GREEN TECHNOLOGY: AN ALTERNATIVE PATH TO ACCELERATED PATENT EXAMINATION

Jay Hickey[†]

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INTRODUCTION

In the last quarter century, a particular problem facing humanity has become increasingly clear to innovators around the world: the consumption of immense quantities of natural resources of limited and shrinking availability. Whether it is water, crude oil, natural gas, or trees, at some point, without finding sustainable solutions to overconsumption, we will exhaust the natural resources available on this planet. As a leader in modern technology, our country should take a greater interest in the development of solutions to this crisis in the form of green technology that can be used to slow resource consumption.

The United States Patent and Trademark Office (PTO) can have an impact on the environmental crisis by adopting patent reform to specifically encourage innovators to develop and bring to market novel inventions in the green technology field. The PTO has made an effort to encourage the development of environmental technology through the Green Technology Pilot Program ("Pilot Program"), designed to expedite the patent process for environmentally valuable technologies.[1] This program will be analyzed in detail throughout this note and its foundation will form the basis for the reforms and initiatives suggested herein.

In addition to the Pilot Program, there are supplementary means by which the patent process for valuable green technology can be utilized to stimulate innovation. By partnering with the Environmental Protection Agency (EPA), the PTO will be able to offer an effective alternative system to accelerate the patent process for environmentally beneficial technology. This alliance would essentially weed out innovations that are insufficiently important to the environment, thereby ensuring that the PTO's increased effort to expedite the patent process is not wasted. In addition, such a joint initiative could uncover technologies that may have unforeseen environmental value and encourage their development with incentives in the patent office.

1. *See* Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. 64,666 (Dec. 8, 2009).

I. CURRENT PROCEDURE FOR EXPEDITING THE PATENT PROCESS

Prior to the implementation of the Pilot Program, there has existed one route that a patent applicant can take to expedite the examination of his or her application based on the subject matter it concerns.[2] The Pilot Program is an initiative that has been put in place to give patent applications pertaining to "green technologies" priority even where those applications do not meet the traditional requirements for expedited patent examination.[3] In order to understand exactly what this pilot program does and how it works, it is first necessary to survey the previous system by which the patent process is expedited.

A. Petition to Make Special

The first step to expediting the examination of a patent application is the completion of a petition to make special. Traditionally, patent applications are examined by the PTO in order corresponding to "their effective United States filing dates."[4] By successfully completing a petition to make special for his or her patent, the applicant enjoys the benefit of having his or her patent "advanced out of turn," whether it is advanced toward examination or other office action.[5] A petition to make special may be filed without an extra filing fee if based on: "(1) [t]he applicant's age or health; or (2) [t]hat the invention will materially: (i) [e]nhance the quality of the environment; (ii) [c]ontribute to the development or conservation of energy resources; or (iii) [c]ontribute to countering terrorism."[6] In addition to those grounds, an application can be advanced for examination where the invention is "deemed of peculiar importance to some branch of the public service and the head of some department . . . requests immediate action for that reason."[7]

1. The Age and Health of the Applicant

Applications may be made special via a petition including evidence that the applicant is at least sixty-five years old,[8] or evidence

2. *See generally* Advancement of Examination, 37 C.F.R. § 1.102(a) (2010); *see also* U.S. PATENT & TRADEMARK OFFICE, U.S. DEP'T OF COMMERCE, MANUAL OF PATENT EXAMINING PROCEDURE § 708.02 (8th ed., Rev. 8, July 2010), *available at* http://www.uspto.gov/web/offices/pac/mpep/index.htm.

3. Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. at 64,666.

4. MPEP § 708.02.

5. *See* 37 C.F.R. § 1.102(a).

6. *Id.* § 1.102(c).

7. *Id.* § 1.102(b).

8. MPEP § 708.02(IV).

demonstrating that the applicant's health is such that it could render the applicant unavailable to assist with the application's prosecution.[9]

2. Environmental Enhancement

Applications may be accorded "special" status if the invention disclosed will "materially enhance the quality of the environment of mankind by contributing to the restoration or maintenance of the basic life-sustaining natural elements."[10] If the disclosure contained within the patent application is unclear as to its positive environmental impact, the applicant must include a statement that explains how the invention materially benefits the environment.[11] In addition, if the aspect of the invention that enhances environmental quality is minor, the application will not be advanced under this standard.[12]

3. Energy Conservation

Special status may also be granted to applications disclosing "inventions which materially contribute to (A) the discovery or development of energy resources, or (B) the more efficient utilization and conservation of energy resources."[13] As with inventions that claim to enhance the quality of the environment, applications seeking special status under this provision must clearly disclose the means by which the invention contributes to energy conservation or be accompanied by a statement explaining said contribution.[14] Also, in accordance with the other standards included in the Manual of Patent Examining Procedure (MPEP), the contribution to energy conservation must be more than a minor aspect of the invention in order to qualify.[15]

4. Countering Terrorism

The PTO has recognized the tremendous importance of "technologies for countering terrorism" and has chosen to include this category of petitions to make special in order to stimulate the prompt disclosure of such advances.[16] The PTO adopts the definition of international terrorism as defined in the United States Code including:

9. *Id*. § 708.02(III).
10. *Id*. § 708.02(V).
11. *Id*.
12. *Id*.
13. MPEP § 708.02(VI).
14. *Id*.
15. *Id*.
16. *See id.* § 708.02(XI).

> activities that–(A) involve violent acts or acts dangerous to human life that are a violation of the criminal laws of the United States or of any State, or that would be a criminal violation if committed within the jurisdiction of the United States or of any State; [and] (B) appear to be intended–(i) to intimidate or coerce a civilian population; (ii) to influence the policy of a government by intimidation or coercion; or (iii) to affect the conduct of a government by assassination or kidnapping . . . .[17]

Examples of such technology may include means of detecting explosives, safety sensors and systems, and means of disabling vehicles.[18] The same standards of clarity in the application's disclosure of the invention's contribution and materiality of the contributing aspect of the invention apply for petitions under this provision.[19]

5. Other Categories

In addition to the four main categories discussed in the Code of Federal Regulations and outlined above, the PTO has included other fields of advancement for which an application may qualify for special status. The other categories include: (1) "applications relating to safety of research in the field of recombinant DNA;"[20] (2) "applications relating to HIV/AIDS and cancer;"[21] (3) "applications . . . involving superconductivity materials;"[22] and (4) applications filed by small entities that relate to biotechnology.[23]

B. Accelerated Examination Program

Once a petition to make special has been filed, additional requirements must be satisfied in order to achieve accelerated examination of a patent application.[24] Accelerated examination has the objective of completing the "examination of an application within twelve months from the filing date of the application."[25] For the purposes of this article, it is necessary to divide the requirements of accelerated examination into two categories: (A) technical requirements and (B) obligations imposed on the applicant. Technical requirements

17. *Id.* (citing 18 U.S.C. § 2331 (2006)).
18. MPEP § 708.02(XI).
19. *See id.*
20. *Id.* § 708.02(VII).
21. *Id.* § 708.02(X).
22. *Id.* § 708.02(IX).
23. MPEP § 708.02(XII).
24. *See id.* § 708.02(a)(I)(A).
25. *Id.* § 708.02(a)(VIII)(F).

will refer mainly to the procedural conditions and limitations placed on applications under the accelerated examination program. The obligations imposed on the applicant will refer to the burden carried by the applicant in expediting the examination of his or her application.

1. Technical Requirements for Accelerated Examination Status

In order to qualify for "accelerated examination status" an application must be filed along with a petition to make special.[26] The required fees of application and petition must be filed electronically and the application must be complete at the time of filing.[27] There are specific requirements regarding the number and type of claims to the effect that the application must contain three or fewer independent claims and no more than twenty claims in total.[28] Regarding the scope of the claims themselves, they must be directed to a single invention.[29]

2. Obligations of Applicant for Accelerated Examination

If the applicant desires accelerated examination status for his or her patent application, he or she must be willing to assume a greater role in the conducting of prior art searches and discussions.[30] Applicants must make themselves available for an interview, even before any action by the PTO, to review prior art and clear up any issues regarding possible rejections and objections to patentability.[31] Applicants must acquiesce to such an interview in a statement that is included within the petition to make special.[32]

Perhaps the heaviest burden that the applicant carries is that of the "preexamination search."[33] The applicant is responsible for a search (prior to examination) of U.S. patents, published U.S. applications, foreign patent documents, and potential prior art literature.[34] This search by the applicant must not only encapsulate every feature of the claims in the application, but also each disclosed feature that has the potential to be claimed.[35] If a disclosed, but unclaimed, feature is included in a subsequent amendment to the claims, it will not be entered

26. *Id.* § 708.02(a)(I)(A).
27. *Id.* § 708.02(a)(I)(C)-(D).
28. MPEP § 708.02(a)(I)(E).
29. *Id.* § 708.02(a)(I)(F).
30. *See id.* § 708.02(a)(I)(G)-(I).
31. *Id.* § 708.02(a)(I)(G).
32. *Id*.
33. *See* MPEP § 708.02(a)(I)(H).
34. *Id*. § 708.02(a)(I)(H)(1).
35. *Id.* § 708.02(a)(I)(H)(2)-(3).

if it was not covered by the preexamination search.[36]

In addition to the preexamination search, an applicant seeking accelerated examination of his or her patent application must provide what is known as "an accelerated examination support document."[37] This support document requires that the applicant disclose references that are closely related to the subject matter of his or her invention, and also explain in detail how each of the applicant's claims remain patentable in spite of the cited references.[38] Each independent claim requires a statement disclosing its utility and each limitation within the claims must find support within the written description section of the applications specification.[39] The specification requirements of 35 U.S.C. § 112 include a written description of the invention sufficient to instruct or teach the public how to make and use the invention.[40] The description must use "full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the [invention]."[41] Therefore, the written description must sufficiently teach how to make and use every limitation of each independent claim to satisfy the requirements of the accelerated examination support document.

C. Green Technology Pilot Program

Before the implementation of the Pilot Program, a patent application could only be advanced out of turn if: (1) the applicant completed a petition to make special[42] and (2) the application satisfied the requirements for accelerated examination.[43] Essentially, the Pilot Program allows an application to be advanced out of turn "without meeting all of the requirements of the accelerated examination program."[44] Procedurally, the Pilot Program does away with the requirement that the applicant perform a preexamination search of prior art.[45] In addition, the Pilot Program does not require an accelerated examination support document to be filed with the petition to make

36. *Id.* § 708.02(a)(I)(H)(3).
37. *Id.* § 708.02(a)(I)(I)(1).
38. MPEP § 708.02(a)(I)(I)(1)-(3).
39. *Id.* § 708.02(a)(I)(I)(4)-(5); *see also* 35 U.S.C. § 112 (2006).
40. 35 U.S.C. § 112.
41. *Id.*
42. *See generally* 37 C.F.R. § 1.102 (2010).
43. *See generally* MPEP § 708.02(a).
44. Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. at 64,666.
45. *Id.*

special.[46]

The Pilot Program requires that applications pertain to one of two subjects: (1) environmental quality or (2) energy conservation, development of renewable energy resources, or greenhouse gas emission reduction.[47] In order to come within the parameters of the Pilot Program, the application must seek a utility patent.[48] Provisional and reissue applications are not included in the Pilot Program's coverage.[49] Prior to May of 2010, there was an express requirement that the application be classified into one of the recognized "eligible classifications" of environmental technology.[50]

The classification requirement has subsequently been eliminated.[51] The Pilot Program also restricts the number of independent claims in a single application to three and the total number of claims to twenty; multiple dependent claims are not permitted.[52] If an application contains more than three dependent claims, more than twenty total claims, or any multiple dependent claims, the applicant is obligated to file a preliminary amendment to eliminate the claim(s) at issue.[53]

Applications pertaining to environmental quality must meet the standards set forth above for a petition to make special based on inventions that enhance environmental quality.[54] If pertaining to energy conservation, development of renewable energy resources, or greenhouse gas emission, the invention for which a patent is sought must "materially contribute to: (1) [t]he 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."[55] The phrase "renewable energy resources" shall include "hydroelectric, solar, wind, renewable biomass, landfill gas, ocean (including tidal, wave, current, and thermal), geothermal, and municipal

46. *Id.*

47. *Id.* at 64,667.

48. *Id.*

49. Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. at 64,667.

50. *Id.* at 64,668.

51. Elimination of Classification Requirement in the Green Technology Pilot Program, 75 Fed. Reg. 28,554, 28,554 (May 21, 2010).

52. Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. at 64,667.

53. *Id.*

54. *Id.*; *see also* MPEP § 708.02(V).

55. Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. at 64,667.

solid waste."[56] Efficient utilization and conservation includes inventions that generally reduce the consumption of energy.[57] Inventions pertaining to greenhouse gas emissions would include nuclear power innovations and innovations that use fossil fuels but suppress or reduce the amount of greenhouse gases released into the environment.[58]

As stated above, applications were originally required to conform to one of the eligible classifications in order to qualify for the Pilot Program.[59] The list of eligible classifications was broken down into four categories: (A) alternative energy production; (B) energy conservation; (C) environmentally friendly farming; and (D) environmental purification, protection, or remediation.[60] Under the first category, alternative energy production, examples of eligible classifications included: agricultural waste, biofuel, chemical waste, genetically engineered organism, geothermal, and hydroelectric.[61] Under the second category, energy conservation, examples included: alternative-power vehicle, commuting, drag reduction, energy storage or distribution, and fuel cell-powered vehicles.[62] Under the third category, environmentally friendly farming, examples included: alternative irrigation technique, animal waste disposal or recycling, fertilizer alternative, pollution abatement, and soil conservation.[63] Under the fourth and final category of environmental purification, protection, or remediation, examples included: biodegradable, bio-hazard disease (containment and destruction), disaster (spill or explosion cleanup and containment), and nuclear waste containment or disposal.[64] Examples listed here are intended as a small sample of the larger list of eligible categories originally provided by the PTO.

As of November 10, 2010, the Pilot Program was extended to grant eligibility to applications filed on or after December 8, 2009.[65] In addition, the PTO announced that the Pilot Program would continue to

56. *Id*.
57. *Id.*
58. *Id.*
59. *Id.*
60. Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. at 64,668-69.
61. *Id.* at 64,668.
62. *Id.* at 64,668-69.
63. *Id*. at 64,669.
64. *Id.*
65. Expansion and Extension of the Green Technology Pilot Program, 75 Fed. Reg. 69,049, 69,050 (Nov. 10, 2010).

offer benefits to applications concerning green technology until December 31, 2011.[66]

II. EMERGING GREEN TECHNOLOGIES

In order to fully understand why it is necessary to expedite the patent process for green technology, it will be helpful to survey some of the currently emerging technologies that fall under that category.

A. Ground-Source Heat Pump Water Heating System

ECR Technologies ("ECR"), a company based in Florida, has developed a system for heating water that utilizes naturally occurring heat beneath the ground.[67] ECR has named this technology the "EarthLinked Ground-Source Heat Pump Water Heating System."[68] ECR believes that this system has the potential to reduce power consumption by 70% when compared to alternative electric systems.[69] The reduced energy consumption would have the secondary impact of reducing emissions that would otherwise result from an electric system's power generators or from systems that incorporate combustion to provide the necessary power.[70]

The system uses at least two copper loops, ranging from fifty to one hundred feet in length, installed in the ground, which circulate "non-ozone depleting refrigerant."[71] The refrigerant absorbs naturally occurring heat while underground, causing the refrigerant to vaporize, at which point a compressor raises the pressure of the refrigerant and directs it to a heat exchanger that transfers the heat of the refrigerant to domestic water passing through the exchanger.[72] After the process is complete, a "refrigerant flow control device" returns the refrigerant to the underground loops to begin the cycle anew.[73] Although the EarthLinked system does consume power via the compressor and

66. *Id.*

67. *See* GREENHOUSE GAS TECHNOLOGY CENTER: SOUTHERN RESEARCH INSTITUTE, ENVIRONMENTAL TECHNOLOGY VERIFICATION REPORT: ECR TECHNOLOGIES, INCORPORATED EARTHLINKED GROUND-SOURCE HEAT PUMP WATER HEATING SYSTEM, S-1, S-2 (2006), *available at* http://www.epa.gov/nrmrl/std/etv/pubs/600etv06063.pdf.

68. *Id.* at S-1.

69. *Id.* at S-2.

70. *Id.*

71. *Id.*

72. ECR TECHNOLOGIES, INCORPORATED EARTHLINKED GROUND-SOURCE HEAT PUMP WATER HEATING SYSTEM, *supra* note 67, at S-2.

73. *Id.*

circulation pump, the system releases zero direct emissions.[74]

B. Quantum Leap Natural Gas Dehydrator

Engineered Concepts, LLC (ECL), has developed a system to meet national pollution elimination and recovery standards in the vent stream of natural gas dehydrators.[75] ECL has named this technology the "Quantum Leap Dehydrator" (QLD).[76] The environmental significance of this new technology is its ability to reduce "emissions of GHGs [Greenhouse Gases], Hazardous Air Pollutants (HAPs), and volatile organic compounds (VOCs)."[77] Specifically, this technology was designed to meet the EPA's goal of reducing HAP emission in glycol dehydration units by ninety-five percent.[78] While effectively reducing HAP emissions, this technology has the added benefit of reducing methane (CH_4) emissions, a dangerous GHG.[79]

The QLD system works by collecting hydrocarbon vapor in dehydration vents and condensing the collected vapors to form a product for sale and water for disposal, while using excess vapors to self-fuel the system.[80] By using the excess vapors collected by the system to fuel burners within the system, the QLD is able to reduce the need for natural gas fuel and the emissions thereof.[81] An additional benefit of the QLD is that an electric pump has replaced the gas-assisted pump of conventional dehydration systems, thereby reducing methane losses and emissions.[82]

C. Molten Carbonate Fuel Cell

FuelCell Energy, Inc. is a company located in Connecticut, which produces "Ultra-Clean" fuel cell power plants, capable of generating electricity with double the efficiency of traditional fossil fuel power

74. *Id.*

75. GREENHOUSE GAS TECHNOLOGY CENTER: SOUTHERN RESEARCH INSTITUTE, TEST AND QUALITY ASSURANCE PLAN: ENGINEERED CONCEPTS, LLC QUANTUM LEAP DEHYDRATOR, 1-2 (2002), *available at* http://www.epa.gov/etv/pubs/02_usepaghgqap20.pdf.

76. *Id.*

77. *Id.* at 1-1.

78. *Id.* at 1-2.

79. *Id.*

80. ENGINEERED CONCEPTS, LLC QUANTUM LEAP DEHYDRATOR, *supra* note 75, at 1-2.

81. *Id.* at 1-5.

82. *Id*.

plants, while emitting "virtually no air pollution."[83] FuelCell Energy has recently developed the DFC 300A, a molten carbonate fuel cell (MCFC), fueled by natural gas.[84] In addition to functioning as an efficient system for producing electricity, some excess heat produced by the fuel cell can be captured from the exhaust gases and used in the space heating system of buildings at the host location.[85]

The DFC 300A currently uses an electrolyte made from a molten mixture of lithium carbonate and either potassium carbonate or sodium carbonate salts.[86] When exposed to a tremendous amount of heat (1202° Fahrenheit), the salts melt and are then capable of conducting carbonate ions.[87] When moving from cathode to anode, the ions combine with hydrogen to form water, carbon dioxide, and electrons.[88] The electrons are used to provide electricity in an external circuit.[89] Operating at such high temperatures allows natural gas to re-form internally, removing the need for an additional fuel processor, and the byproduct heat is useful in forming steam for various industrial and commercial applications.[90]

III. INTER-AGENCY COLLABORATION

The government creates administrative agencies for the purpose of carrying out national imperatives and delivering social order to the people.[91] The EPA operates with the general mission of protecting Americans from "significant risks to human health and the environment where they live, learn and work[.]"[92] It is that specific mission that makes the EPA the ideal agency with which the PTO can form a cooperative system to promote innovation and development in the field of environmental technology.

83. *About Us*, FUEL CELL ENERGY, http://www.fuelcellenergy.com/about-us.php (last visited Sept. 10, 2011).

84. GREENHOUSE GAS TECHNOLOGY CENTER: SOUTHERN RESEARCH INSTITUTE, TEST AND QUALITY ASSURANCE PLAN: FUEL CELL ENERGY, INCORPORATED–DFC300A MOLTEN CARBONATE FUEL CELL COMBINED HEAT AND POWER SYSTEM, 1-2 (2007), *available at* http://www.epa.gov/nrmrl/std/etv/pubs/600etv07041.pdf.

85. *Id.*

86. *Id.* at 1-3.

87. *Id.*

88. *Id.*

89. FUEL CELL ENERGY, INCORPORATED–DFC300A MOLTEN CARBONATE FUEL CELL COMBINED HEAT AND POWER SYSTEM, *supra* note 84, at 1-2.

90. *Id.*

91. 1 ADMIN. LAW & PRACTICE § 1:1 (3d ed. 2011).

92. *Our Mission and What We Do*, ENVTL. PROTECTION AGENCY, http://www.epa.gov/aboutepa/whatwedo.html (last visited Sept. 11, 2011).

A. Brief Overview of the EPA

The EPA was formed in 1970 in light of the increased awareness of humankind's relationship with the environment and the potential hazards that can arise if that relationship is abused.[93] Functioning as a "quasi-independent agency" allows the EPA to operate with limited political and legal obligations, placing its focus and leadership structure in the hands of experts in the field.[94] The technical knowledge of EPA officials enables them to make the specialized judgments to draft regulations that implement and enforce environmental law adopted by Congress.[95] In addition to enforcing Congressional agendas, the EPA provides a great amount of information to groups all over the country, thereby promoting the health of humanity and the environment.[96]

There are several means by which the EPA carries out its broad objectives of educating the country and enforcing environmental policy. For the purposes of exploring a potential collaborative effort between the EPA and PTO, it is necessary to identify three such means: (1) providing grants to state and local governments, non-profits, educational institutions, etc.; (2) studying environmental issues in the laboratory; and (3) sponsoring partnerships with small businesses, non-profits, and various governments.[97] Examples of grants offered by the EPA range from those that fund developing internet-based networks for the exchange of environmental data, to those that fund research in environmental science and engineering.[98] A recent topic of scientific inquiry undertaken by the EPA has been the effect of exposure to chemicals in the environment on embryos developing in the wombs of pregnant women ("The Virtual Embryo Project").[99] The means by which the EPA achieves its mission demonstrate its ability to exchange information between public and private entities making it highly capable of collaborating with the PTO and inventors alike.

93. *See* Karen M. Hoffman, Clinton County Commissioners v. EPA*: Closing Off a Route to Pre-Enforcement Review*, 66 FORDHAM L. REV. 1939, 1942 (1998).

94. *Id.* at 1943.

95. *Id*.

96. *Our Mission and What We Do*, *supra* note 92.

97. *Id*.

98. *Grants and Fellowship Information*, ENVTL. PROTECTION AGENCY, http://www.epa.gov/epahome/grants.htm (last visited Sept. 11, 2011).

99. *The Virtual Embryo Project*, ENVTL. PROTECTION AGENCY, http://www.epa.gov/research/sciencematters/october2010/virtual-embryo.html (last visited Sept. 11, 2011).

1. Environmental Technology Verification Program

The Environmental Technology Verification (ETV) Program is an initiative within the EPA to develop technical standards and certify the environmental value of innovative technologies.[100] The ETV Program has operated since 1995 to "help accelerate the entrance of new environmental technologies into the domestic and international marketplace[]."[101] The program was created in response to the growing need for "credible performance data" that would allow businesses and community organizations to make educated decisions when it comes to the available environmental technologies.[102]

The ETV Program has established a reputation as one of the most comprehensive verification programs for environmental technology.[103] With the general goal of removing uncertainty for purchasers of technology, the ETV Program publishes all of the verification reports and data from technology testing on its website (www.eta.gov/etv) in addition to sending monthly updates to its listserv of roughly 2,500 subscribers.[104] To further dissipate the results of verification trials, the ETV Program reaches through conferences, presentations, and publications in trade journals.[105]

B. Summary of the PTO's Green Technology Efforts

As discussed in detail above, the PTO offers a system by which patent applicants are able to advance their applications out of turn and have the examination process accelerated.[106] Essentially, the system, as it stands, requires the patent applicant to file a petition to make special based on the subject matter of the patent.[107] Only certain categories of subject matter are eligible for the petition, including but not limited to, environmental enhancement, energy conservation, superconductivity, and countering terrorism.[108] With a petition to make special properly filed, the applicant must also meet the requirements of the accelerated

100. *Fact Sheet: Environmental Technology Verification Program*, U.S. ENVTL PROTECTION AGENCY, http://www.epa.gov/nrmrl/std/etv/pubs/600f08012.pdf (last visited Sept. 11, 2011).

101. *Id.*

102. Evelyn Harzel & Abby Watts, *Environmental Technology Verification Program: Raising Confidence in Innovation*, EM MAGAZINE, May 2004, at 34.

103. *Id.*

104. *Id.*

105. *Id.*

106. *See generally*, 37 C.F.R. § 1.102 (2010); *see also* MPEP §708.02.

107. *See* 37 C.F.R. § 1.102(a).

108. *See* MPEP § 708.02.

examination program to receive the benefits of expedited patent examination.[109] Requirements under the accelerated examination program impose both procedural technicalities and individual obligations upon the applicant, including but not limited to, claim number limitations, electronic fees, preexamination interviews, preexamination searches of prior art, and accelerated examination support documentation.[110] Finally, the Pilot Program was initiated to eliminate several of the aforementioned obligations and procedural requirements, including the preexamination search of prior art and the accelerated examination support documentation.[111]

C. Cooperation Between ETV and Green Tech Pilot Program

The very nature of the EPA's ETV Program and the PTO's Pilot Program make them ideal for a partnership to further encourage innovation in the field of environmental technology. Both the ETV and Pilot Program share the common goal of bringing new inventions to market that reduce the impact of humankind on the environment.[112] Each program employs a slightly different approach to achieving that common goal. The ETV Program focuses on exploring, investigating, testing, and reporting on innovative environmental technologies,[113] whereas the Pilot Program offers incentives to environmental patent applicants, such as accelerated examination of patent applications and removal of procedural burdens in the application process.[114]

One potential way in which the ETV and Pilot Program could collaborate to promote further innovation in the field is to implement a step-wise procedure whereby inventors are given a new pathway to accelerated examination. Under this approach, the ETV program could create certain criteria and testing protocols that inventions must meet in return for receiving an "endorsement" or "certification" from the EPA (preexamination testing). Once a technology has been endorsed or certified, the inventor or owner of the technology may wish to seek patent protection for the invention. At that point, the endorsement or

109. MPEP § 708.02(a)(I).

110. *Id.*

111. Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. at 64,666.

112. *See id.*; *see also Fact Sheet: Environmental Technology Verification Program supra* note 100.

113. *Fact Sheet: Environmental Technology Verification Program supra* note 100.

114. Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. at 64,666.

certification of the EPA, by virtue of the ETV Program, could supplant some of the requirements of the PTO's Pilot Program. Given the ETV Program's practice of publishing verification test results,[115] viewed in light of the statutory limitations on patentability of publicly known inventions,[116] confidentiality in pre-examination testing must be addressed for such a collaboration to function properly. In the event that pre-examination testing unreasonably delays the filing of a patent, the shifting filing date and term of the aggrieved patent can remedy the situation.

1. Establishing Test Protocols and Standards

The current guidelines of the PTO's accelerated examination and Pilot Program are instructive in establishing standards for technologies to meet in order to receive the endorsement of the EPA under this joint effort. However, the joint effort should recognize additional categories of technology that are not found within the Pilot Program's original list of eligible classifications. The high level of technical knowledge possessed by the EPA could facilitate a deeper look into some technologies that may not appear to be related to environmental issues, but in fact have profound long-term environmental impacts.

As outlined in the general subject matter requirements for the PTO's Pilot Program, the joint effort should endorse or certify only technologies that relate to environmental quality, energy conservation, development of renewable energy resources, and greenhouse gas emissions.[117] The ETV Program is divided into several "centers" that focus on particular environmental issues, such as the Greenhouse Gas Technology Center, Air Pollution Control Technology Center, and the Advanced Monitoring Systems Center.[118] For the purposes of the joint effort, additional ETV centers could be formed to focus on other environmental issues such as energy conservation and renewable energy resources. With the necessary and appropriate "centers" in place, EPA professionals could develop minimum performance standards that technologies must meet, specifically tailored to the environmental issue with which they are concerned.

The original list of eligible classifications for patent applications

115. *See* Harzel & Watts, *supra* note 102, at 34.

116. *See* 35 U.S.C. § 102 (2006).

117. *See* Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. at 64,667.

118. *See* Harzel & Watts, *supra* note 102, at 36, 39.

that qualify for the Pilot Program[119] provides a basic framework that the EPA could use to determine whether a technology is eligible for endorsement. However, a deeper look at some technologies that do not fall squarely within the original list may reveal that such technologies have serious environmental implications. For example, a widget could be invented that fabricates high quality, lightweight, durable, flexible, heat-resistant, fibrous material. At first glance, such a widget has very little impact on the environment in and of itself and does not fit within any of the Pilot Program's eligible classifications.[120] However, if the materials fabricated by the widget could replace heavy metals in automotive and aircraft parts, there would be a dramatic impact on energy consumption. The resulting decrease in automobile and aircraft weight could significantly reduce the amount of energy and fuel required to operate those vehicles while maintaining the requisite structural properties of strength and heat-resistance.

Although this example is a general simplification, it is sufficient to demonstrate the potential environmental value that can be found in inventions when a more critical analysis of secondary impacts is conducted. The EPA is well-suited to conduct such secondary analyses given the extensive technical and scientific knowledge of its personnel. By providing a system that can uncover these secondary environmental impacts, a joint effort such as that proposed here would encourage a broader range of green technology innovation and disclosure. As stated above, the general goal of the ETV Program, and the Pilot Program alike, is to promote environmental innovation.[121] Broadening the scope of what is considered "environmental technology" to include what may otherwise be overlooked, serves that goal.

2. Supplanting Procedural Requirements with EPA Endorsement

The public policy supporting the PTO's offer to accelerate patent examination for certain categories of technology is easily deduced from the structure of the current system. As a society concerned with the health of its environment, it is in our best interest to offer incentives exclusively to the inventors who develop technologies that contribute to that health. However, in offering those exclusive incentives, it is

119. *See* Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. at 64,668-69.

120. *See id*.

121. *Fact Sheet: Environmental Technology Verification Program*, *supra* note 100; Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. at 64,666.

important to implement a system that guarantees the technologies receiving incentives are the technologies that deserve them. The need for that system of assurance is the logical motivation behind the restrictions and procedural hurdles imposed by the PTO on patent applicants seeking accelerated examination.[122]

Allowing inventors to disclose their technologies to the EPA for verification testing and subsequent endorsement would efficiently assure that incentives are being granted to only the most deserving inventions. The technical expertise of the EPA's ETV Program Centers would allow for a critical and comprehensive analysis of the various inventions seeking accelerated examination in the PTO. Investigating and testing technologies before endorsing or certifying their environmental value would virtually guarantee that the technologies are worthy of accelerated examination, more so than reliance on the mere procedural hurdles of the current system.[123] In addition, as discussed above, preexamination testing and subsequent endorsement by experts in the field has the added benefit of uncovering secondary environmental impacts that may otherwise be overlooked in light of the Pilot Program's current list of eligible categories.[124]

With a preexamination technology testing program in place, the current procedural burdens contained within the requisites for a petition to make special and the accelerated examination program would be unnecessary and cumulative. There would be no further need to assure the PTO that a certain technology meets the threshold level of environmental value once that technology has received the certification or endorsement of the EPA. Thus, a joint initiative to implement preexamination testing and subsequent endorsement by the EPA could replace the need for a petition to make special concerning certain environmental technologies.

3. Confidentiality Considerations

A statutory bar to patentability can arise when an invention has been "described in a printed publication in [the United States] or a foreign country or in public use or on sale in this country, *more than one year prior to the date of the application* for patent in the United States."[125] Therefore, because preexamination testing could foreseeably

122. *See* MPEP § 708.02; *see also* 37 C.F.R. § 1.102(a) (2010).

123. *See* MPEP § 708.02; *see also* 37 C.F.R. § 1.102(a).

124. *See* Pilot Program for Green Technologies Including Greenhouse Gas Reduction, 74 Fed. Reg. at 64,668-69.

125. 35 U.S.C. § 102(b) (2006) (emphasis added).

require more than one year in some instances, the EPA must be under a strict non-disclosure policy to prevent the details and descriptions of an invention from becoming public knowledge. Because the use of the technology by the EPA will be entirely experimental and confidential, it should not be considered a "public" use for statutory bar purposes.[126]

During the course of preexamination testing, it is inevitable that the EPA will encounter technologies lacking the necessary environmental value for accelerated patent examination. Such technologies will be "kicked back" to the owner with the option to pursue conventional patent examination. In such circumstances, it is imperative for statutory bar purposes that the EPA adhere to an extended non-disclosure policy, thereby allowing the inventor to continue developing the technology as though it had never been disclosed in the first place. Such a policy will help to encourage inventors to come forward with new technologies without risking a loss of the right to a patent due to the statutory bar. It would be unreasonable to implement a system where inventors are penalized if the EPA does not find their technology to be sufficiently valuable to the environment.

4. Shifting the Filing Date and Patent Term

A patent application cannot mature into a patent if the invention has been patented or disclosed in a publication more than one year *prior to the filing date* of that application.[127] Furthermore, statutory bars to patentability are triggered when an invention is in public use or on sale in the United States more than one year *prior to the filing* of a patent application.[128] Therefore, it is in the inventor's best interest to have the earliest possible filing date, otherwise known as "priority." For that reason, it is necessary to remedy any unreasonable delay to filing caused by preexamination testing.

A patent's "term" (the amount of time that the patent protection lasts) begins on the date the patent issues and terminates twenty years from the date on which the original application was filed.[129] There are exceptions where a patent's term may be extended for unreasonable delay on the part of the PTO that causes an application to be pending for more than three years.[130] In addition, the PTO allows for a patent's

126. *See* City of Elizabeth v. Am. Nicholson Pavement Co., 97 U.S. 126, 134 (1877).

127. 35 U.S.C. § 119(a).

128. *Id.*

129. *Id.* § 154(a)(2).

130. *Id.* § 154(b)(1)(B).

term to be extended in cases where regulatory review is required after the patent is issued but before it can be commercially exploited.[131] For a joint effort between the PTO and EPA to attract inventors, there must be a similar system for extending the patent term when accelerated examination fails.

With the overall goal of accelerating patent examination for technologies that benefit the environment, the joint effort should establish a maximum allowable time and a corresponding deadline for preexamination testing. If preexamination testing requires more than the allotted time, the application's filing date for statutory bar purposes should be "shifted" to the date on which the preexamination deadline lapsed, thereby preserving the inventor's right of priority. Thus, inventors will not be penalized if they are forced to delay filing beyond the allowable preexamination testing period. Given that ordinary applications should not be pending for more than three years,[132] accelerated examination under a joint effort should aim for no more than two years of pendency. If the examination period exceeds the two year pendency, the patent term should be extended by an amount equaling the time that the examination exceeded the two year window. By shifting the filing date and allowing the patent term to be extended where warranted, the program would protect inventors and guarantee the benefits associated with accelerated examination.

CONCLUSION

In order to preserve our planet for future generations, it is imperative that environmental concerns play a larger role in government initiatives and policy making. As a leader in the modernized world, the United States should be working tirelessly to encourage the development of long-term, sustainable solutions to the problems that plague the environment. In particular, solutions that are able to take advantage of resources currently at our disposal should be favored above solutions that require resources heretofore unavailable. For that reason, a joint effort between the PTO and EPA, utilizing the structure and resources already present within those agencies, is one solution that deserves serious consideration.

The PTO's current Pilot Program, designed to expedite the patent process for green technologies, is a step in the right direction, but more can be done. It is unreasonable to rely on the examiners at the PTO to

131. *Id.* § 156(a)(4).

132. *See* 35 U.S.C. § 154(b)(1)(B).

ascertain, without error, the environmental value of new technologies that are emerging everyday. The scientific and technical expertise of the EPA, however, makes that agency the perfect tool for the job. Together, the EPA and PTO can identify with greater precision, the most environmentally valuable technologies and offer accelerated patent examination and protection to those technologies alone. Such a joint effort would encourage inventors to develop environmental technology while insuring that incentives in the PTO are being efficiently distributed to the most deserving technologies. When it comes to protecting the planet, it is crucial that all solutions and alternatives are fully explored and considered for the benefits they can provide.