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Pioneering study examines the role of patents in combating climate change

Highlights trends in clean energy technology development

Brussels, 30 September 2010 -- Six countries – Japan, the United States, Germany, Republic of Korea, France and the United Kingdom – are the source of almost 80% of all innovations developed worldwide in the field of clean energy technologies (CETs). This is one of the key findings of a patent-based study, jointly conducted by the European Patent Office (EPO), the United Nations Environment Programme (UNEP) and the International Centre for Trade and Sustainable Development (ICTSD), on the emergence and distribution of these technologies across the globe and their impact on climate change.

Some 400,000 patent documents identified from a pool of 60 million patents at the international level form the basis of the study, *"Patents and clean energy: bridging the gap between evidence and policy"* which examines the effect of patents on the worldwide transfer of CETs, such as solar photovoltaic (PV), geothermal, wind, and carbon capture. The study also contains the first-ever survey on licensing, which provides insights into the licensing practices of technology holders in this area.

The main objective of the study is to provide facts in an area where there has previously been very little empirical data.

"The joint study is both exemplary and ground-breaking in its cross-sector collaboration to deliver results that have a direct benefit to society," said EPO President Benoît Battistelli. "Patents play a key role in providing information about existing technologies, the level of their development and geographic spread. This information facilitates an informed debate on climate change."

"Far from being a drag on economies and innovation, international efforts to combat climate change have sparked technological creativity on low-carbon, resource-efficient Green Economy solutions. The challenge now is to find ways in which these advances can be diffused, spread and transferred everywhere so that the benefits to both economies

and the climate are shared by the many rather than the few," said Achim Steiner, UN Under-Secretary General and Executive Director of UNEP.

"A massive scale-up of use and diffusion of clean energy technologies globally, and in particular to developing countries, is imperative for effective climate change mitigation and adaptation. This study provides evidence and key insights towards a better understanding of the challenges facing this objective," said ICTSD Chief Executive Ricardo Meléndez-Ortiz.

Surge of patenting since the Kyoto Protocol

The study shows clearly that the surge of patenting activity in CETs coincided with the adoption of the Kyoto Protocol in 1997, providing a strong indication that political decisions can be important in creating a framework to stimulate the development of technologies which are considered to be crucial to the efforts to address climate change. The statistical analysis of the data shows that patenting rates in the selected clean energy technologies have increased roughly 20% per year since then, outpacing the traditional energy sources of fossil fuels and nuclear energy.

Among the six OECD countries that dominate the CET field, Japan leads the way, followed by the United States and Germany. The Republic of Korea — focusing largely on solar PV — is also a key player, showing a considerable increase in patenting in recent years. The field is rounded off by France and the United Kingdom. Moreover, China is partly following in Korea's footsteps, emerging as a strong player in the field of solar PV.

Untapped licensing potential towards developing countries

The licensing survey found that there was limited licensing activity in entities from developing countries and this was confined mainly to China, India and Brazil. However, 70% of the survey's respondents were prepared to offer more flexible terms when licensing to entities in developing countries with limited financial capacity. The survey also indicates that intellectual property rights, alongside other macroeconomic factors, are important for respondents when licensing to developing countries.

Public access to state-of-the-art technology

In the process of the data collection for the study, the EPO created a free, easy-to-use digital information tool, which provides simplified and free access to all patent documents related to CETs worldwide, creating a whole new level of transparency in the CET sector.

Understanding the role of CETs and their dissemination can potentially play a large role in efforts to help mitigate climate change. By taking the lead in launching a large-scale study into the effects of patents on CETs, the EPO, UNEP and ICTSD have shown their willingness to use their position as expert organisations in their respective fields to

collaborate and provide data that will create more transparency and a factual basis for negotiations on climate change, particularly on enhancing and accelerating the transfer of these critical clean technologies.

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Notes to the Editor:

UNEP

The United Nations Environment Programme (UNEP) is the voice for the environment in the UN system. Established in 1972, UNEP's mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. UNEP is an advocate, educator, catalyst and facilitator promoting the wise use of the planet's natural assets for sustainable development. It works with many partners, UN entities, international organizations, national governments, non-governmental organizations, business, industry, the media and civil society. UNEP's work involves providing support for: environmental assessment and reporting; legal and institutional strengthening and environmental policy development; sustainable use and management of natural resources; integration of economic development and environmental protection; and promoting public participation in environmental management.

EPO

The European Patent Office – supporting innovation for the benefit of Europe's citizens. The mission of the European Patent Office (EPO) is to support innovation, competitiveness and economic growth for the benefit of the citizens of Europe. Its task is to grant European patents for inventions on the basis of a centralized procedure for the contracting states to the European Patent Convention (EPC), which was signed in Munich on 5 October 1973 and entered into force on 7 October 1977.

The EPO is the executive arm of the European Patent Organisation, an intergovernmental body set up under the EPC, whose members are the EPC contracting states. The activities of the Office are supervised by the Organisation's Administrative Council, which is composed of the delegates from the contracting states. The EPO has its headquarters in Munich, a branch at The Hague and offices in Berlin and Vienna. With its workforce of nearly 7,000 staff, the EPO is one of the largest European institutions.

ICTSD

Founded in Geneva in September 1996, the International Centre for Trade and Sustainable Development (ICTSD) aims to influence the international trade system such that it advances the goal of sustainable development. As an independent, non-profit, and non-governmental organization, ICTSD engages a broad range of actors in ongoing dialogue on trade and sustainable development policy. In advancing its mission, the Centre has become a leading broker of knowledge and information on trade policy and sustainable development.

With a global network of governmental, non-governmental, and inter-governmental partners, ICTSD plays a unique, systemic role as a provider of original, non-partisan reporting and facilitation services. ICTSD advances trade policy that supports sustainable development by structuring interaction between policy-makers and key influencers who are often excluded from policymaking processes. ICTSD helps parties better understand the technical and political contexts that underlie their interests and the interests of those with whom they interact on policy issues. In this way, ICTSD builds bridges between groups with seemingly disparate agendas, enabling them to identify and progress on issues where their interests and priorities coincide.