

Responses of Dr. Mark T. Esper
Executive Vice President, Global IP Center
U.S. Chamber of Commerce
To Questions for the Record Submitted in Conjunction with the Hearing
on July 29, 2009, Entitled: "Climate for Innovation: Technology and
Intellectual Property in Global Climate Solutions"
Before the Select Committee on Energy Independence & Global Warming

- 1) China and India have had at best, a checkered history of protecting IPR. How can the US protect IPR? What sort of incentives should exist for private sector development of new technology? How can we enforce IPR to protect American investors and businesses, while sharing our technology with the rest of the world?*

China and India do have poor records when it comes to protecting intellectual property (IP) rights, whether they are patents, copyrights or trademarks. But these countries are not alone, as the United States government's (USG) annual Special 301 report demonstrates. Many shortcomings of foreign governments are attributable to insufficient enforcement or poor implementation of existing statutes, while other problems are a result of bad government policy or laws.

Foreign government actions that are inconsistent with international laws or norms should be addressed through bilateral diplomacy, through international organizations such as the World Trade Organization (WTO) or World Intellectual Property Organization (WIPO), and through other plurilateral mechanisms as opportunities present themselves. Moreover, the United States must use all of the tools available to it to remedy problems, to include punitive measures if all else fails, given the importance of innovation and strong IP laws to America's economic growth and competitiveness.

The United States should also work to create new tools to protect IP rights and enhance enforcement, such as strengthening enforcement provisions by enhancing the Special 301 process, and reaching agreement on a plurilateral Anti-Counterfeiting and Trade Agreement. Appointing a new Intellectual Property Enforcement Coordinator (IPEC) at the White House, with ample authority and resources, will also go a long way toward improving U.S. government efforts to combat counterfeiting and piracy, and enhance America's role in improving IP rights around the globe. The USG should also work to strengthen IP provisions through our bilateral and multilateral free trade agreements, and protect the integrity of the WTO's Trade-Related Aspect of Intellectual Property Rights (TRIPS) agreement and other IP-related agreements.

Robust and enforced IP rights provide the private sector with one of the strongest incentives, if not prerequisites, to innovate and be creative. This happens, as our Founding Fathers recognized in the U.S. Constitution, because artists, inventors and entrepreneurs know that their hard work, creativity and investment will be rewarded by

being granted the exclusive right to capitalize on their innovation or creation for a limited period of time. As such, it is important that such rights are not only protected in the United States, but internationally as well.

Further, it is important that the limited period of time granted under law is sufficient for patent and copyright holders to recoup their investment and make an appropriate amount of return. Moreover, tax credits for research and development, and other forms of tax policy that incentivize artists, researchers, inventors and creators, are a proven way of driving the innovation America needs to grow and remain competitive.

Technology diffusion that complies with IP laws and norms takes many forms, and has been occurring for generations. Such transfers mostly involve the interactions between companies and individuals—not governments. In most cases, technology diffusion involves the simple marketing and distribution of patented products in the global marketplace.

However, technology diffusion could also involve a co-production agreement between the patent holder and a (foreign) partner, or even a licensing agreement between the patent holder and a second (or third) party to manufacture or distribute the good under certain terms and conditions. There are many other variations that may be utilized, but the core principles underlying any such tech transfer arrangement is that IP rights are respected, the agreement is commercially reasonable and viable, and that all parties undertake such an enterprise voluntarily.

In many of the arrangements worked out between partners, and especially between sellers and buyers, ongoing cooperation is often required beyond the “sale” itself. This cooperation includes any number of activities over a period of time to deliver, install, implement, adapt, maintain, and upgrade the technology. It may require transfer of technical know-how, trade secrets, and manufacturing specifications that are not disclosed in patent documents. It may also demand a certain level of technological ability in the receiving company, and compliance with regulatory requirements in the target country. It could also include the temporary employment of specialists, technicians, and managers from the firm that holds the patent, or the training of the buyer’s workforce.

Independent research has found transfer of technology to be a multi-stage process that needs to include, *inter alia*, incentives to innovate; incentives to transfer; incentives to implement and use; legal rules to facilitate adaptation; and technical infrastructure for downstream innovation. Furthermore, implementing the technology can be a difficult process in the target country for a number of environmental, institutional, or other issues. For example, in a recent study of railway technology transfer to Indonesia, the researchers found empirical evidence that the capabilities to receive complex technology were distributed among local institutions. Thus, the full capacity to receive and implement the technology was only available by combining various local resources.

In some developing countries, technology diffusion may be hampered by more fundamental problems ranging from poor infrastructure (e.g. unimproved roads to deliver goods and inadequate sources of energy to power/keep them) to limitations on the human capital available to deliver or run the technologies. Technology transfer in the real world is not the same as going to an electronics store, purchasing an iPod, and never needing to speak to Apple. Effective tech transfer requires an extended relationship that touches upon all aspects of technology deployment, at all levels, so as to maximize the effectiveness of the invention and its value to the consumer, as well as safeguard the reputation of the company, the performance of its product, and improvement of the brand. In short, technology transfer cannot be compelled if it is to be effective; it must be a mutually agreeable relationship among all parties.

2) *What are the most significant barriers to technology transfer to help developing countries become more energy efficient?*

To begin, most of the technologies the developing world could employ to address global warming are either no longer on patent, or are not governed by any national patent system to begin with—meaning that IP cannot be a barrier if legal rights do not exist in the first place. Despite its narrow appeal, targeting the patent system is exactly the wrong approach to take if one desires to increase the diffusion of green technologies to the developing world.

The international consensus is that patents facilitate the diffusion of technology, and a wide range of studies consistently prove this point. For example, a recent comprehensive study commissioned by the European Commission on patents and environmentally sound technologies concluded that intellectual property rights as such are not what make technology too expensive for developing countries. Rather, the researchers found that the presence of a strong IPR system in developing countries is a prerequisite for technology diffusion, and that it is also a requirement for the creation of innovative new technologies within those countries.

Other research has shown that the impact of patents with respect to impeding developing countries' access to solar, wind, and biofuel technologies is not significant. The very trend cited by critics as the basis for policies that undermine IP rights—namely the skyrocketing number of patent applications for environmentally sound technologies—is proof that patents provide the incentive for innovation, and the recognized means for innovators to commercialize their products. Thus, rather than a barrier, intellectual property in fact is one of the main *facilitators* of technology diffusion.

The real barriers to technology diffusion and deployment in the developing world, most agree, involve some combination of the following (among other things):

- specially-targeted tariff and non-tariff barriers designed to exact extraordinary taxes and/or protect domestic industries;
- inadequate infrastructure that cannot power, deliver, or absorb advanced

- technologies;
- insufficient numbers of educated and skilled workers who can put technology to its optimal use;
- commercial opportunism and corruption that waste scarce resources, misappropriate goods, and deter tech transfer;
- weak, non-existent, or unenforced intellectual property rights; and,
- base political gamesmanship and official cronyism.

It is imperative that technologies that can aid others and advance human development be made available around the world. It is equally important that such technology diffusion be done in an IP-friendly, commercially-viable way so that other, much-needed innovations are incentivized, developed, and sustained in the long run.

The key to preserving this time-proven process is by ensuring the *real* barriers to progress are identified and removed. Governments must no longer be allowed to distract attention from their own shortcomings or their real aims by pointing fingers at the global IP system. Instead, they must be challenged by the facts, and asked to answer to their people why they favor stifling innovation, damping entrepreneurship, and hampering economic growth and development with their policies and rhetoric.

3) *What policies can Congress adopt to facilitate development of new, clean energy technology?*

Congress has already taken a number of steps to facilitate the development of new, clean energy technologies such as the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007. Congress should fully fund and implement the 100-plus energy technology provisions contained in these two laws. But of course, more can always be done, such as:

- Maintaining robust IP protections both in the United States and abroad provides certainty to inventors and entrepreneurs that their creativity and investment will be rewarded, which encourages development of new clean technologies.
- Supporting an Anti-Counterfeit and Trade Agreement between the U.S. and its trading partners and strengthening the Special 301 process.
- Defending IP laws, norms and rights in international forums such as the WTO, WIPO, and WHO, as well as in U.N. climate change negotiations.
- Suspending foreign assistance in some or all its forms to countries that fail to enforce or live up to their IP-related obligations under international law.
- Permanently extending the R&D tax credit.
- Approving bilateral and multilateral free trade agreements that raise the bar for IP protection in foreign markets
- Improve efficiency at the U.S. Patent and Trademark Office by, among other things, reducing the patent pendency period to facilitate faster commercialization of technologies.
- Extending all of the renewable tax credits for eight years, followed by a four year phase out to provide real certainty for capital investment.

- Establishing a clean bank mechanism that can facilitate the deployment of new and commercially untested technologies to bridge the gap between research and development and commercial deployment.

4) *What steps can Congress take to send our UN negotiators in Copenhagen a strong and unambiguous message to hold firm in the arena of IPR protection?*

The House of Representatives has already taken a number of positive and important steps to express the will of the Congress and influence the Administration's position in Copenhagen. The House did this by including bipartisan provisions aimed at protecting IP rights related to environmental technologies in three pieces of legislation that passed this summer. Among these, unanimous House adoption of an amendment offered by Reps. Larsen and Kirk to H.R. 2410, the Foreign Relations Authorization Act, put 432 House Members on record as supporting robust IPR protections within the UN Framework Convention on Climate Change (UNFCCC) context.

It is now important that the Senate take similar legislative action to let the administration, and other parties to the UNFCCC negotiations, know the Senate's views in defense of IP rights, and that the Senate will not ratify any treaty that includes provisions that weaken or undermine IP laws, rights, or norms.

5) *Do you believe that the UN negotiations are more focused on wealth transfer than environmental gain?*

According to the Chamber of Commerce's experts who work climate change issues, it is clear that some developing countries are proposing provisions in the UNFCCC talks to extract huge sums of financial aid from developed countries.

The draft climate change treaty directs Annex II Parties (which are developed countries, including the United States) to provide financial resources, including transferring technologies, to cover the "agreed full incremental costs" to developing countries of complying with various articles implementing the treaty. Many developing countries have been forthright in saying that their cooperation, in addition to being nonbinding, will only come with financial strings attached.

In the Bali Roadmap, developing countries agreed to consider nationally appropriate mitigation actions "in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner." This language has been interpreted in various ways, but, in general, the phrase "measurable, reportable, and verifiable" refers both to the nationally appropriate mitigation actions of developing countries and the support for "technology, financing and capacity-building" that developed countries are expected to provide.

Further, according to the Chamber's experts, these provisions have become fodder for all manner of demands by developing countries on the economies of developed countries. Developing countries are counting on large and direct transfers of wealth to support their efforts to mitigate emissions and adapt to climate change; meanwhile, developed countries have not done enough to temper these expectations.

China, India, South Africa, Bolivia, and Colombia, among others, are pushing developed countries to transfer anywhere from 0.5% to 2.0% of their GDP each year to support climate change programs in developing countries. At that rate, the contribution from American taxpayers alone would have been \$71 billion to \$286 billion in 2008.

Yet even that may not be enough. A report out of the Massachusetts Institute of Technology estimates that if developing countries are fully compensated for their mitigation activities through a global emissions trading scheme, the implied financial transfers from developed countries to meet a 50-by-50 goal could amount to over \$400 billion annually in 2020 and about \$3 trillion in 2050 (Jacoby et al. 2008). These are staggering sums of money.

And beyond wealth transfers, it is equally clear that some countries proposals to promote technology transfer by undermining IP rights is driven in part, if not wholly, to facilitate their own technological development and commercial competitiveness.

6) *Dr. Esper, if you had to chose two things to do to both protect Intellectual Property and reduce carbon emissions globally what would they be?*

Most experts agree that technology is key to addressing climate change and improving our energy security. If that is true, then protecting and promoting strong IP rights is essential to incentivizing the research and development necessary to create these innovations. How rapidly advanced energy technologies develop and are adopted commercially will be the most important factor in determining how quickly and at what cost greenhouse gas emissions can be reduced. Studies show that existing technologies can make a start, but they are not capable of significantly reducing greenhouse gas emissions on a global scale and at an acceptable cost. New, and in some cases revolutionary, technologies will have to be developed and commercialize to achieve our goals. So the first thing that must be done is to protect IP rights in climate change negotiations, and in UN bodies such as the WIPO and WTO.

Second, the United States and other countries must increase and accelerate funding for research and development of advanced technologies. An accelerated program to improve the performance and lower the costs of advanced alternative energy technologies can, if successful, broaden the range of economically and politically viable options available to policymakers. National and international climate policy should concentrate on supporting greater energy efficiency and commercialization of low-carbon technologies for energy supply.

Together, the United States and Japan account for roughly 80% of all energy research and development spending by national governments. That has to change. Research and development into the next generation of potentially transformational energy technologies needs a substantial boost in funding, and the Chamber of Commerce's Energy Institute has recommended doubling the federal budget for advanced energy technologies and the creation of a Clean Energy Bank to invest in the commercial adoption of new technologies.

- 7) *You mention in the conclusion of your written statement that Congress has taken a number of positive and constructive steps to drive innovation, develop solutions and deploy those technologies as broadly as possible, but more can and should be done if we are to be successful at the end of the day. What are those steps that should be taken?*

In addition to the proposals addressed in my written testimony, and in my oral remarks, the recommendations outlined in my response to questions #3 and #6 (above), while not exhaustive, would make a significant impact on the challenges of climate change and energy security, while preserving the IP rights so essential to driving innovation.