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des brevets

40 YEARS 1973-2013
**EUROPEAN
PATENT
CONVENTION**
Innovation matters

WTO Regional Workshop IP and its role in the generation and diffusion of green technologies

Ged Owens
Coordinator, Public Policy Issues

11 November 2014



Evidence for policy making

Rio conference 1992 and Rio +20 (2012)

*"Patent rights are a **barrier** to technology transfer of Climate Change Mitigation Technologies (CCMT) to developing countries [...]"*

Submissions at the Ad Hoc Working Group on Durban Platform for Enhanced Action (ADP) 2014 from some developing and emerging countries

*"Developed country Parties should promote transfer of, or access to technologies and know-how to developing country Parties, by **removing obstacles such as IPRs** [...]"*



Special classification of patents for Climate Change Mitigation Technologies

- **Y02** tagging scheme is **complementary** to the existing classifications.
- 1000 classification entries and nearly **2 million documents**.
- Easy access to the general public on patenting in climate change mitigation technologies

- **Y02C:** Greenhouse gases – capture or storage/sequestration or disposal
- **Y02E:** Greenhouse gases – emissions reduction technologies related to energy generation, transmission or distribution
- **Y02B:** Buildings - Climate change mitigation technologies in buildings, including the residential sector
- **Y02T:** Transport - Climate change mitigation technologies in the transportation of goods and persons
- **Y04S:** Smart Grids technologies - Remote network operation, smart metering, electric and hybrid vehicles interoperability, trading and marketing

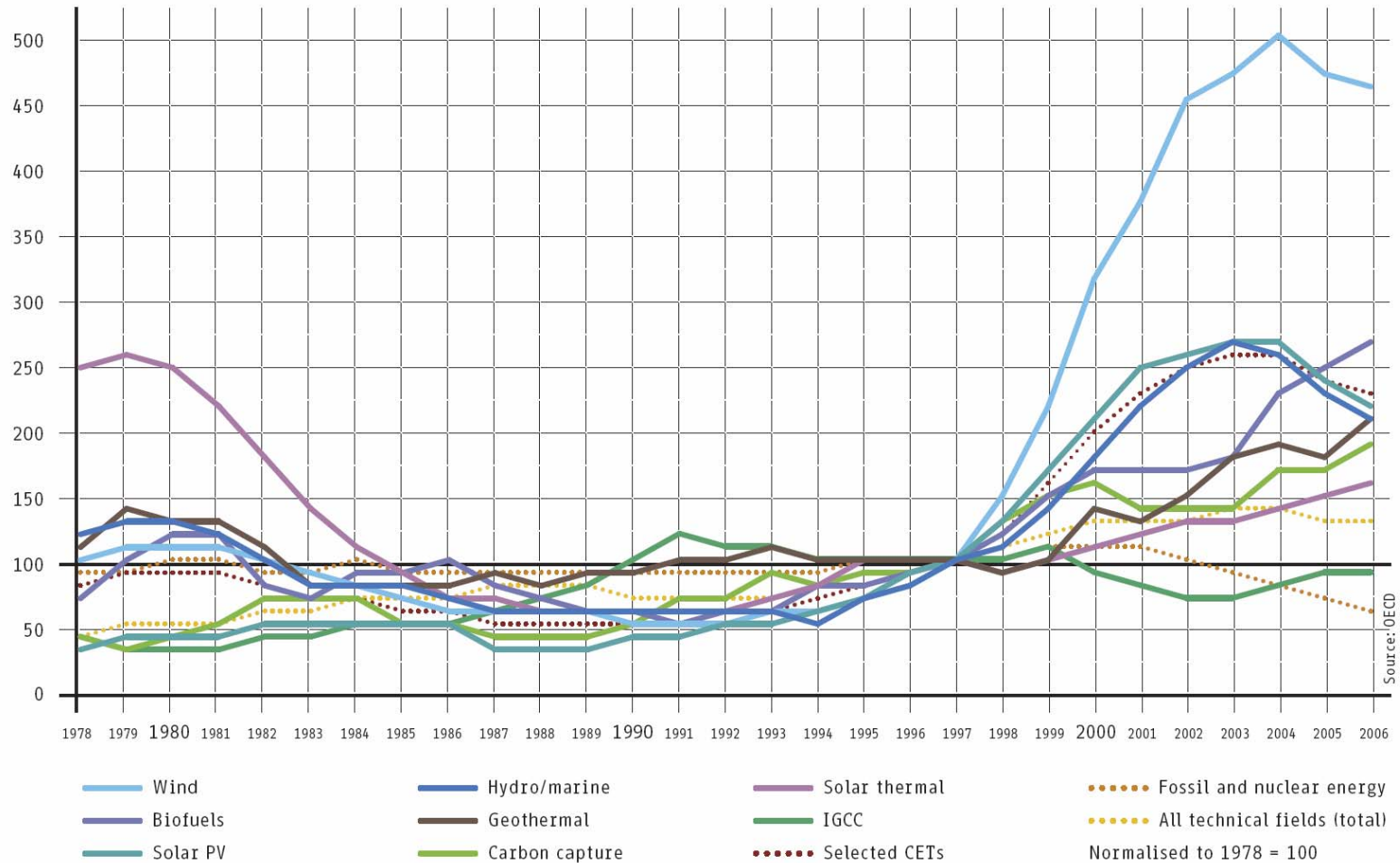


EPO Worldwide Patent Statistical Database (PATSTAT)

- **Snapshot of the EPO master documentation database (DOCDB)**
 - worldwide coverage, more than 100 countries
 - about 67 million patent applications
 - containing 20 tables including
 - bibliographic data
 - owners, dates of filing, legal status
 - citations
 - family links
- **Policy making, and business decision making**
 - PATSTAT is specifically designed for statistical analysis.



Example: The Kyoto effect



Figures refer to claimed priorities.

Patent landscaping studies on CCMTs

Patents and clean energy: bridging the gap between evidence and policy, EPO-UNEP-ICTSD (2010)

- **Inventive activity** (1980-2007) was dominated by Japan, the US, Germany, France, the UK and Korea
- These six OECD countries also represented the **primary markets** for patent protection of CETs
- Scientific capabilities, infrastructure, human capital, market conditions, investment climate are other determining factors for licensing



CCMTs in Africa

Patents and clean energy in Africa, EPO-UNEP (2012)

- Less than 1% of all patent applications related to CETs have been filed in Africa
- South Africa is responsible for 84% of filings
- CET patent filings with African inventors grew at a rate of 9% against 5% worldwide
- www.epo.org/clean-energy-africa



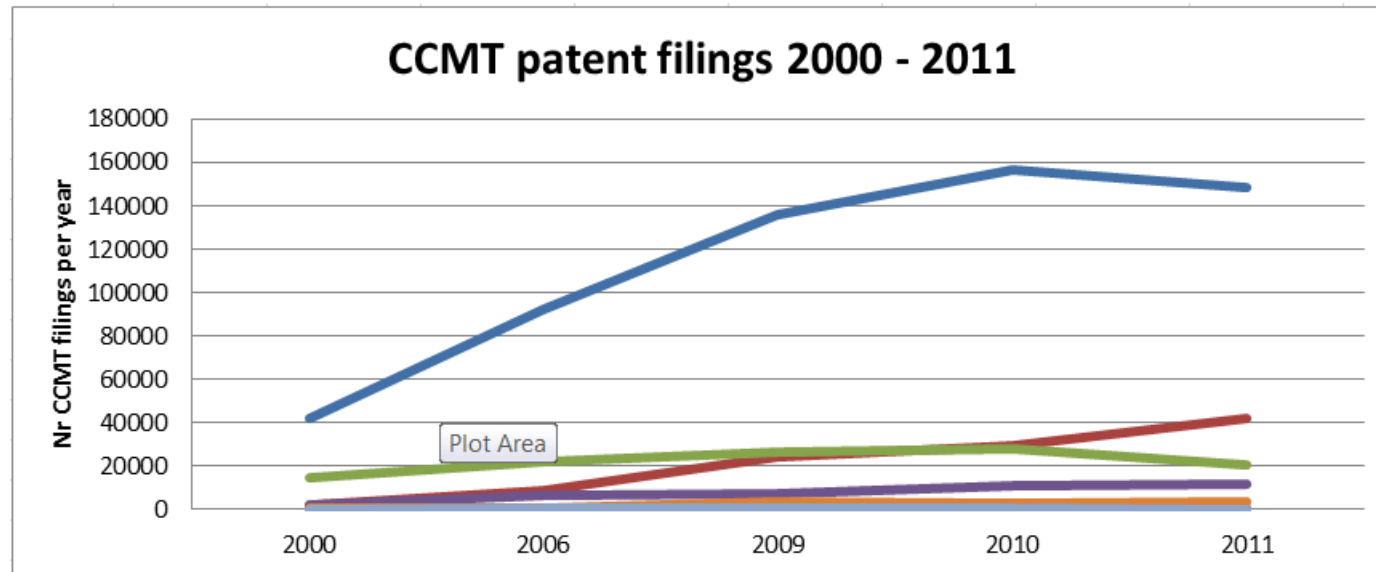
CCMTs in Latin America and the Caribbean

Patents and CCMTs in LAC, EPO-UNEP(2014)

- Less than 3% of all patent applications related to CETs have been filed in LAC
- Brazil dominates inventive activity with over 70% of filings, followed by Argentina and Mexico
- Most filings are in Y02 Energy, primarily renewable resources
- CCMT patent filings with LAC inventors increase at 20% per year, against 16% worldwide
- Full report to be launched at UNFCCC CoP, Lima, Peru: **December 2014**



Patents and CCMTs in Asia



State	EPO coverage	2000	2006	2009	2010	2011 CCMT filings	2011 % of global
Globally	-	42052	91840	136001	156112	148.438	100%
China	1985 -	1847	8894	24147	29504	41.978	28%
Japan	Nearly all	14376	21640	26443	27924	20.261	14%
Korea	Nearly all	1647	6148	7217	10503	11.242	8%
Singapore	1983 -	41	82	82	64	332	0,1%
Taiwan	1997 -	340	632	3317	2898	3425	2%
Malaysia	2010 -	-	90	88	76	-	0,1%
Indonesia	1997-2002	-	-				
Philippines	1975-1999	-	-				
Vietnam	1984-1997	-	-				

(Unpublished – from EPO PI services)

- Japan and Korea – key CCMT patent filers 1995-present
- China - rapidly increasing filing in all fields, by 2011 largest in CCMTs
- Other Asian countries – few filings where data in EPO databases

CCMTs in Asia - People's Republic of China

Patents and CCMTs in Asia (unpublished – from EPO PI services)

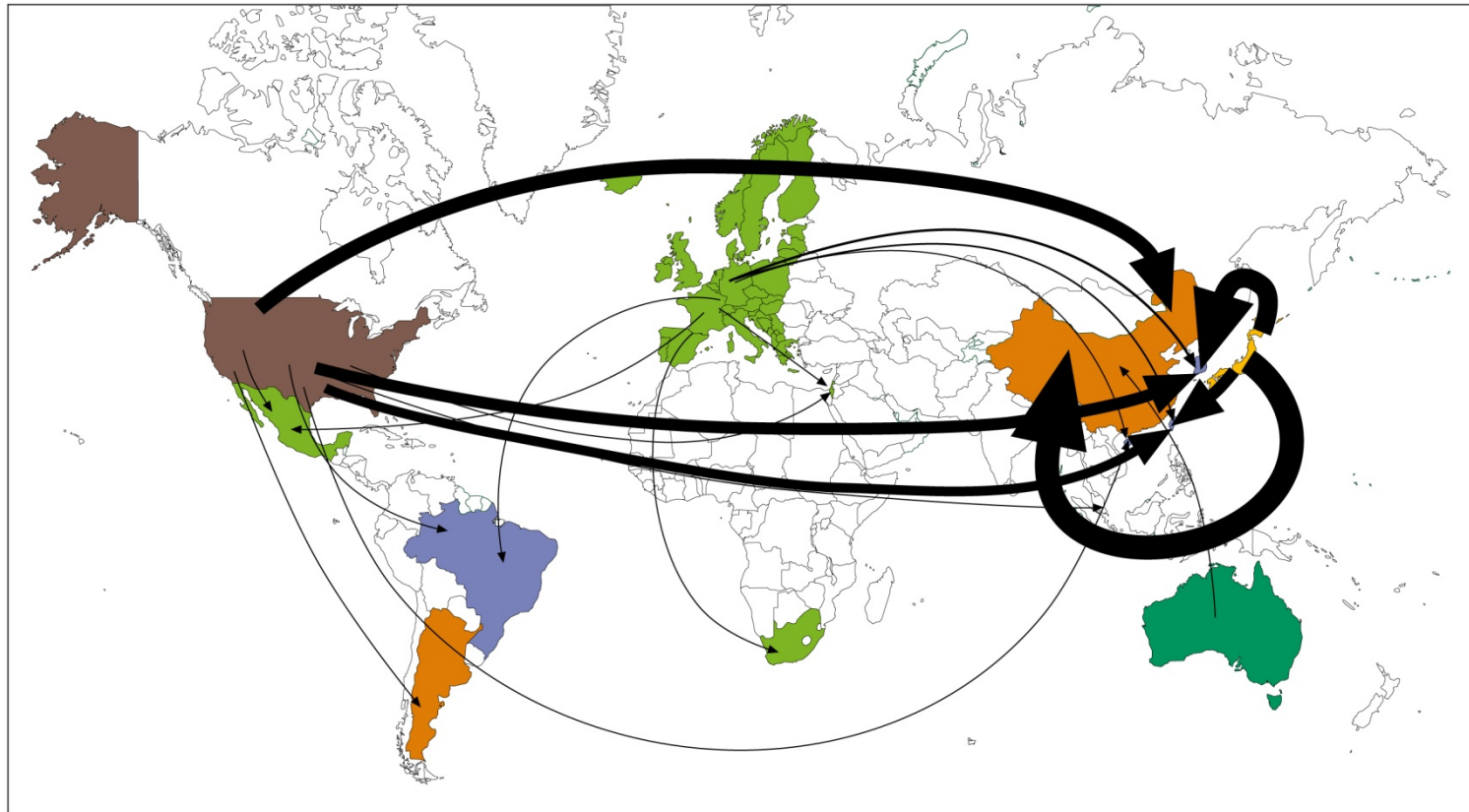
- Rapidly increasing patent filings in all fields, including CCMTs

Snapshot from 2011:

- **28%** of global CCMT patents filed in **China**
 - (42.000 of 150.000 CCMT patent filings globally)
 - **73%** (30.000) of the Chinese filings **from Chinese applicants**
- **Growing rapidly:** 2009 - **22%**; 2010 – **25%**; 2011 – **28%**
- (13% of global CCMT filings are now Chinese filings)



Patenting trends: example solar photo voltaic technologies



Patenting between source country (“inventor country”) and countries in which IP protection is sought

Co-inventions: example solar photo voltaic technologies



Frequency of co-operation between inventors from different countries in the development of patented technologies

Y02 classification on Espacenet

- Smart search
- Advanced search
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View section **Index** | A | B | C | D | E | F | G | H | Y


 CPC 2000

« Y Y02B »

Symbol	Classification and description
<input type="checkbox"/> Y	GENERAL TAGGING OF NEW TECHNOLOGICAL DEVELOPMENTS; GENERAL TAGGING OF CROSS-SECTIONAL TECHNOLOGIES SPANNING OVER SEVERAL SECTIONS OF THE IPC; TECHNICAL SUBJECTS COVERED BY FORMER USPC CROSS-REFERENCE ART COLLECTIONS [XRACs] AND DIGESTS  
<input type="checkbox"/> Y02	TECHNOLOGIES OR APPLICATIONS FOR MITIGATION OR ADAPTATION AGAINST CLIMATE CHANGE
<input type="checkbox"/> Y02E	REDUCTION OF GREENHOUSE GASES [GHG] EMISSION, RELATED TO ENERGY GENERATION, TRANSMISSION OR DISTRIBUTION
▼ <input type="checkbox"/> Y02E 10/00	Energy generation through renewable energy sources
▼ <input type="checkbox"/> Y02E 20/00	Combustion technologies with mitigation potential
▼ <input type="checkbox"/> Y02E 30/00	Energy generation of nuclear origin
▼ <input type="checkbox"/> Y02E 40/00	Technologies for an efficient electrical power generation, transmission or distribution
▼ <input type="checkbox"/> Y02E 50/00	Technologies for the production of fuel of non-fossil origin
▼ <input type="checkbox"/> Y02E 60/00	Enabling technologies or technologies with a potential or indirect contribution to GHG emissions mitigation
▼ <input type="checkbox"/> Y02E 70/00	Other energy conversion or management systems reducing GHG emissions

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« Y02E Y02E20/00 »

Symbol	Classification and description
<input type="checkbox"/> Y	GENERAL TAGGING OF NEW TECHNOLOGICAL DEVELOPMENTS; GENERAL TAGGING OF CROSS-SECTIONAL TECHNOLOGIES SPANNING OVER SEVERAL SECTIONS OF THE IPC; TECHNICAL SUBJECTS COVERED BY FORMER USPC CROSS-REFERENCE ART COLLECTIONS [XRACs] AND DIGESTS [S] ⓘ
<input type="checkbox"/> Y02	TECHNOLOGIES OR APPLICATIONS FOR MITIGATION OR ADAPTATION AGAINST CLIMATE CHANGE [i]
<input type="checkbox"/> Y02E	REDUCTION OF GREENHOUSE GASES [GHG] EMISSION, RELATED TO ENERGY GENERATION, TRANSMISSION OR DISTRIBUTION [S]
<input type="checkbox"/> Y02E 10/00	Energy generation through renewable energy sources
<input checked="" type="checkbox"/> Y02E 10/50	•Photovoltaic [PV] energy
<input checked="" type="checkbox"/> Y02E 10/52	••PV systems with concentrators
<input checked="" type="checkbox"/> Y02E 10/54	••Material technologies (not used; see subgroups)
<input checked="" type="checkbox"/> Y02E 10/541	•••CuInSe2 material PV cells
<input checked="" type="checkbox"/> Y02E 10/542	•••Dye sensitized solar cells
<input checked="" type="checkbox"/> Y02E 10/543	•••Solar cells from Group II-VI materials
<input checked="" type="checkbox"/> Y02E 10/544	•••Solar cells from Group III-V materials
<input checked="" type="checkbox"/> Y02E 10/545	•••Microcrystalline silicon PV cells

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Title or abstract: ⓘ hair

Enter numbers with or without country code

Publication number: ⓘ WO2008014520
CN

Application number: ⓘ DE19971031696

Priority number: ⓘ WO1995US15925

Enter one or more classification symbols

CPC ⓘ
Y02E10/50/low

IPC ⓘ H03M1/12

CPC ⓘ
Y02E10/50/low

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Approximately **1,382** results found in the Worldwide database for:
CN as the publication number AND **2009** as the publication date AND **Y02E10/50/low** as the Cooperative Patent Classification
 Only the first **500** results are displayed.

1 ▸

Results are sorted by date of upload in database

1. **Solar generator**

★ Inventor: JING FENG	Applicant: JING FENG	CPC: Y02B10/14 Y02E10/52	IPC: G02B19/00 G05D3/00 H01L31/042 (+2)	Publication info: CN 201374661 (Y) 2009-12-30	Priority date: 2009-02-05
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2. **Solar photovoltaic building integrated power supply and utilization system**

★ Inventor: GAN WANG	Applicant: GAN WANG	CPC: Y02B10/12 Y02B10/14 Y02E10/563	IPC: H02J3/38 H02J7/00 H02N6/00	Publication info: CN 201374660 (Y) 2009-12-30	Priority date: 2009-03-27
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3. **Grid-connected photovoltaic system with reactive compensation function**

★ Inventor: QING FU XIANGFENG LI	Applicant: UNIV SUN YAT SEN	CPC: Y02E10/563	IPC: H02J3/38 H02N6/00	Publication info: CN 201374568 (Y) 2009-12-30	Priority date: 2009-02-02
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Y02 classification for CCMTs – patent landscaping

- **Inventive activity** (1980-2007) was dominated by Japan, the US, Germany, France, the UK and Korea
 - now highest filing country is China (28% of annual filings 2011)
- **CCMT patent filings low in most developing countries – not a deterrent !**
 - Less than 1% of CCMT patents filed in Africa
 - Less than 3% in Latin America
- **Dedicated Y02 classification scheme for CCMTs**
 - 2 million patent documents available free-of-charge on internet
 - energy, carbon capture, buildings, transport, smart grids
- **EPO's Espacenet** for searching patent documentation
- **EPO's PATSTAT** for statistical analysis of patent data
 - evidence to support policy



Further Information

- The UNEP/EPO/ICTSD studies available at:
 - <http://www.epo.org/clean-energy>
- E-Learning module on Y02 (Climate Change):
 - <http://www.epo.org/topics/issues/clean-energy/classification.html>
- Use Y02 in *esp@cenet*: www.espacenet.com
- PATSTAT - Patent Statistics and landscaping tool
 - <http://www.epo.org/searching/subscription/raw/product-14-24.html>
- Emails:
 - **Ged Owens:** gowens@epo.org

Thank you for
your attention