previously committed to non-assertion.[267] Although IBM reserves the right to terminate such commitment,[268] the conditions are not very clear. The European Commission is currently investigating any competition law violation by IBM.[269]

As a matter of patent policy, challenging patent validity can be desirable when it improves overall patent quality and diminishes the adverse impact of exclusive rights.[270] However, if, as a result of good-faith non-assertion commitments, such pledged patents are more prone to challenge, this may discourage companies from engaging in such commitments. Therefore, balancing the different interests is crucial.

Transfer of technology is thought to work best when potential adopters are capable of implementing such technology themselves. However, developing countries are not always in a position to do so and may require a more comprehensive form of technology transfer. This creates scope for the availability of a wide range of technology transfer options including technical consultancy agreements combined with know-how transfer, turn-key contracts, franchising structures and R&D joint ventures.[271]

2. IP Ownership in R&D Collaboration

Much of green technology innovation involves R&D collaboration among universities and research institutions, industries and governments. A key and internationally complex issue in this context is IP ownership, which can be subject to diverging national norms. Here, the German model is briefly discussed.

Ownership of employee inventions in Germany is traditionally governed by the German Employees Invention Act (ArbErfG). Under this law, the employee inventor must notify the employer of every service invention he or she makes. The employer can then choose to acquire the invention, in which case it must seek patent protection.[272] Prior to 2002, professors were exempted from this obligation and free to assign or otherwise dispose of their title to inventions (so-called professors' privilege). However, since the abolition of this privilege, university technology

267 Press Release, IBM, IBM Pledges 500 U.S. Patents to Open Source in Support of Innovation and Open Standards (Jan. 11, 2005). The patents-at-issue are U.S. Patent Nos. 5,613,086 (issued Mar. 18, 1997) and 5,220,669 (issued June 15, 1993).

268 *Id.*

269 Press Release, European Commission, Antitrust: Commission Initiates Formal Investigations against IBM in Two Cases of Suspected Abuse of Dominant Market Position (July 26, 2010).

270 *Supra* note 265, at 90-91.

271 *E.g.*, Stanisław Sołtysiński, Lecture at the Munich Intellectual Property Law Center: License Contract Drafting (June 22-25, 2010) (on file with author).

272 *See generally* Michael Trimborn, Employees' Inventions in Germany: A Handbook for International Business (Carl Heymanns Verlag 2008).

transfer offices now have the option of claiming ownership of professorial inventions, which has added a new dimension to R&D collaboration. To streamline the situation, academia and industry, in collaboration with the government, have developed several model agreements on R&D, such as "the Berlin Agreements" and "the BMWi Model Agreements" clarifying ownership issues in R&D.[273] If similar models could be used to cater to R&D collaboration between private sectors in developed countries and public or private counterparts in developing countries, that could help provide legal certainty and practical guidance to parties.

3. Financing Innovation and Patenting Costs

Complementary incentives[274] and pull programs[275] are increasingly considered as a catalyst for green innovation. Examples include "H-prize" to promote the transition to a hydrogen economy, "the Automotive X Prize" for more efficient vehicles, advanced purchasing commitments targeting energy consumption, and carbon trading.[276] Kremer notes that these climate change-related pull mechanisms can provide potential benefits to countries with limited capacities.[277]

Funding patenting costs can also be an effective policy since patenting decisions are observed to be sensitive to fee variations.[278] For example, KIPO offers a 50% reduction of application fees for SME applicants (which also cover the cost for

273 Meital Werner and Heinz Goddar, *Technology Transfer between Academy and Industry – a Comparison of the Situation in Germany and the United Kingdom*, Les Nouvelles 198, 200 (Sept. 2009) (explaining the mechanism in the model agreements as follows: "[t]he model agreements are creating a direct contractual obligation between the university professors and the industry partner. Through this contractual obligation, rights of university professors can be surrendered by them with no legal conflict concerning the employer-employee relationship between the university and university professors. The abolition of the professor's negative freedom to publish is specified explicitly in the agreement by the professor's obligation to surrender his right to negative publish under § 42(2) in respect of all research results. The professor's freedom of research and teaching is also renounced by the parties' commitment to perform the work to their best ability and to provide each other with the necessary information for the performance of the work. The industry partner's concern in regard to inventor's right to file patent applications in those countries where the employer does not wish to file was overcome by the parties' consent that the decision to file any additional foreign applications remains entirely at the discretion of the industrial partner, and will be filed under his name only, as well as the decision to surrender patents in individual countries").

274 *E.g.*, *supra* note 24.

275 Michael Kremer and Heidi Williams, Promoting Innovation to Solve Global Challenges: Opportunities for R&D in Agriculture, Climate Change, and Health 3 (The German Marshall Fund of the United States 2008).

276 *Id*. at 14.

277 *Id.*

278 *Supra* note 4.