Strafford

presents

Patenting Green Technologies

Crafting Patent Claims for Clean Energy Innovations

A Live 90-Minute Teleconference/Webinar with Interactive Q&A

Today's panel features:

Dr. Michael R. Ward, Partner, **Morrison & Foerster**, San Francisco, Calif.
Victor A. Cardona, Partner, **Heslin Rothenberg Farley & Mesiti**, Albany, N.Y.
Paul Davis, Partner, **Goodwin Procter**, Menlo Park, Calif.

Wednesday, January 6, 2010

The conference begins at:

1 pm Eastern
12 pm Central
11 am Mountain
10 am Pacific

You can access the audio portion of the conference on the telephone or by using your computer's speakers.
Please refer to the dial in/ log in instructions emailed to registrations.

CLICK ON EACH FILE IN THE LEFT HAND COLUMN TO SEE INDIVIDUAL PRESENTATIONS.

If no column is present: click **Bookmarks**  or **Pages**  on the left side of the window.

If no icons are present: Click **View**, select **Navigational Panels**, and chose either **Bookmarks** or **Pages**.

If you need assistance or to register for the audio portion, please call Strafford customer service at **800-926-7926 ext. 10**

For CLE purposes, please let us know how many people are listening at your location by

- closing the notification box
- and typing in the chat box your company name and the number of attendees.
- Then click the blue icon beside the box to send.

MORRISON | FOERSTER

Patenting Green Technologies—Strategies for Your Company

January 6, 2009

IP and Your Green Technology Company

- **Establish an IP Savvy Culture.**
  - Management, scientists, engineers, business development team and finance professionals all on the same page
- **Education and Communication are Key:**
  - IP is a valuable asset of company
  - Company has an IP strategy
  - Employees are aware of the IP strategy
  - Company is implementing the IP strategy
  - Employees understand that following the IP strategy is critical to the company's success

MORRISON | FOERSTER

Where to Start?

- **Business Strategy**
- **IP Strategy**

MORRISON | FOERSTER

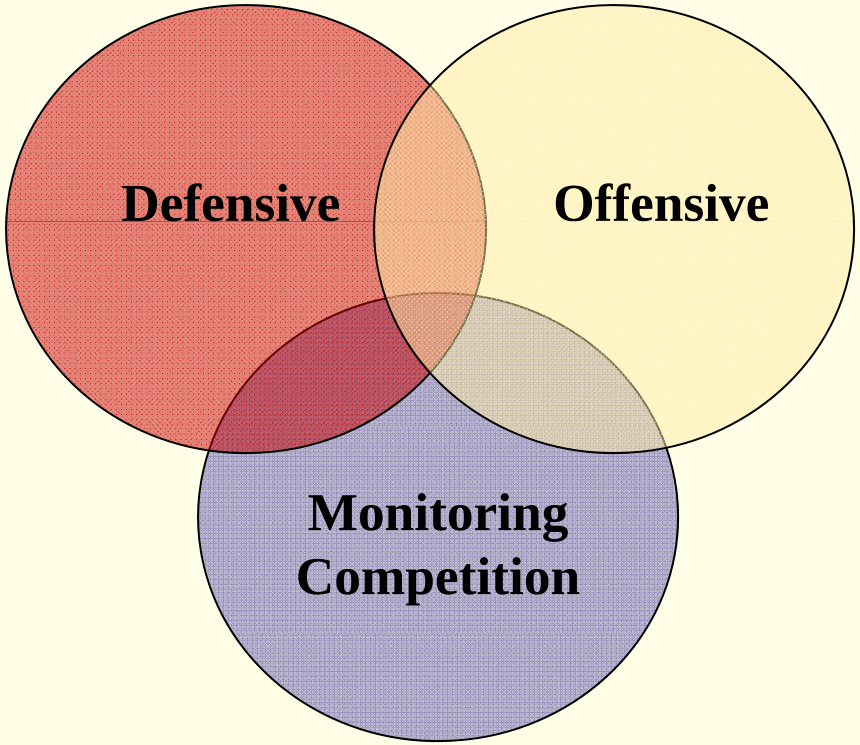
Business Strategy—Green Technology

Green Technology Business Strategy:

- What are your products?
- What are your markets?
- Who are your competitors?
- What are your competitors' products?
- How can you increase your market share?

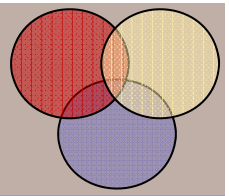
MORRISON | FOERSTER

Protecting Your Green Technology Business with IP



MORRISON | FOERSTER

Building a Green Technology IP Portfolio



- **Defensive patents: patents that exclude others from practicing your technology**
  - Establishing protection
  - Strengthening protection
- **Offensive patents: patents that exclude others from practicing their technology**
  - Blocking competition
  - Complementing the portfolio of a potential acquirer

MORRISON | FOERSTER

Defensive Strategy

- **Establishing protection for company products**
  - Consider products as both complete and discrete assets
    - System and System components
      - Solar power
      - Biofuels
    - Kits
    - Methods of using the system
  - IP plan to parallel R&D plan
    - Often companies end up with a product that doesn't look anything like the product with which they started
    - Need to ensure patent filings are up-to-date on likely commercial candidates

MORRISON | FOERSTER

Defensive Strategy

- **Establishing protection for company products**
  - Communication with IP attorney is critical
    - Understanding the business and technology
    - Educating employees
    - Identifying patentable material
    - Preventing loss of rights
      - Timing
      - Ownership
    - Maintaining strategy

MORRISON | FOERSTER

Defensive Strategy

- **Strengthening protection**
  - File for patents in key countries, not just your "home" country
    - Biofuels—Brazil, China
    - Solar--China
  - Fill in gaps in claim coverage
    - Solar/biofuels
      - Method claims to cover the product being made elsewhere
      - Consider design around possibilities

MORRISON | FOERSTER

Offensive Strategy

Offensive

- **Understanding competitive landscape is key**
- **Blocking competition**
  - New filings (anticipate competition)
  - Old filings/new claims (mining existing disclosures)
- **Complementing the portfolio of a potential acquirer**
  - May help differentiate you from your competitors during acquisition phase
  - May help equalize valuation leverage if the potential acquirer holds relevant IP

MORRISON | FOERSTER

Monitoring Competition

- **Continuous monitoring efforts**
  - Frames both offensive & defensive strategy
  - Who are your competitors?
  - What are your competitors up to?
  - What do your competitors' patents cover?

- **Patent and non-patent literature alerts**
  - Help identify scope of "prior art"
  - Help identify alternative areas of interest
  - Help identify potentially problematic patents
  - Monitored by company or IP counsel?

MORRISON | FOERSTER

Implementing the Green Technology IP Strategy

- Form an IP Committee that meets on a regular basis
  - Review and track invention disclosures
  - Make patent filing decisions
  - Review and track third party patents
    - Consider strategies for third party patents
  - Consider strategies for third party products
    - Enforcement must be considered
  - Review business strategy
  - Review and revise IP strategy regularly

MORRISON | FOERSTER

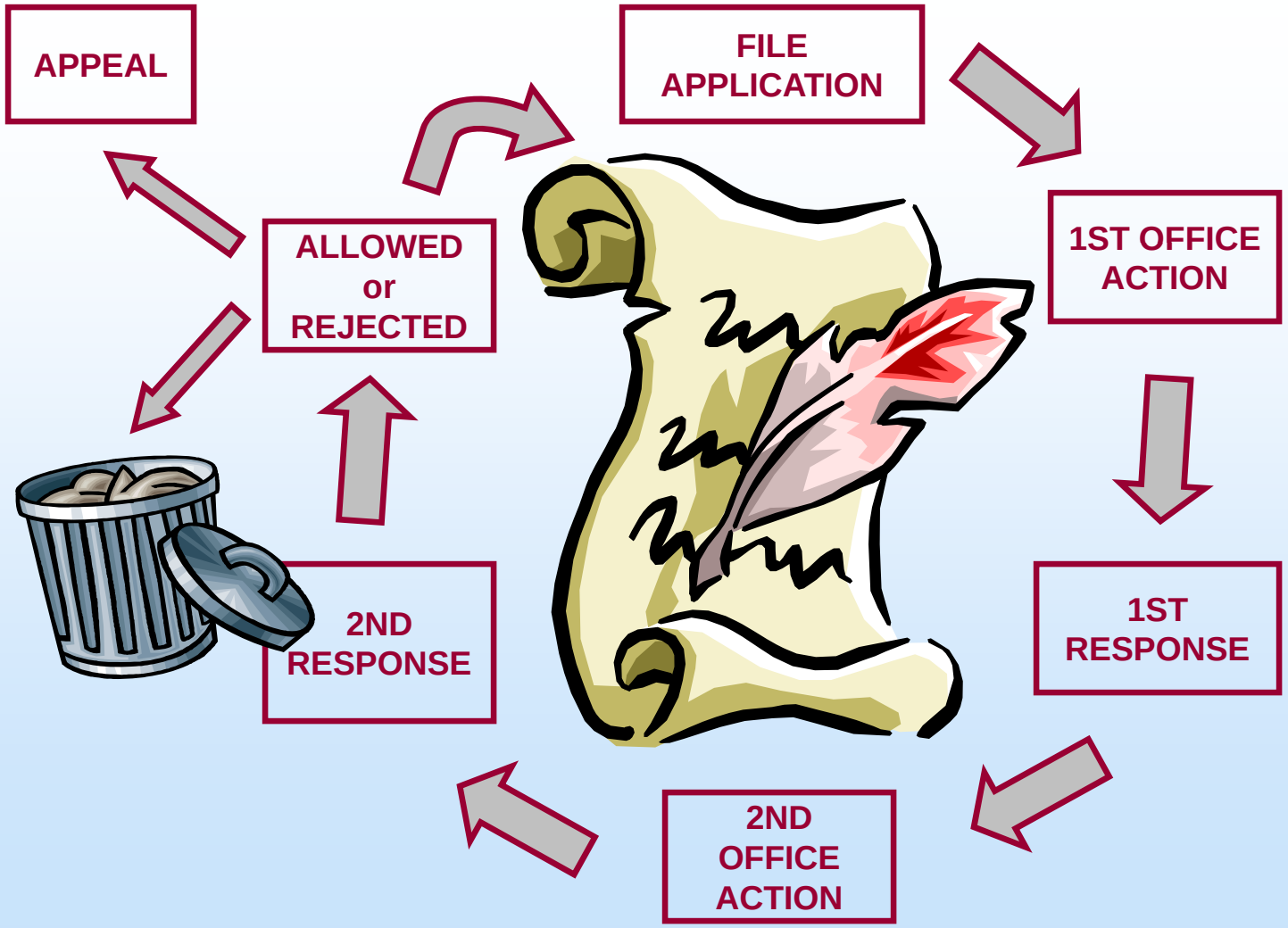
HESLIN ROTHENBERG FARLEY & MESITI P.C.

INTELLECTUAL PROPERTY LAW

ACCELERATING PROSECUTION OF GREEN INVENTIONS BEFORE THE USPTO

Victor A. Cardona

Patent Prosecution before the US Patent and Trademark Office



Accelerating Prosecution

- Why or Why not?
  - Enforcement
  - Prosecution costs
  - VC investment

How Accelerate?

- Hope for the best?
- Greentech Acceleration Pilot Program
- Peer to Patent
- Enhanced First Action Interview Pilot Program
- Small Entity “SWAP” Program
- Patent Prosecution Highway
- Accelerated Exam Procedure-12 months
- Petition based on Inventor Age or Health

Greentech Acceleration Pilot Program

- Goal –Reduce Prosecution by One year
- First 3000 applications
- Timeframe- December 2009 to December 2010

Greentech Acceleration Pilot Program

- Subject matter Eligibility
- Early Publication Fee ($300)
- Claim Number Restriction
- Phone Election
- No Petition Fee
- File Petition to Make Special Electronically

Greentech Acceleration Pilot Program

- Special Status
  - Examiner's special docket before 1st OA
  - Amended Docket after 1st OA
  - Appeal Process-Special Status
  - Publication

Greentech Acceleration Pilot Program

- Eligibility
  - Application on file and no OA yet
  - Non-reisssue
  - Non-provisional

Greentech Acceleration Pilot Program

- Claims

- 3 or less Independent
- 20 or less total
- No multiple dependent
- Single invention

Greentech Acceleration Pilot Program

- Subject Matter
  - materially enhances the quality of the environment, or that materially contributes to: (1) The discovery or development of renewable energy resources; (2) the more efficient utilization and conservation of energy resources; or (3) greenhouse gas emission reduction
  - Specific patent classifications

Greentech Acceleration Pilot Program

Classifications

Alternative Energy Production

1. Agricultural waste (USPC 44/589).
2. Biofuel (US PC 44/605; 44/589).
3. Chemical waste (USPC 110/235-259,346).
4. For domestic hot water systems (USPC 126/634-680).
5. For passive space heating (US PC 52/173.3).
6. For swimming pools (USPC 126/ 561-568).
7. Fuel cell (US PC 429/12--46).
8. Fuel from animal waste and crop residues (USPC 44/605).
9. Gasification (USPC 48/197R, 197A).
10. Genetically engineered organism (USPC 435/252.3-252.35, 254.11-254.9, 257.2,325-408,410-431).
11. Geothermal (US PC 60/641.2-641.5; 436/25-33).
12. Harnessing energy from man-made waste (USPC 75/958; 431/5).
13. Hospital waste (US PC 110/235-259,346).
14. Hydroelectric (USPC 405/76-78; 60/495-507; 415/25).
15. Industrial waste (USPC 110/235-259,346).
16. Industrial waste anaerobic digestion (US PC 210/605).
17. Industrial wood waste (US PC 44/ 589; 44/606).
18. Inertial *(e.g.,* turbine) (USPC 290/ 51,54;60/495-507).
19. Landfill gas (US PC 431/5).
20. Municipal waste (US PC 44/552).
21. Nuclear power-induced nuclear reactions: processes, systems, and elements (US PC 376/all).
22. Nuclear power-reaction motor with electric, nuclear, or radiated energy fluid heating means (US PC 60/203.1).
23. Nuclear power-heating motive fluid by nuclear energy (US PC 60/644.1) Photovoltaic (USPC 136/243-265).
24. Refuse-derived fuel (US PC 44/ 552).
25. Solar cells (US PC 438/57, 82, 84, 85,86,90,93,94,96,97).
26. Solar energy (USPC 126/561-714; 320/101).
27. Solar thermal energy (US PC 126/ 561-713; 60/641.8-641.15).
28. Water level *(e.g.,* wave or tide) (USPC 405/76-78; 60/495-507).
29. Wind (US PC 290/44, 55; 307/64-66,82-87; 415/2.1).

Greentech Acceleration Pilot Program

Classifications

Energy Conservation

1. Alternative-power vehicle (e.g., hydrogen) (US PC 180/2.1-2.2, 54.1).
2. Cathode ray tube circuits (USPC 315/150,151,199).
3. Commuting, e.g., HOV, teleworking (USPC 705/13).
4. Drag reduction (US PC 105/1.1-1.3; 296/180.1-180.5; 296/181.5).
5. Electric lamp and discharge devices (USPC 313/498-512,567-643).
6. Electric vehicle (USPC 180/65.1; 180/65.21; 320/109; 701/22; 310/1-310).
7. Emission trading, e.g., pollution credits (USPC 705/35-45).
8. Energy storage or distribution (USPC 307/38-41; 700/295-298; 713/ 300-340).
9. Fuel cell-powered vehicles (US PC 180/65.21; 180/65.31).
10. Human-powered vehicle (USPC 180/205; 280/200-304.5).
11. Hybrid-powered vehicle (USPC 180/65.21-65.29; 73/35.01-35.13, 112-115, 116-119A, 121-132).
12. Incoherent light emitter structure (USPC 257/79, 82, 88-90, 93, 99-103).
13. Land vehicle (USPC 105/49-61 (electric trains); 180/65.1-65.8 (electric cars)).
14. Optical systems and elements (USPC 359/591-598).
15. Roadway, e.g., recycled surface, all-weather bikeways (US PC 404/32-46).
16. Static structures (US PC 52/309.1-309.17,404.1-404.5,424-442,783.1-795.1).
17. Thermal (US PC 702/130-136).
18. Transportation (USPC 361/19, 20, 141,152,218).
19. Watercraft drive (electric powered) (USPC 440/6-7).
20. Watercraft drive (human powered) (USPC 440/21-32).
21. Wave-powered boat motors (USPC 440/9).
22. Wind-powered boat motors (USPC 440/8).
23. Wind-powered ships (US PC 114/ 102.1-115).

Greentech Acceleration Pilot Program

Classifications

Environmentally Friendly Farming

1. Alternative irrigation technique (USPC 405/36-51). .
2. Animal waste disposal or recyclmg (USPC 210/610-611; 71/11-30).
3. Fertilizer alternative, e.g., composting (USPC 71/8-30).
4. Pollution abatement, soil conservation (USPC 405/15).
5. Water conservation (US PC 137/ 78.2-78.3; 137/115.01-115.28).
6. Yield enhancement (US PC 504).

Greentech Acceleration Pilot Program

Classifications

Environmental Purification, Protection, or Remediation

1. Biodegradable (US PC 383/1; 523/ 124-128;525/938;526/914).
2. Bio-hazard, Disease (permanent containment of malicious virus, bacteria, prion) (US PC 588/249-249.5).
3. Bio-hazard, Disease (destruction of malicious virus, bacteria, prion) (US PC 588/299).
4. Carbon capture or sequestration (USPC 95/139-140; 405/129.1-129.95; 423/220-234).
5. Disaster (e.g., spill, explosion, containment, or cleanup) (USPC 405/ 129.1-129.95).
6. Environmentally friendly coolants, refrigerants, etc. (USPC 252/71-79).
7. Genetic contamination (USPC 422/ 1-43).
8. Hazardous or Toxic waste destruction or containment (US PC 588/ 1-261).
9. In atmosphere (USPC 95/57-81, 149-240).
10. In water (USPC 210/600-808; 405/ 60).
11. Landfill (USPC 405/129.95).
12. Nuclear waste containment or disposal (USPC 588/1-20, 400).
13. Plants and plant breeding (US PC 800/260-323.3).
14. Post-consumer material (US PC 264/36.1-36.22,911-921; 521/40-49.8).
15. Recovery of excess process materials or regeneration from waste stream (USPC 162/29, 189-191; 164/5; 521/40-49.8; 562/513).
16. Recycling (US PC 29/403.1-403.4; 75/401-403; 156/94; 264/37.1-37.33). 17. Smokestack (USPC 110/345; 422/ 900).
17. Soil (US PC 405/128.1-128.9, 129.1-129.95).
18. Toxic material cleanup (USPC 435/626-282).
19. Toxic material permanent containment or destruction (US PC 588/ all).
20. Using microbes or enzymes (USPC 435/262.5).

Greentech Acceleration Pilot Program

- Subject Matter Statement
  - *Environmental Quality*
    - must state that special status is sought because the invention **materially enhances** the quality of the environment by contributing to the restoration or maintenance of the basic life-sustaining natural elements

Greentech Acceleration Pilot Program

- Subject Matter Statement
  - *Energy Conservation, Development of Renewable Energy Resources,* or *Greenhouse Gas Emission Reduction*
    - must state that special status is sought because the invention materially contributes to: (1) The discovery or development of renewable energy resources; (2) the more efficient utilization and conservation of energy resources; or (3) the reduction of greenhouse gas emissions.

Greentech Acceleration Pilot Program

If Application is not clear on face that invention **materially** enhances

- file statement explaining how **materiality** met
- No speculation
- No minor aspects

Greentech Acceleration Pilot Program

- Correct Deficiencies in Petition

- 1 opportunity
- One month

Greentech Acceleration Pilot Program

- Restriction Practice
- Must elect by telephone
- Without traverse
- Examiner will pick if can’t get in touch

Peer to Patent

- Computer Arts
- Volunteer
- Contribute Prior art to 3rd party website
  - Top 10 sent to PTO
- Several Cleantech Related in program

- Reduce time to examination by a year

Enhanced First Action Interview Pilot Program

- Specific art units
- Original order –no acceleration to the examiner
- 3 independent and 20 total claims
- One invention
- Pre-interview communication
  - Allows application or list references with rejections
  - One month to respond

Enhanced First Action Interview Pilot Program

- Options for responding to Pre-interview Communication
  - Waive the interview via a request not to have the interview, which will result in the examiner preparing a First Office Action on the Merits. The examiner may still contact the applicant to conduct a usual interview;
  - Reply under 37 CFR 1.111, thereby waiving the first interview and treating the pre-interview communication as an office action on the merits;
  - Schedule a first office action interview with the examiner. The applicant must file an Applicant Initiated Interview Request Form, with amendments and/or arguments in response to the pre-interview communication, multiple proposed sets of amendments or arguments are not allowed. An interview must also be scheduled by the longer of 2 months or 60 days from the date the Applicant Initiated Interview Request Form was filed; or
  - Fail to respond to the pre-interview communication, which results in the entry of a first office action

Enhanced First Action Interview Pilot Program

- Possible outcomes of an interview include:
  - the application is put into a condition for allowance
  - no agreement is reached, and requirements, objections and rejections are set forth in an office action. The applicant must respond within the longer of 30 days or 1 month, the time to respond may be extended by one month;
  - the applicant may elect to convert the proposed amendment/argument into a reply to the office action. The examiner will then prepare a second office action on the merits, which may be a final office action. Regular prosecution follows.

Small Entity Swap Program

- Abandon one unexamined application and second is accelerated out of turn-special status
- Until February 2010

Other Acceleration Options

- PPH
- Accelerated Exam-12 month program
- Petition based on Age or Health of inventor

Cleantech Patent Prosecution

- Often crowded prior art
- KSR decision –obviousness
- More Cooperation directed by new PTO director
- Different approaches by startups versus large corporations

THANK YOU

Victor Cardona
HESLIN ROTHENBERG FARLEY & MESITI P.C.
5 Columbia Circle
Albany, NY 12203
(518) 452-5600
www.cleantechintellectualproperty.com

HESLIN ROTHENBERG FARLEY & MESITI P.C.
INTELLECTUAL PROPERTY LAW

GOODWIN | PROCTER

IP ENFORCEMENT STRATEGIES FOR GREEN TECHNOLOGY PATENTS

Paul Davis

Partner

ENFORCEMENT STRATEGIES

Background

- The European Patent Office (EPO) is studing the grown in eco-innovation since the introduction of the Kyoto Protocol on climate change.
- Raw data from the EPO shows that patent applications for environmental technologies indicate rapid growth.
- In the ten years from 1998, patent applications for new energy innovations grew by an average of 6% per year.

ENFORCEMENT STRATEGIES (continued)

Background

- Wind power, fuel cells, solar thermal and photovoltaic energy technologies have shown the strongest growth since the late 1990s.
- The US, Germany, Japan and the Netherlands have the highest number of applications in the new energy sector.
- The Geneva and Washington-based Coalition for Innovation, Employment and Development study

LICENSING

- The rationale behind patenting technology is clear: Patents and IP rights protect a corporation responsible for innovation, allowing it to invest in R&D without fearing that another company will steal its innovation and bring it to market without bearing any of the development costs.
- More than 70 percent of global R&D in green technology is spent by private companies that want to protect their investments.

LICENSING *(continued)*

Traditional Licensing

- One alternative proposal - establishment of an international licensing mechanism focused on green technology and clean technology.
- If the common good and the issue of climate change are to be kept in mind, the licensing of green technology needs to include a fee mechanism.

LICENSING *(continued)*

Licensing with fee mechanism issues

- Any new “Green Licensing” proposal should focus on established, not cutting-edge or proof-of-concept technologies.
- Parallel to this, international agreements should increasingly encourage the joint development of green technology by firms from developed and developing economies. Examples of this already exist.

IP RIGHTS TIED TO CLIMATE CONTROL

- Developing a broader green IP framework is important to the success of international climate treaties and emissions reductions standards.
- It is also crucial for developing countries, which are set to bear the brunt of the projected increased incidence and spread of diseases, extreme weather events, and warming.
- International climate change negotiations taking place under the United Nations could erode the position of corporations holding patents on existing and future technologies.

IP RIGHTS TIED TO CLIMATE CONTROL (continued)

- Should developing countries, in implementing climate control, be entitled to share IP rights owned by third parties?
- Deciding which technologies could be shared and on what terms is pretty contentious.
- Many green technologies and innovations have dual use, if not more.
- Just what is green technology?

CLIMATE CONTROL

- The Group of 77, the largest intergovernmental organization of developing states in the United Nations — and really covering 130 countries since originally forming in 1964, tries to promote economic interests within the United Nations system.
- The technology transfer issue has emerged in recent months as one of the most contentious issues at the U.N. climate talks.

THE GROUP OF 77 AND COMPULSORY LICENSING

- The Group of 77, primarily through China and India suggest that new green technology should be subject to compulsory licensing.
- A related framework is India's "CleanNet" proposal.
- Much of the tech transfer discussion has centered on the means of financing this process.

COMPULSORY LICENSING

- Compulsory licensing has to date only been used in emergency (or pseudo-emergency) situations where patent-protected pharmaceuticals were seen as prohibitively expensive.
- The Coalition for Innovation, Employment and Development (CIED) .
- The Clean Technology and European Jobs Study.

EFFECTS OF COMPULSORY LICENSING

- Compulsory licensing can be seen as either a doomsday scenario for innovation, or a fair way to ensure distribution of beneficial but expensive tech.
- The highest-profile examples of compulsory licensing come from the pharmaceutical industry, where the policy is often used to make life-saving drugs more widely available at lower cost than they would be if one company controlled all production.
- Compulsory licensing could make it more difficult for startups to raise funds.
- Startups could find themselves entering that valley of death a lot sooner, running out of capital before they ever really get off the ground.
- Copenhagen December 2009.

DEVELOPING COUNTRIES

- Some believe that developing countries will need clean technologies if they are to play an active role in combating climate change over the coming decades.
- The question is how to access these?
- Compulsory licensing is not the only option.

WORLD TRADE ORGANIZATION AND UNFCCC

- Individual countries could unilaterally use existing World Trade Organization rules for compulsory licenses to access key clean technologies.
- But that — and any new licensing system — should only be needed if industrialized nations fail to meet their technology transfer and financing commitments under the UN Framework Convention for Climate Change (UNFCCC).

WORLD TRADE ORGANIZATION AND UNFCCC (continued)

- Some proponents of new compulsory licensing for climate-related technologies have misunderstood key differences between the access to medicines debate (under the TRIPS Agreement) and technology transfer, under the UNFCCC.
- There are other factors that compulsory licences may not resolve.
- Developing countries need access to the skills, know-how and capital that can help them use, reproduce and adapt clean technologies.

UNFCCC OBLIGATIONS

- Under the UNFCCC, industrialized countries are committed to providing and financing technology transfer, regardless of patents.
- They are obliged to make available funds and mechanisms to ensure access, distribution and uptake of environmentally sound climate-related technologies in developing countries.
- The Montreal Protocol.

UNFCCC OBLIGATIONS (continued)

- Unlike compulsory licensing, this commitment represents a cooperative approach. Only if this fails will developing countries, left to their own devices, have to resort to unilateral measures.
- Those engaged in the current UNFCCC negotiations are well aware that agreeing a workable mechanism for technology transfer is essential. It is crucial for strategies to successfully combat climate change after 2012 (when the first commitment period of the Kyoto Protocol ends).

ALTERNATIVES TO COMPULSORY LICENSING

- One proposal is that instead of the compulsory licensing model often used for drug makers, subsidize licensing for green technology/cleantech,
- The idea is to have developing countries pay a small portion of licensing costs for key technologies, and then have the U.S. government make up the difference.
- Have developed countries transfer financial funds to poorer nations that are strictly intended for the purchase of technology that is required to reduce greenhouse gas emissions.

LITIGATION

- Where to file the infringement suit.
- Injunction relief.
- Currently patent infringement damages are calculated by giving equal weight to a variety of factors.
- The “entire market value” rule is one tool in the court’s damages toolbox. It recognizes that the economic value added to a product or process by the patented feature may be greater than that feature alone.
- The entire market value rule allows for a damages award based on the full value of the infringing product or process where the patented feature provides the basis for customer demand for the entire product or process.

GOODWIN | PROCTER

IP ENFORCEMENT STRATEGIES FOR GREEN TECHNOLOGY PATENTS

Paul Davis
Partner