environment.
- Other regulatory authorizations may be necessary – for ex. new saline tolerant or drought resistant crops that may need regulatory approval before use.

Exclusions from patent grant – Art. 27.3.(a)

- Diagnostic, therapeutic and surgical methods for the treatment of humans or animals
 - What about diagnostic or surgical products used in treatment?
 - Useful to be aware of this exclusion in the context of climate adaptation technologies in particular

Exclusions from patent grant – Art. 27.3(b)

- Members may exclude from patentability
 - Plants and animals
 - **Essentially biological** processes for their production
- Members shall not exclude from patentability
 - Micro-organisms
 - **Non-biological and microbiological** processes
- may be pertinent to certain climate change mitigation and adaptation technologies
- Members shall protect plant varieties
 - By patents or
 - By an **effective *sui generis* system** or
 - By any combination thereof

Non-discrimination

- Non-discrimination **in the availability of patents and enjoyment of patent rights** with respect to:
 - the place of invention,
 - the **field of technology**,
 - or whether products imported or locally produced
 - Requirement for local working as a ground for compulsory licensing?
- May be considered discriminatory for Members to exclude from patent grant an entire field of technology such as bio-fuels, or to provide for special exceptions to patent rights for any one field of technology

What are the rights of a patent owner?

- Patent rights (Art. 28)
 - Product patent:
 - To prevent others from making, using, **offering for sale**, selling or **importing** the patented product
 - Process patent:
 - To prevent others from using the patented process.
 - **doing any of the above acts with respect to the product directly obtained by that process.**
- For ex., a patent on a novel, more efficient method of producing a known product, say photovoltaic cells, could be used to prevent the sale of PV cells produced by that method, not to block the sale or use of any other PV cells



Conditions on patent applicants

- Conditions on patent applicants (Art. 29)
 - Clear and complete disclosure of the working of the invention
 - The best mode: not mandatory
- Rationale for complete disclosure

Limited Exceptions to Patent Rights - Article 30

- Exceptions to patent rights may be provided, if such exceptions meet a **3-step test**:
 1. Must be limited
 2. Must not unreasonably conflict with a normal exploitation of the patent
 3. Must not unreasonably prejudice the legitimate interests of the patent owner, taking into account legitimate interests of third parties
- Examples: prior use, private non-commercial use, experimental use, regulatory-review exception
- Certain adaptation technologies in the agricultural and medical fields may be subject to regulatory processes



Other exceptions – Use without Authorisation

- Article 31 (1)

- Article 31 covers compulsory licences and government use.
 - [See Paris Convention, Article 5.A](#)
- No restriction on grounds
 - Doha Declaration recognizes that Members have the right to grant compulsory licenses and freedom to determine the grounds for compulsory licenses.
 - Dependent patents with cross licensing requirements
- Unlike voluntary licensing, CL would not involve the cooperation of the right owner and if there are trade secrets or tacit know-how involved in making the best commercial use of the patented invention, not all licensees would be capable of fully exploiting the invention in the most cost-effective or efficient manner.

Conditions for grant of use without patentee's authorization

Articles 31+27.1

- Without discrimination whether locally produced or imported (Article 27.1)
- Applications to be considered on their individual merits (a)
- First, an unsuccessful attempt of contractual licensing except in certain cases (b)
- Scope and duration to be limited to purpose of grant (c)
- Non-exclusive, non-assignable (d, e)
- **Predominantly for supply of domestic market (f) (Article 31bis)**
- Licences shall be terminated when circumstances terminate (g)
- Right holder: adequate remuneration based on economic value (h)
- Decisions on legal validity of grant and remuneration to be subject to judicial or other independent review (i, j)

Article 5

A. Patents: *Importation of Articles; Failure to Work or Insufficient Working; Compulsory Licenses*

B. Industrial Designs: *Failure to Work; Importation of Articles*

C. Marks: *Failure to Use; Different Forms; Use by Co-proprietors*

D. Patents, Utility Models, Marks, Industrial Designs: *Marking*

A.

(1) Importation by the patentee into the country where the patent has been granted of articles manufactured in any of the countries of the Union shall not entail forfeiture of the patent.

(2) Each country of the Union shall have the right to take legislative measures providing for the grant of compulsory licenses to prevent the abuses which might result from the exercise of the exclusive rights conferred by the patent, for example, failure to work.

(3) Forfeiture of the patent shall not be provided for except in cases where the grant of compulsory licenses would not have been sufficient to prevent the said abuses. No proceedings for the forfeiture or revocation of a patent may be instituted before the expiration of two years from the grant of the first compulsory license.

(4) A compulsory license may not be applied for on the ground of failure to work or insufficient working before the expiration of a period of four years from the date of filing of the patent application or three years from the date of the grant of the patent, whichever period expires last; it shall be refused if the patentee justifies his inaction by legitimate reasons. Such a compulsory license shall be non-exclusive and shall not be transferable, even in the form of the grant of a sub-license, except with that part of the enterprise or goodwill which exploits such license.

Patent term and revocation

- Term of protection (Art. 33)
 - 20 years from the filing date
 - Silent on patent renewal fee schedule but must be reasonable (Article 62)
- Revocation/Forfeiture (Art. 32)
 - Opportunity for judicial review
 - Article 5.A(3) – forfeiture for abuse of patent
 - “Forfeiture of the patent shall not be provided for except in cases where the grant of compulsory licenses would not have been sufficient to prevent the said abuses. No proceedings for the forfeiture or revocation of a patent may be instituted before the expiration of two years from the grant of the first compulsory license.”



TRIPS LDC-SPECIFIC PROVISIONS

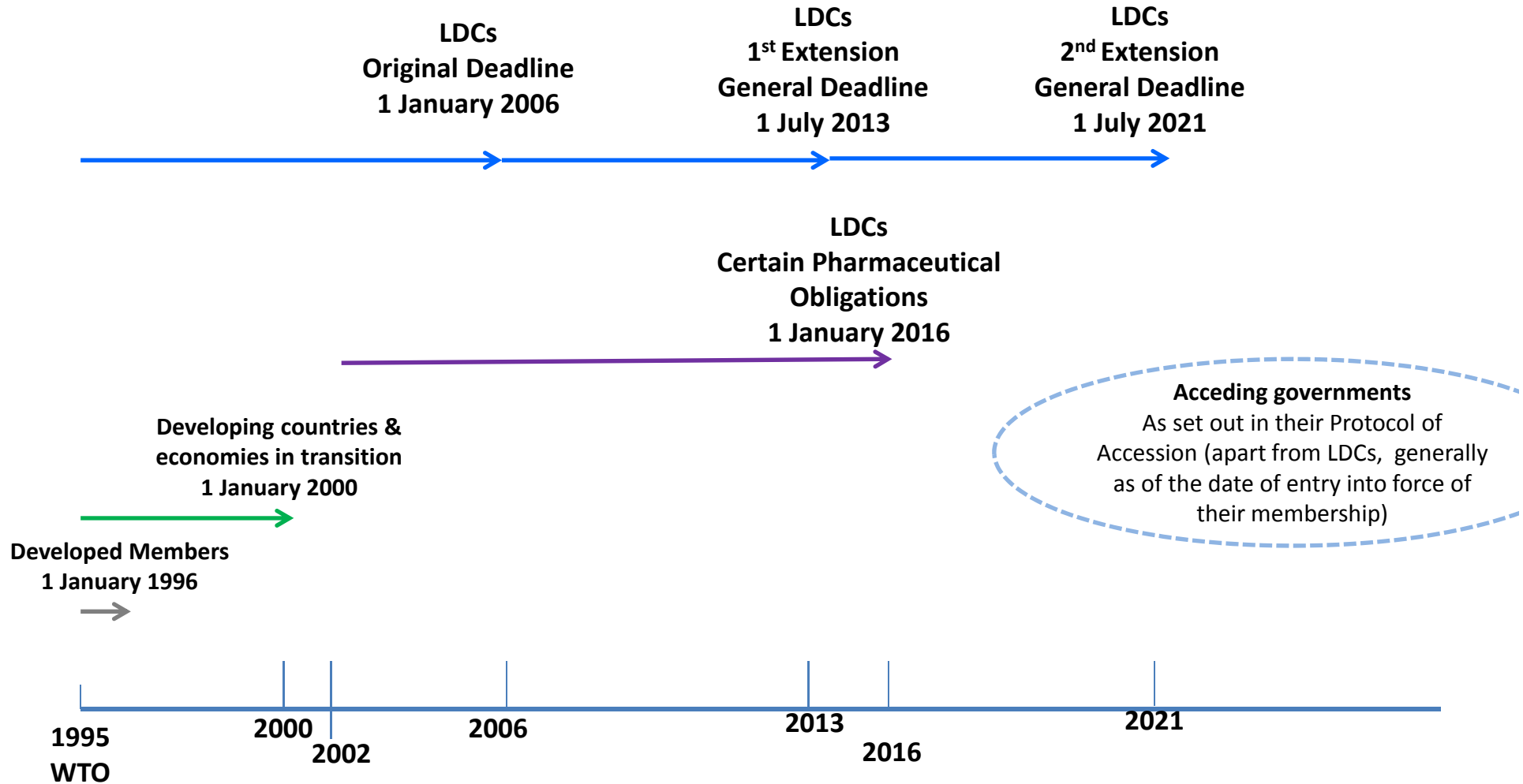
Article 66.2

- Developed country Members shall provide **incentives to enterprises and institutions in their territories** for the purpose of promoting and encouraging technology transfer to least-developed country Members in order to enable them to create a sound and viable technological base.
- Several developed countries have reported under this provision projects for LDCs in climate friendly technologies: Australia, EU, Canada, Norway, Switzerland and the US.



TRIPS

Transitional arrangements



Concluding remarks

- Most relevant IPR for the development and diffusion of green technologies is patents.
- LDC Members have until mid-2021 to implement TRIPS
- Under TRIPS, patents must be available for all fields of technology, subject to certain exclusions
 - Technologies that seriously harm the environment
- Patents are territorial – no global patent
 - generally not filed in vast majority of developing and least developed countries, where users are free to exploit new inventions
 - Trade secrets/know-how could be important
- TRIPS allows limited exceptions and use without authorization of the patent owner