

JOSEF DREXL*

Responses of Intellectual Property and Competition Law to the Challenges of Climate Change

It becomes increasingly unlikely that the world will achieve the internationally agreed objective of limiting global warming to a maximum of 1.5 degrees centigrade as compared to pre-industrial times. As the European emergency management service Copernicus reported in February 2024, for the first time ever the increase of the temperature on earth exceeded this benchmark throughout the preceding 12-month period.

International law leaves it to the states to decide on the most effective measures to protect the climate. At a point in time when attempts to oblige citizens to adopt a more eco-friendly consumption and life pattern increasingly trigger fierce popular resistance, states are well advised to rely on innovation policies capable of reducing greenhouse gas emissions and incentivizing investment in new carbon capture technologies.

From a legal perspective, this brings intellectual property and competition law into the picture. Taken together they constitute the general framework legislation that guarantees dynamic competition in the market economy so as to bring about innovation. In the current situation, these fields of law have two particular advantages. First, they operate in a decentralized manner, leaving it to the business decisions of undertakings and consumer preferences to steer innovation processes. For consumers, market-generated climate action may even come with monetary benefits, such as in the form of cheaper green solar and wind energy. Second, competition-driven innovation also saves taxpayers' money. States do not need to have recourse to subsidies where markets provide innovation.

However, intellectual property and competition law are 'general' laws. Patent law applies without discrimination to all technologies. Nor does competition law distinguish between different technologies when it protects dynamic competition between undertakings engaging in innovation activities. This is based on the insight that responsiveness to consumer needs and preferences will guarantee the best innovation outcomes.

Nevertheless, against the backdrop of climate change, it is more than legitimate to review the current design and practice of intellectual property and competition law in view of optimizing their effects in terms of ecological sustainability. The debate on the role of IP in bringing about and disseminating green technologies has already

been continuing for a while (see, *inter alia*, Reto M. Hilty and Pedro Henrique D. Batista, 'Potential and Limits of Patent Law to Address Climate Change' [2023] GRUR International 821). 'Green competition law' has become one of today's most prominent competition policy debates. In the EU context, the 'greening' of competition policy is supported by Art. 11 of the Treaty on the Functioning of the European Union (TFEU), which requires the EU to integrate environmental protection 'into the definition and implementation of the Union's policies and activities, in particular with a view to promoting sustainable development.'

As regards intellectual property law, the first challenge lies in the difficulties in assessing whether there is a need to depart from the general balance this law establishes between exclusivity and access. These difficulties are further highlighted by the fact that two articles published in this special issue recommend adjustments of the term of patent protection, but with rather contradictory conclusions: one, drawing from the experience with the regulation of orphan drugs, recommends an extension of the patent term to increase the incentives for investment in green technology (Metzger and Kusch), while the other article argues for shortening patent protection for mature solar and wind energy technologies by ten years to gear up global decarbonization (Van Dycke). In any case, such recommendations need to be informed by sound economic assessments. As Hilty and Batista have explained in this journal (see the citation above), a departure from existing patent laws can be justified by specific market failures. Thus, patent term extension can create additional innovation incentives at a time when immature technologies are still unable to compete on price with less eco-friendly incumbent technologies. Conversely, patent thickets and dependence on patent-protected key technologies may justify limitations to the exclusivity. Whether such market failures exist depends on the particular context. This requires technology-specific case studies, for which the articles in this issue provide examples.

To achieve better results in terms of ecological sustainability, the law should indeed be designed with sufficient flexibility to allow account to be taken of the specific market failures that characterize green innovation. In this regard, competition law with its less rigid provisions seems to be better placed than patent law. Yet, it should also be noted that competition law with its focus on harm to competition addresses some very specific market failures and not others. Compared with patent law, competition

* Professor Dr iur, LL.M (UC Berkeley), Director of the Max Planck Institute for Innovation and Competition, Honorary Professor of the University of Munich, Germany.

law provides flexibility from ‘outside’, including compulsory licensing where the refusal to license turns out to be anti-competitive.

However, creating more flexibility within intellectual property law and competition law should be considered with caution. There are several reasons for this as regards both intellectual property and competition law.

First, their design as ‘general laws’ has particular advantages that should not be abandoned easily. In principle, it should be assumed that their application also achieves appropriate results as far as concerns green innovation. For example, the exemption system of Art. 101(3) TFEU on restrictive agreements, including the R&D Block Exemption Regulation, can be applied in a manner to enhance innovation without the need to adopt rules specifically designed for green technologies. In this vein, competition law scholarship has already highlighted the benefits of the application of competition law for promoting ecological sustainability at a time before the term ‘green competition law’ was used (see Drexler, ‘Anti-competitive Stumbling Stones on the Way to a Cleaner World: Protecting Competition in Innovation without a Market’ (2012) 8 J. Comp. L. & Econ. 507). Thus, enforcers should primarily use the flexibilities competition law offers by focusing on protecting dynamic competition based on investment in innovation as such. As far as concerns intellectual property law, any departure from the generally applicable rules depends on showing that these rules are inadequate and fail to provide optimal results in terms of green technologies.

Second, the general rules on obtaining rights as well as the application of competition law rely on other criteria than sustainability. Patent law protects inventions that are ‘new’, also including those that may harm the environment. Competition law prohibits harm to competition and not harm to the environment. Still, competition law can also be thoughtfully applied to enable positive results in terms of ecological sustainability. An agreement among competitors to refrain from the implementation of more eco-friendly technologies can easily be framed as a restrictive agreement in the sense of Art. 101(1) TFEU even if such technologies would increase consumer prices. It is sufficient that without the agreement individual competitors could successfully use ecological sustainability as a competition parameter, assuming that there are at least some consumers willing to pay a higher price (see Commission Case AT.40178 – *Car Emissions*).

Third, given the general criteria, both in patent and competition law, the focus of the debate on green technology has shifted to the exceptions. Thus, the literature explores whether the exclusion of inventions from patentability, the exploitation of which would be contrary to ‘*ordre public*’ (e.g., Art. 53(a) European Patent Convention), should also apply to inventions that are harmful to the climate (see Spedicato in this issue). On ‘green competition law’, the debate has so far primarily focused on the exemption of so-called ‘sustainability agreements’ of competitors who seek to implement a uniform standard of eco-friendliness of their products (see now Chapter 9 of the revised EU Horizontal Cooperation Guidelines 2023). Both applications are not unproblematic. In particular, ecological sustainability is not an absolute concept. Practically every form of consumption

harms the environment to some degree, but some are less harmful than others. Therefore, the question is how to set the benchmark for the exclusion of harmful technologies from patentability under Art. 53(a) EPC. As regards sustainability agreements, it can legitimately be asked whether it would not be wiser to reserve the task of setting sustainability standards for products to the legislature.

Fourth, it can also be doubted whether state authorities applying patent and competition law are institutionally well-placed to take ecological sustainability into account when applying the law. As technical experts, patent examiners are not the best ones to make judgments on ‘*ordre public*’. And the lawyers and economists working for competition agencies are experienced in competition law and economics, and not environmental policies.

Fifth, there is a particular risk of overstretching what patent law and competition law can achieve. In this context, it is also important to note that in most instances the relevant issues can be addressed outside the realms of patent and competition law. In particular, environmental laws can promote sustainability in a more direct manner by enforceable prohibitions. Designed for this very purpose, these laws also enjoy higher democratic legitimacy than patent offices and competitors that decide whether a particular technology that is harmful to the environment should be banned. Environmental laws are also more effective as compared to both the exclusion of certain inventions from patenting pursuant to Art. 53(a) EPC, which does not prohibit the exploitation of the invention as such, and sustainability agreements, which only bind the parties to these agreements.

Nevertheless, this does not argue against testing the limits of patent and competition law. In their exploratory competition law contribution to this issue, Salomão Filho, Pinto Ido and Sadami show that in the Brazilian context large undertakings in the mining industry in particular have demonstrated a clear tendency to disrespect the need for security measures, which ultimately led to immense ecological harm. Less clear are the consequences for the application of competition law. Should the potential negative impact on sustainability be taken into account in merger assessments? Should infringements of environmental laws also be regarded as anti-competitive unilateral conduct? Answering these questions in the affirmative may well run the risk of overstretching competition law. In fact, the authors of this article do not seem to argue a causal economic link between the size (dominance) of undertakings and their likelihood of harming the environment. Rather, they focus on the political economy. Therefore, one may more legitimately think about upholding an abuse of dominance where a dominant undertaking successfully bribes a supervisory state authority not to enforce environmental standards. Such conduct may strengthen already existing market dominance and could thus be qualified as anti-competitive.

The following contributions provide most thought-provoking research without exhausting the topic. Given the fact that climate action can neither succeed quickly nor easily, the debate will and must go on. The editors of this journal would therefore like to combine the publication of this special issue with an invitation to scholars around the world to submit additional writings on the sustainability aspects of intellectual property and competition law to this journal.