

## Portfolios, Pools, and Public Intervention – IP strategies for a greener future?

*The Paris Agreement 2015<sup>1</sup> (the “Agreement”) recognises the importance of technology in addressing the threat of climate change. Article 10 specifically states that: “[a]ccelerating encouraging and enabling innovation is critical for an effective, long-term global response to climate change.” However, what the Agreement fails to consider is how to resolve the tension between intellectual property rights, technology transfer and climate change. Renewable firms are facing growing pressure to develop and ensure transfer of green technology on a global scale – but at what cost to their IP rights?*

*This article analyses whether renewable firms will rely on either patents or trade secrecy as the primary choice of IP protection. I argue that patents will remain the central form of IP protection due to their strategic application: (i) to settle disputes via licensing agreements and (ii) to control technology development in the standardisation process. I also argue that patents, via the mechanism of patent pools, provide the perfect balance between addressing the global public interest in tackling climate change, whilst still protecting firms’ private proprietary rights.*

### **Introduction**

A patent is a legal instrument for the protection of an invention, it operates by granting the patentee a temporary monopoly in respect of that invention. In exchange of being granted a temporary monopoly, patentees must publicly disclose their inventions well enough for that invention to be performed by a person skilled in the art.<sup>2</sup>

A trade secret, according to the EU Trade Secrets Directive<sup>3</sup>, is information that is not generally known or accessible, has commercial value, and has been subject to reasonable steps to keep it secret.

An important determinant for deciding whether to rely on patenting or secrecy is the effectiveness of the respective legislation. Strong legislation – meaning legislation that enables firms to effectively prosecute infringement of their innovations – usually encourages firms to rely on legal protection<sup>4</sup>. Trade secrecy legislation has recently been strengthened across major jurisdictions, including: in 2016, both the passing of the Defend Trade Secrets Act in the USA, and the adoption in the EU of the Trade Secrets Directive<sup>5</sup>; and in 2019 the amendment of the Anti-Unfair Competition law in China.

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<sup>1</sup> Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104.

<sup>2</sup> Section 14(3) Patents Act 1977

<sup>3</sup> EU Trade Secrets Directive (2016/943) (see Article 2 for the definition)

<sup>4</sup> Crass, D., Valero, F. G., Pitton, F., and Rammer, C. (2019). "Protecting Innovation Through Patents and Trade Secrets: Evidence for Firms with a Single Innovation," *International Journal of the Economics of Business*, Taylor & Francis Journals, vol. 26(1), pages 117-156

<sup>5</sup> The United Kingdom through the Trade Secrets (Enforcement, etc) Regulations incorporated the EU Trade Secrets Directive into UK law. The UK also has the common law equitable doctrine of confidence. Claims enforcing trade secrets in the UK may be brought under the regulations or the common law for breach of confidence.

### **Complements, not alternatives**

A firm's decision to rely on either patents or trade secrets is often framed as a binary choice – naturally, this makes sense given the fact that patents and trade secrets are at polar extremes on the issue of disclosure. However, it is incorrect to frame these IP rights as alternatives. Trade secrets are inextricably linked to a patent throughout its entire lifecycle: they precede, accompany, and follow patents. In the R&D stage, before any patent applications are filed or published, the associated collateral know-how and R&D data will be, and should be, protected by trade secrecy; in order to uphold the novelty of any patent application. Any associated know-how not required to be disclosed in a patent application should also be retained as a trade secret and licensed with the patent during its lifetime as associated know-how.<sup>6</sup> Finally, it is still valuable<sup>7</sup> for a company to protect any associated know-how to a patent – even upon expiry of the patent.

### **Sector focus: Renewable technologies**

In this section, I will argue that renewable energy firms will rely on patents as the primary form of intellectual property protection. I will focus on two aspects of renewable technology: (i) its complex nature and (ii) its growing need to be interconnected.

### **Complex technologies**

Cohen et al. (2000)<sup>8</sup> divide industries into those producing discrete or complex products. Discrete products, such as new drugs or chemicals, tend to have few components, and innovations in these areas are simpler to protect by patents. In contrast, complex products, for example, electronics products, typically require many different modules in their construction.

The modularity of a technology refers to a technology which can be separated into components, each of which is related to other components through a given set of design rules or interfaces. This allows independent efforts in the improvement of individual components to take place, without the need for coordination of these efforts. As Hall et al. (2012)<sup>9</sup> explain, modularity can lead to specialization of firms on different stages of the product innovation process, which often contributes to the fragmentation of control over property rights on a single technology.

Patenting is, therefore, pursued in complex product industries for strategically different reasons than in discrete product industries. This is because the production of a complex product requires licensing or other arrangements to gain access to technologies from other firms, making commercialisation of an innovation more challenging.

### **Complexity - wind technology**

The renewable industry is an industry defined by complex technology – see wind turbine technology, for example.

Innovations in the wind-power industry have focused on several separate key areas, including: improved equipment design; construction and assembly methods; and proper management

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<sup>6</sup> Ottoz, E., Cugno, F., (2011). “*Choosing the Scope of Trade Secret Law when secrets complement patents.*” *International Review of Law and Economics* 31 (4): 219–227

<sup>7</sup> The importance of a trade secret is in its value to its owner – not its actual use. Negative R&D results can prove to be invaluable to a company as it provides information as to what are, and what are not, feasible options for further commercialisation.

<sup>8</sup> Cohen, W. M., Nelson, R. R. and Walsh, J. (2000). “*Protecting Their Intellectual Assets: Appropriability Conditions and Why U.S. Manufacturing Firms Patent (or Not).*” Cambridge, MA: NBER Working Paper No. 7552.

<sup>9</sup>Hall, B. H., Rogers, M. L., Helmers, C., and Sena, V (2012) “*The Use of Alternatives to Patents and Limits to Incentives*”. Intellectual Property Office Research Paper No. 2012/21.

and control. Patents in this area have ranged from refining the ‘key’ components of a turbine – i.e., the generator, rotor blades, and rotor hub; right up to the patenting of inventions that address energy storage systems and techniques to balance turbine output within a wind farm<sup>10</sup>. It is clear that the construction, running and management of a wind turbine involves isolated but interdependent technologies.

### **Patent portfolios**

In complex industries, where fragmented patent rights around technology are commonplace, cross-licensing has become the norm as no one firm owns all the patents required to produce their product<sup>11</sup>. Therefore, it has become imperative for firms to ensure that they hold strong bargaining positions in these cross-licensing negotiations.

Asserting a well-crafted patent portfolio, has become a commonplace tactic in complex industries, as the precursor to controlling cross-licensing negotiations with other firms.

In this way, the primary strategic advantage of a patent portfolio arises not from its aggregated right to exclude and appropriate returns on investment, but rather from its utilisation as a litigation tool. The assertion of a portfolio enhances the threat of an injunction (especially if the portfolio in question covers a significant portion of the technological landscape) as an alleged infringer cannot finalise its product without a licence to all the components – no matter how minor the component is to the final product.

However, where the strategic strength of a portfolio lies, is in its “defensive” application. This arises when a company asserts its portfolio in response to an infringement suit. A counter-assertion of a portfolio creates a mutual hold-up situation, due to the interdependency of the technology in suit, as a result neither party can commercialize their final product.

Defensively enforcing a portfolio encourages cross-licensing because the broader scope of protection granted by the portfolio creates a potential imbalance between both parties. The greatly increased stakes—and increased chances that the (singular) patent owner would be found liable—diminishes the appeal of litigation as a method of dispute resolution<sup>12</sup>. Taken together, such a “defensive” strategy of affirmatively using a patent portfolio encourages cross-licensing, thereby reducing the counterclaimant’s risks and costs of litigation.

### **Implications of patent enforcement**

Aggressive enforcement of patents favours first movers in an industry, as competitors can only react to, and not pre-empt, such strategies. Once an aggressive enforcement strategy has been implemented and the aggressor reaped its rewards, competitors will proactively take steps to prevent being caught in the same situation twice.

In complex industries, like the renewable sector, the appropriation strategies of the different actors are highly interdependent. An aggressive patent enforcement strategy undertaken to appropriate returns by one party will be reciprocated by the rest of its competitors – quickly creating a litigious landscape<sup>13</sup>. The fundamental nature of patents –their legal right to exclude

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<sup>10</sup> <https://www.windsystemsmag.com/patenting-the-winds-of-innovation/> [Accessed 14 January 2024]

<sup>11</sup> It is often entire patent portfolios rather than patents that are cross-licenced in negotiations

<sup>12</sup> Graham SJH., Sichelman, T., (2008). “*Why do Start-Ups Patent*” Berkeley Technology Law Journal, Vol. 23, No. 3, Symposium: Intellectual Property and Entrepreneurship pp. 1063-1097

<sup>13</sup> See the Smartphone patent wars for an example of the scale that such strategies can reach

combined with their strict liability – means that the only way to protect against patent enforcement is for a company to patent itself<sup>14</sup>.

Firms that fail to patent, and construct portfolios, face weakened bargaining positions in cross-licensing negotiations. This creates potential issues for firms on two fronts: (i) the risk of having to pay licensing fees<sup>15</sup> and (ii) the risk, particularly in the case of an imbalance in portfolio strength, of opening themselves up to asymmetric technology transfer, including the licensing of their other IP rights as part of the settlement.

The renewable industry is a landscape that is slowly, but surely, starting to experience notable litigation. In 2023, two large cases involving renewable technology settled: *Siemens v General Electric*<sup>16</sup> settled their multi-jurisdictional battle over wind turbine technology; and LONGi Green Energy Technology of China and Hanwha Group of South Korea, both world leading suppliers of solar panels, also entered into a patent cross-licensing settlement of their multijurisdictional dispute.

Now, this is not to say that the level of litigation in the renewable space will reach the heights seen by telecommunication companies; however, if this litigious appetite continues, renewable companies will find themselves defensively filing more patents for the purposes of retaliation and bargaining, and thus to forearm against expropriation in cross-licensing negotiations. Renewable firms have, arguably, already entered an irreversible cycle by which they have to patent in order to protect against patent enforcement.

## **Standardised technologies**

### **Why are standards important?**

To date, standard setting in the renewable industry has been characterised with either setting *de facto* standards within the manufacturers' production lines or ratifying safety standards set by legislation. However, in the telecommunications sector, for example, standard setting goes beyond the specification of compatibility standards and can be described as the joint development of sophisticated technologies<sup>17</sup>. Firms interested in developing or defining a technical solution that will enable multiple products or components to work together choose to collaborate in standard setting efforts<sup>18</sup>. If the proposed technology is adopted into the

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<sup>14</sup> When Motorola entered the European GSM market (2G) back in the 1980s, it caused significant disruption due to its aggressive patent enforcement strategy. It aggressively asserted its patents against the Nordic actors, who took a comparatively relaxed approach to patenting; primarily relying on gentlemen agreements for technology development. Motorola eventually entered into cross-licensing agreements with a limited number of selected parties, but for companies with no essential or other patents to trade, licensing costs became a high barrier to entry. The conduct of Motorola triggered a new era of heightened patent activity in (European) telecommunications, leading to an irreversible track of new patenting and competitive behaviour in general. (Holgerson, A., Granstrand, Ove., and Bogers, Marcel (2018). “*The evolution of intellectual property strategy in innovation ecosystems: Uncovering complementary and substitute appropriability regimes*” Long Range Planning [Volume 51, Issue 2](#), April 2018, Pages 303-319

<sup>15</sup> “[m]ost large companies . . . have patent portfolios of their own . . . big players within an industry often sign cross-licensing agreements that let them use one another’s technology without paying fees” Gideon Parchomovsky, G and Wagner, R. P (2005). “Patent Portfolios”, [U of Penn. Law School, Public Law Working Paper 56; U of Penn, Inst for Law & Econ Research Paper 04-16](#)

<sup>16</sup> *Siemens Gamesa Renewable Energy A/S v GE Energy UK Limited and others*, [2022] EWHC 3034 (Pat)

<sup>17</sup> <https://www.iam-media.com/article/auto-ip-leaders-need-wise-seps-and-fast> [Accessed 21 January 2024]

<sup>18</sup> Layne-Farrar, A. and A.J. Padilla (2011) “Assessing the link between standards and patents,” International Journal of IT Standards and Standardization Research, Vol. 9, pp. 19–49.

standard and it is covered by a patent, that patent is said to be “essential to using the standard” aka a ‘standard essential patent’ (“SEP”).

### **Smart meters**

Smart meters are a technological example of the renewable industry entering the SEP licensing arena<sup>19</sup>.

Smart meters typically consist of: an electricity smart meter, a gas smart meter, a communications hub, and an in-home display (“IHD”). The communications hub creates a network called the Home Area Network (“HAN”): this links the IHD with the smart meter. The IHD shows how much energy is being used or sold back to the grid. The Wide Area Network (“WAN”) is how the communications hub sends the meter readings to the servers of the energy supplier.<sup>20</sup> Information is transmitted over a WAN using mobile-phone or radio masts, sent from each property’s communications hub. It is the data transfer via wireless communication protocols for HAN or cellular networks for WAN that involve the use of standardised communications technologies and therefore the use of SEPs.

### **Why renewable firms will contribute to standards**

Renewable firms will amplify their patenting practices in order to contribute to standards<sup>21</sup> and reap the benefits that arise from having SEPs.

Ownership of SEPs can have a dramatic impact on a renewable firm’s performance and market evolution. This is because it can lock markets into specific, often partially proprietary technical solutions for an extended period of time<sup>22</sup>. Renewable firms will first start to engage in early standard development for technologies such as smart meters or electric vehicles, so that they can influence the adopted technology in the standard<sup>23</sup>. This is particularly important in the nascent renewable space, where the standards which are developed and set today may well become the fundamental technology platform for emerging technologies and applications in the future. Renewable firms will endeavour to direct the underlying technology of the standard to technologies which they have proprietary interest over, for example, in the form of patent protection. The primary benefit being that a renewable firm will have a portfolio of patents that read onto the standard specification and thus receive royalty revenue for a period of time. Of course, firms can use the SEP status not only for royalty revenue but also to demand cross licences instead (again, highlighting the use of patents as a litigation tool). Thus

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<sup>19</sup> The role of SEPs in smart meters has already been recognised by the wider industry – with Avanci, a global leader in joint licensing solutions, launching a program for 4G smart meters in 2023. The Avanci 4G Meter licence, offers a single licence covering the 4G,3G and 2G essential patents of the 42 licensors in the program. (See: <https://www.avanci.com/2023/10/30/avanci-launches-4g-smart-meter-patent-licensing-program/>) (Accessed 21 February 2024)

<sup>20</sup> <https://www.smartenergygb.org/about-smart-meters/myth-busting-smart-meter-problems/smart-meter-and-wifi> [Accessed 23 January 2024]

<sup>21</sup> Technical standards are formed by the contributions of technical working committee groups made up of interested member companies, which by consensus or voting, agree on a technical specification in a standard (<https://www.iam-media.com/article/how-standards-and-seps-can-help-the-move-post-carbon-economy>)(Accessed (4 February 2024)

<sup>22</sup> Leiponen, E.A., (2008) “*Competing through Cooperation: The Organization of Standard Setting in Wireless Telecommunications*” Management Science Vol. 54, No. 11 (Nov., 2008), pp. 1904-1919

<sup>23</sup> <https://www.iam-media.com/article/auto-ip-leaders-need-wise-seps-and-fast> [Accessed 21 February 2024]

gaining access to technology or know-how that might otherwise be difficult or impossible to get.

Renewable firms that influence the technical specification early on, can also align system features with their own complementary assets. The standard will therefore work better on their proprietary system or better fit their business model – resulting in better end-device/or consumer experience<sup>24</sup>.

Further, a company has to continue to patent if it wants to remain in control over the development of a standard. Standards are continuously developing over time, with technical groups always looking ahead to developing the next application or improvement to the underlying technology<sup>25</sup>. Renewable firms will not stop contributing to standards once their critical technology has been adopted. They will continue to participate and patent, contributing in increments to the standardisation process.

It is worth emphasizing that this is not ‘sneaky’ behaviour by companies that wish to participate in standards. Standard Development Organisations (“SDOs”) are aware of companies’ interests in this regard and have implemented policies to mitigate abusive behaviour. This includes imposing: (i) an obligation to disclose any patent rights before a standard is finalised, and (ii) an obligation to license patents essential to implementation of a standard, on terms that are ‘fair, reasonable and non-discriminatory’ (commonly referred ‘FRAND’ obligations).<sup>26</sup>

Nevertheless, the underlying principle remains true; renewable companies will endeavour to patent, particularly, in the ‘smart’ space to have both a literal and figurative seat at the table, when decisions are made on the narrative of a technology undergoing standardisation.

### **The ‘Public Dimension’ of renewable technologies**

Renewable technologies have a ‘public dimension’ that differentiates them from other complex technologies. This relates to the fact that renewable technologies are essential in addressing the global public interest of combating climate change. This additional facet creates a tension between a company’s right to enforce their IP rights and the need to ensure technology development and transfer on a global scale.

The implications on a renewable firm’s IP by the ‘public dimension’ of renewable technology was recently seen in the US courts during the *Siemens Gamesa v General Electric*<sup>27</sup> dispute. Siemens successfully sued General Electric (GE) for infringement of a patent relating to the design of wind turbine rotor hubs. The Court had accepted GE should not be allowed to stay on the market given the impact it would have on Siemens, and therefore issued an injunction but, significantly, it was not a blanket one. Instead, GE was permitted to continue its work on the US’s first two commercial-scale offshore wind turbine projects in light of the fact that “*the world is currently facing a rapidly developing climate crisis*”.<sup>28</sup> US District Judge William Young

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<sup>24</sup> <https://www.iam-media.com/article/auto-ip-leaders-need-wise-seps-and-fast> [Accessed 21 February 2024]

<sup>25</sup> Moorhouse, J (2022). “*Intellectual Property in the Energy Sector: challenges and opportunities for an industry in transition*” Globe Law & Business

<sup>26</sup> Conteras, J.L (2016). “*Standards and related intellectual property issues for climate change technology*” Research Handbook on Intellectual Property and Climate Change, Joshua Sarnoff, ed., 2016 (Elgar)

*Washington University in St. Louis Legal Studies Research Paper No. 11-02-05*

<sup>27</sup> *Siemens Gamesa Renewable Energy A/S v. Gen. Elec. Co. [2022] Civil Action 21-10216-WGY (D. Mass. Oct. 28, 2021*

<sup>28</sup> <https://www.herbertsmithfreehills.com/insights/2023-11/innovation-ip-and-the-energy-transition-%E2%80%93-creative->

further criticized the companies' global struggle for dominance in the wind-turbine industry noting: "*This struggle does nothing to advance the public interest of the people of the United States or any other nation...Indeed, it inhibits efforts to combat climate change worldwide*<sup>29</sup>."

### **Trade secrets are susceptible to intervention**

While IP protection plays a role in protecting and stimulating innovation, the pandemic did reveal that IP rights that maintain artificial scarcity may be counter-productive to bringing a public emergency to an end<sup>30</sup>. During the pandemic, the compulsory licensing of patents was effective for improving access to small-molecule medicines but not to complex biological drugs – i.e., vaccines - which are derived from living organisms and whose manufacture is protected by trade secrets (which are not subject to compulsory licensing). As a result, a glaring weakness in access to critical technologies was revealed.

The Commission launched in 2023, a comprehensive reform of its pharmaceutical sector with the revision of current pharmaceutical regulations and the introduction of new and more effective legal tools for managing emergencies and crises at the EU level<sup>31</sup>. The reform reflects the Commission's objectives in its IP action plan<sup>32</sup> that a "*competitive economy needs tools to facilitate access to critical IP protected technologies in times of crisis*"

The Commission's proposal<sup>33</sup> introduces an instrument for the compulsory licensing of patents, that will be used in a cross-border emergency or crisis within the EU, which falls outside of the scope of national compulsory licensing schemes. The Commission proposes, that it may require additional information from the patent owner to fulfil the purpose of the compulsory licence<sup>34</sup>. The Commission may, as part of mandating the compulsory licence, take additional measures in line with EU law to ensure that the compulsory licence meets its objective and ensure that the necessary crisis-relevant goods can be made available in the European Union<sup>35</sup>. This means that if the information contained in the patent and patent application that cover a compulsorily licensed therapy are not sufficient for production – because such relevant manufacturing is protected by trade secrecy, for example – the Commission will have the authority to request the disclosure of such information to the licensee so that it could produce the product under the licence '*to achieve the objective of the compulsory licence*<sup>36</sup>.

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[tensions#:~:text=The%20Court%20had%20accepted%20GE,was%20not%20a%20blanket%20one.](#)  
[Accessed 18 February 2024] Although Siemens was not able to obtain a blanket injunction, it could still seek financial redress from GE by way of a royalty of \$60,000 per megawatt of capacity that applied to the GE projects carved-out from the injunction

<sup>29</sup> *Ibid*

<sup>30</sup> Gurgula, O. (2023) "*Access Denied: the Role of Trade Secrets in Preventing Global Equitable Access to COVID-19 Tools*" London: STOPAIDS, pp. 1 - 46.

<sup>31</sup> [https://medicineslawandpolicy.org/2023/09/the-european-commissions-proposal-on-a-new-eu-wide-compulsory-licensing-regime/#\\_ftn2](https://medicineslawandpolicy.org/2023/09/the-european-commissions-proposal-on-a-new-eu-wide-compulsory-licensing-regime/#_ftn2) [Accessed 15 January 2024]

<sup>32</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, '*Making the most of the EU's innovative potential an intellectual property action plan to support the EU's recovery and resilience*' (Brussels, 25.11.2020 COM (2020) 760 final)

<sup>33</sup> [https://health.ec.europa.eu/medicinal-products/pharmaceutical-strategy-europe/reform-eu-pharmaceutical-legislation\\_en](https://health.ec.europa.eu/medicinal-products/pharmaceutical-strategy-europe/reform-eu-pharmaceutical-legislation_en) [Accessed 22 February 2024]

<sup>34</sup> Gurgula, O (2023). "*On the European Commission's Proposal to Create a New EU-wide Compulsory Licensing Regime*" Forthcoming in the European Intellectual Property Review (EIPR)

<sup>35</sup> *Ibid*

<sup>36</sup> See Rectical 32 - Compulsory licensing for crisis management and amending Regulation (EC) 816/2006 (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2023%3A224%3AFIN>) [Accessed 20 February 2024]

Despite the fact that this proposed regulation applies to the pharmaceutical sector - I believe this opens the door for broader intervention rights. This response by the Commission demonstrates that public authorities are aware of this issue and are willing, and taking steps, to intervene where necessary. Further, this proposal now lays down a precedent framework<sup>37</sup> which is the first step to imposing equivalent obligations to other sectors.

### **Withstanding intervention?**

The private sector will face pressure to drive innovation in the renewable sector and as calls for action grow, innovators in the green sector may well find themselves under increasing scrutiny to make green technologies accessible on a global scale; foregoing their reliance on traditional IP protection.

Renewable companies need to consider their IP strategy carefully, otherwise they risk facing government- forced technology transfer. A strategy needs to be adopted which: (i) facilitates technology transfer and access (particularly to developing countries); but (ii) still provides some form of reward for their R&D.

While some may argue that companies will be inclined to rely even more on trade secrets, due to concerns about being subject to the compulsory licensing of their patents; I believe, in fact, the opposite is true.

The increasing likelihood of trade secrecy policy intervention will disincentivise companies from seeking to rely on it because it loses its protection in the event of intervention. Trade secrets are advantageous because they are secret and therefore companies are not obliged to inform anyone of their existence - let alone licence them to anyone. Compulsory licensing completely erases this benefit: by removing a licensor's control over a choice of licensee. Given the global nature of the supply chain for green technologies and the global collaborative effort needed to address climate change; renewable companies will inevitably find themselves in the position where they will be licensing their trade secrets to parties in jurisdictions that have weak (or non-existent) trade secrecy law and/or who do not have the resources to implement appropriate internal confidentiality controls. This exponentially increases the risk of disclosure of a trade secret.

On the other hand, a patent, after compulsory licensing, is still a useful tool for a company: a patent owner can regain the full right to utilise their patent rights after the crisis has passed and the licence terminated. The same cannot be said for a trade secret whose value is dependant on it remaining secret. If a licensee of a patent were to commit a breach of a licence, thereby allowing the licensor to terminate the licence: the licensor still has a property right to fall back on. By contrast, if the licensee of a trade secret licence breaches their confidentiality obligations either deliberately or through inadvertent disclosure, the licensor has nothing left to commercialise.

### **So what is the solution?**

Renewable firms will actively participate in patent pools. They will engage in pools to first navigate the complex world of SEP licensing, but also to demonstrate to governments that they are facilitating global technology transfer.

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<sup>37</sup> Climate change will undoubtedly meet a cross-border crisis threshold, for example



### **Pools and SEP licensing**

The aggregation of patents in a pool offers a one-stop solution for the licensing of the required SEPs. By minimizing the number of licensing transactions that must take place, patent pools reduce transaction costs that would otherwise persist.

Further new entrants to the field of SEP cross-licensing will inevitably have to negotiate with the skilled, experienced actors of the telecommunications industry. This is daunting for renewable firms who most likely only ever dealt with patent negotiations limited to patent families<sup>38</sup>. Now they will be entering bilateral negotiations where they will be debating the essentiality of patents. Due to the lack of experience – and perhaps resources<sup>39</sup> - renewable companies run the risk of agreeing to pay over-priced royalty fees for SEPs. Pools offer a solution to such complexities. For example, a common requirement for a patent holder to become a member is to have the essentiality of at least one of their patents evaluated by an independent third party and deemed essential to the standard offered by the patent pool<sup>40</sup>. Therefore, by taking a license from a patent pool, the licensee has the assurance that they are paying only for certified SEPs; thereby, speeding up the licensing process by not having to assume the costs of doing the evaluations themselves.

### **Technology Diffusion: Patent pools**

Patent pools strike the optimal balance between technology transfer and robust IP protection. They have the flexibility to be able to be administered to incentivise (and reward) patent holders such as firms, universities and research institutions into depositing their green IP into pools whilst also still ensuring global diffusion of critical technology.

For example, a pool can be created wherein users of the patents pay an ex-ante agreed royalty fee, where such a rate can be reduced for developing countries or pool members that utilise the patents for renewable end-uses. Thereby facilitating the diffusion of technology on an equitable basis. The same pool can also be designed, simultaneously, to reward patent holders, by containing terms of use, that where the deposited green technology is used for other uses other than renewable purposes (since many green inventions may have other applications), the patent holders are entitled to license and receive royalties for those other uses at standard rates.

Trade secrecy does not have the flexibility within its legal protection to have a comparative model that enables this form of collaboration and subsequent diffusion of technology from one centralised point of contact – not without the risk of losing the very nature of the protection itself.

Further, the use of patent pools are a way for a company to publicly demonstrate to governmental authorities that it is facilitating access to critical technologies; thereby avoiding any threat of intervention i.e., compulsory licensing. As trade secrecy lacks the ability to be tailored to balance private and public interest – it remains susceptible to intervention in the event where authorities believe a company is withholding its knowhow. Patents, have a menu

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<sup>38</sup> <https://www.iam-media.com/article/auto-ip-leaders-need-wise-seps-and-fast> [Accessed 25 January 2024]

<sup>39</sup> Telecommunication companies, for example, will have dedicated in-house attorneys who will negotiate essentiality using their own prepared claim charts

<sup>40</sup> <https://www.iam-media.com/article/auto-ip-leaders-need-wise-seps-and-fast> [Accessed 25 January 2024]

of mechanisms<sup>41</sup> at their disposal, that balance public and private interests; thereby making them the primary choice of protection.

### **Conclusion**

Renewable firms that implement complementary patents and trade secrecy practices over their innovations will obtain the optimal synergistic protection. It would be short-sighted for any company to choose one over the other; particularly in respect of complex technologies that consist of both patentable inventions and associated know-how.

In the context of complex technologies, a patent's holder's right to exclude is not the determinative reason for why renewable firms will continue to rely on patenting. Instead it is the strategic use of patents as a litigation tool to gain favourable positions in cross-licensing agreements, that will guide a firm's decision to continue patenting. The strategic application of patents also extends to ensuring that renewable firms have a seat at the table to guide the direction of any technology undergoing standardisation.

Finally, patents through the medium of patent pools, are able to balance the public interest in addressing climate change whilst also still providing protection and investment on proprietary IP - avoiding the need for public intervention.

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<sup>41</sup> Standardisation - another key patent derived mechanism, also encourages global collaboration whilst still incentivising and rewarding innovation.