

Dr hab. Maciej Nyka, prof. UG

University of Gdansk

ORCID: 000-0003-0786-7785

e-mail: maciej.nyka@ug.edu.pl

Trade-related environmental measures in the global climate protection regime

Instrumenty ograniczania wpływu handlu na środowisko w globalnym prawie ochrony klimatu

Abstract

The aim of this article is to analyze the potential impact of international climate law on the trade liberalization. Flexibility mechanisms introduced by the Kyoto protocol and Paris agreement result in the creation of trade-related environmental measures. Those measures are created by the states in their national policies aiming at implementation of flexibility mechanisms into national legal orders. Trade-related environmental measures are not directly identified by the WTO law. This creates a situation where such measures may be challenged in the WTO dispute resolution system. Article shows potential threats and tries to underline axiological common ground between climate change law and WTO law, which enable wider acceptance of the use of trade-related environmental measures between the WTO members.

Key words: trade-related environmental measures, environmental protection, environmental law, climate law, Paris Agreement, UNFCCC

JEL: K32

Introduction

Achieving the aims of Paris Agreement for states engaged in climate protection is surely a challenge. The restrictive and ambitious goals of mitigating the climate change well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels mean enormous effort. This is true even despite the fact that they are less rigid than the ones mentioned in United Nations Framework Convention on Climate Change, which mention stabilization of greenhouse gas concentrations in the

Streszczenie

Celem artykułu jest analiza potencjalnego wpływu międzynarodowego prawa klimatycznego na liberalizację handlu. Mechanizmy elastyczności wprowadzone przez protokół z Kioto i porozumienie paryskie wdrażają środki, które mogą być identyfikowane jako instrumenty ograniczania wpływu handlu na środowisko (*trade-related environmental measures*). Instrumenty te są tworzone przez państwa w ich politykach krajowych mających na celu wdrożenie mechanizmów elastyczności w krajowych porządkach prawnych. Środki ochrony środowiska związane z handlem nie są bezpośrednio identyfikowane przez prawo Światowej Organizacji Handlu (WTO), chociaż pojęcie to nie jest obce dokumentom WTO o niewiążącym charakterze. Stwarza to sytuację, w której takie środki mogą zostać zakwestionowane w systemie rozstrzygania sporów WTO. Artykuł pokazuje potencjalne zagrożenia i próbuje podkreślić aksjologiczną wspólną płaszczyznę łączącą prawo dotyczące zmian klimatu i prawo WTO, które umożliwiają szerszą akceptację stosowania instrumentów ograniczania wpływu handlu na środowisko pomiędzy państwami członkowskimi WTO.

Słowa kluczowe: instrumenty ograniczania wpływu handlu na środowisko, ochrona środowiska, prawo środowiska, prawo klimatu, porozumienie paryskie, UNFCCC

atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. New researches are undertaken on the mechanism of climate change, new data are acquired, and better analysis are made in the field of climate protection, all in order to provide us with answers to the questions concerning the efficient mechanisms of combating climate change. Rising awareness of importance of mitigating climate change, together with better calculations of the costs of climate change effects as well as costs of climate change mitigation efforts, help us to realize the necessity of introducing flexibility mechanisms

into the global regulation of climate change. Such mechanisms are present in Kyoto Protocol, they are also introduced into the text of Paris Agreement. Those mechanisms enable to obtain support for climate protection actions also from states which are not prepared for achieving Paris agreement's goals solely by mitigating the emissions. Market-based instruments introduce flexibility so important in obtaining universal support for global climate change regime. In certain circumstances, those flexibility measures can be identified as influencing the international trade and through that they will constitute trade-related environmental measures.

Trade-related measures in international environmental law

Market-based measures are widely used in environmental policies, both on national and international levels. They can be considered an alternative solution to traditional command and control instruments of environmental protection, which have repeatedly occurred ineffective in achieving the environmental goals. Market-based measures are being described as regulations aimed at supporting certain positive actions through market incentives, more than direct legal orders which concern emission levels, or production standards (Hryszak, 2002; Galczyk, Gralczyk, 2011). Additional strength of market-based instruments of environmental protection is that they often turn out to be market supporting as they can help to diminish market failures (Tietenberg, 2006), one of which can consist in internalization of environmental costs of production of or more sustainable trade in selected goods (Wold, Gaines, Block, 2011). Positive effects of proper usage of market-based instruments of protection of the environment were also identified in social sphere (UNEP, 2007). Their application results in positive effects in supporting environmental impacts of entities towards which the instrument is being used. Market-based instruments can be categorized into some basic groups, of which taxes and charges, ecological subsidies, tradable emission allowances are examples (Wold, Gaines, Block, 2011).

In the doctrine of environmental law there are concepts concerning application of instruments related to economic impact in environmental protection. They are often used interchangeably, and the current stage of development of the doctrine of national and international environmental law does not allow to fully distinguish their respective areas of meaning. English-language legal literature uses the concept of trade-related environmental measures (APEC, 1999). No uniform definition of trade-related environmental measures has been presented in the legal doctrine so far (Nyka, 2018). These are trade policy measures and trade policy instruments that impose requirements, conditions and restrictions on imported or exported goods or services, or upon the process of their import or export, with the aim to protect various

elements of the natural environment (Wold, Gaines, Block, 2011). They can be generally identified as such instruments affecting trade policy, whose primary objective is to improve the state of the environment or to avoid threats resulting from trade between countries. They are introduced to protect the environment or counteract threats to life and health of people, animals and plants (Hryszak, 2002).

Trade-related environmental measures occur in many different forms and types. They can be identified primarily in national law, but also in certain multilateral environmental agreements. Due to the multitude of forms of pro-ecological interference of states in the area of international trade, attempts to enumerate the trade-related environmental measures seem to be extremely difficult (Singh, 2009). It is estimated that around 10% of all multilateral environmental agreements (MEA's) use trade-related environmental measures to achieve their goals (UNEP, 2007). They are more likely to appear in relatively modern instruments, which are more specific and oriented on improvement in various areas of international environmental law. Among those, the contemporary international climate change regulation ranks as one of the most important (Woederman, 2004). The United Nations Framework Convention on Climate Change (UNFCCC)¹, the 1997 Kyoto Protocol² and Paris Agreement³ mention the possibility of using measures which can be identified as TREM's in order to achieve their goals.

Trade regulations in international climate change law can, however, pose a danger to trade liberalization goals set by the international economic law. World Trade Organisations law may be one example (Watson, 2013). Discriminatory taxes, charges, some production process standards or specific subsidies are subject to WTO law. Dispute settlement process in the WTO is not always prepared to distinguish between legitimate environmental regulation which takes form of those trade measures and protectionist measures which only pretend environmental measures. The trade measures in multilateral environmental agreements, and among them the climate protection regime, form one of the areas of interest of recent Doha round of WTO negotiations. Doha Ministerial Declaration of 14 November 2001⁴ calls, in paragraph 31(i), to clear, by means of negotiations, the interrelations between trade measures introduced by the MEAs and the WTO law system (Watson, 2013). No binding document to solve a potential conflict between MEA's containing trade measures and WTO law has been agreed yet. However, the attitude of WTO institutions towards trade measures introduced directly by the MEA's seems positive (Ciechanowicz, Nyka, 2009; Nyka, 2018).

Use of trade-related environmental measures to tackle climate change

United Nations Framework Convention on Climate Change is a cornerstone of international efforts to fight with

effects of climate change (Kenig-Witkowska, 2011). It stands on the realistic position that two sets of actions have to be undertaken in order to overcome the problems connected with climate change. The first line of actions are those aiming at mitigation of human activities' impact on climate system (Voigt, 2009). This is however not enough, as drastic measures of greenhouse gases elimination would surely negatively affect the development, what is unacceptable, especially for developing countries. This is why the second group of actions are advocated by the Convention — namely, actions which aim at adaptation to the changing climate conditions. Both of those lines of actions can be effectively supported by trade-related environmental measures.

One can observe that even the most fundamental decision on whether to ratify the United Nations Framework Convention can itself be analyzed from the perspective of trade measures and legality with the WTO regime. Joseph Stiglitz presents a view that the decision of the USA not to participate in UNFCCC reduction initiatives can be considered as a form of subsidy for the US industry (Stiglitz, 2006; Espa, Rolland, 2015). This is due to the fact that it allows to externalize the environmental costs of functioning of the industry, what in consequence puts businesses from that country on the better market position towards their competitors from the countries which are parties to the Kyoto protocol. Stiglitz even suggests the possibility of using WTO instruments for unfair subsidization to address this problem. However, most researchers do not support this view, mainly due to the procedural problems in starting such action in the WTO's dispute settlement mechanism (Bhagwati, Mavroidis, 2007).

The UNFCCC itself contains regulations whose scope is to prevent the abuse of trade-related environmental measures aiming to achieve protectionist goals. In article 3 (5) it underlines that instruments introduced to achieve goals of the convention cannot result in arbitrary discrimination in international trade, or disguised restriction to international trade. This reservation reflects the limits of national and international policy instruments posed by the international economic law, including the General Agreement on Tariffs and Trade (GATT). On the other hand, however, the United Nations Framework Convention on Climate Change allows for use of unilateral trade regulatory measures (national trade-related environmental measures) as national instruments of climate protection (Howse, Eliason, 2009; Deane, 2015). Unilaterally introduced trade-related environmental are often challenged in the World Trade Organization's dispute settlement procedures (Ciechanowicz-McLean, Nyka, 2009).

Following the logics of UNFCCC as a framework convention, shortly after its entry into force works started on additional protocols to supplement the text of the convention (Voigt, 2009). The Kyoto protocol has been agreed during the third Conference of Parties (COP-3) of the UNFCCC (Kenig-Witkowska, 2011). It was originally designed to create obligations within two commitment periods until the year 2012. However, during the Doha 2012 Conference of

Parties, a decision was made to introduce additional commitment period which made the Kyoto protocol binding and operational until 2020 (Kenig-Witkowska, 2011). The main aim of the protocol was to limit the level of greenhouse gases emitted into the atmosphere (Kenig-Witkowska, 2011). Kyoto protocol mentioned the need to reduce the emissions below the reference year 1990 levels. The success of the Paris Agreement will depend on its capability to put the world on a low-carbon trajectory that limits the rise in global average temperatures below 2 degrees Celsius, or even more ambitious 1.5 degrees Celsius goal. This ambitious goal can be achieved only by means of introducing market-based, trade-related instruments — the instrument which enables most efficient allocation of resources in common global fight to mitigate the climate change (Nyka, 2018).

Kyoto protocol introduced market-based instruments which play subsidiary role towards the mitigation of greenhouse gases production. Most important one is the emission trading mechanism which allows for trading with emission trading units in a situation where those units remain unused (Howse, Eliason, 2009). The mechanism applied here is the "cap and trade" type — first setting the amount of emissions which will be acceptable and which would allow the achievement of reduction goals, and then consuming for own needs or selling/buying the rest (Gralczyk, Gralczyk, 2011). The emission trading according to the Kyoto protocol could take place only between the states which agreed to reduce their emission by covering it by the "cap" — so between the so-called Annex 1 states. This means that such closed market discriminates against those WTO member states which are not Annex 1 countries (Howse, Eliason, 2009).

Paris Agreement introduces a new scenario for trade-related environmental measures of climate protection⁵. National and regional emission trading markets will be supplemented under Article 6 of Paris agreement with new emission trading market which would be global in its scope (Rosenzweig, 2016). The agreement applies the concept of internationally transferred mitigation outcomes to identify units that may be traded internationally, and which may be used to implement nationally determined contributions. Internationally transferred mitigation outcomes (ITMO's) under Paris agreement have to satisfy certain requirements. They have to be real, verified, additional and permanent⁶. These four features determine ITMO's usability for achieving the objectives of the Paris Agreement, and also try to reduce the environmental risks associated with the functioning of the international carbon market mechanism (Schneider, La Hoz Theuer, 2019). Independent assessments of current Nationally Determined Contributions (NDC) targets suggest that under the Paris Agreement a situation may arise in which countries mitigation targets will include surplus (sometimes called hot air) which would intentionally be prepared for trading. In fact, the mitigation targets of several countries could correspond to higher levels of emissions than the projection of their likely emissions level with the policies in place at the time of setting the target (La Hoz Theuer, Schneider, Broekhoff, 2019). These countries could thus

appear to generate emission reductions (relative to their targets), without generating any actual emission reductions (La Hoz Theuer, Schneider, Broekhoff, 2019). Hence the discussion on the ITMO's verification mechanisms, so as to prevent the double counting, or other abuses of the system (Rosenzweig, 2016).

Paris agreement creates new and broader perspectives for already known flexibility mechanisms known from the Kyoto Protocol. Despite the efforts undertaken, among others during the COP in Katowice in 2018, the exact shape and scope of the obligations which stem from the Paris agreement are still unknown. "Mechanisms" — the equivalent of flexibility mechanism from the Kyoto protocol — are regulated by article 6 of Paris agreement (Kenig-Witkowska, 2011). The use of the "mechanism" will be to some extent determined by the obligation to promote environmental integrity resulting from Art. 6 par. 1 of the agreement (Ciechanowicz-McLean, 2016). The fulfillment of this obligation will refer to considering social and environmental aspects when using flexibility mechanisms, instead of only focusing on the amount of greenhouse gases that have not been emitted in connection with their use (Nyka, 2016). Article 6 encourages international cooperation and allows countries with higher emissions or higher ambition to acquire emission reductions (Internationally Transferable Mitigation Outcomes, Article 6.2) or other kinds of mitigation outcomes (Article 6.4) from transferring countries. This can help to mobilize climate finance and technology from one country to another and any such financial transfers will help towards the Parties' commitment to mobilize \$100 billion per annum by 2020⁷.

Trade-related environmental measures and World Trade Organization

The functioning of emission trading schemes — carbon markets and their compliance with World Trade Organization's law — is a matter of continuous debate and uncertainty (Nyka, 2016). Beyond any doubts, there are elements, in at least some of the emission trading schemes, which may rise trade concerns within the WTO system. Most commonly recognized as "high risk" element are restrictions of trade in emission units to certain limited number of countries or subjecting the possibility to participate in the scheme to discriminatory conditions (Hawkins, 2016). This constituted the breach of the most favoured nation (MFN) principle, as it differentiates the position of one category of WTO member states against the other (Bartels, 2012). Despite the existing discussion in the doctrine, whether ITMO's should be treated as specific good, service or *sui generis* instrument, does not make much difference (Monuro, 2014). The MFN principle is a non-discrimination instrument used both in the General Agreement on Trade in Goods, and the General Agreement on Trade in Services. In the US-

Gambling case⁸, the Appellate Body interpreted the exclusion of particular service provider originating in another WTO member state as the quantitative restriction within the meaning of Article XVI of the GATS. Crucially for any analysis of the emission trading mechanism, in terms of its legality from the World Trade Organization's law point of view, it has to be decided whether the carbon market constitutes a market at which trade of goods (regulated by the General Agreement on Trade in Goods — GATT) takes place, or is it a trade in services (regulated by the General Agreement on Trade in Services — GATS). In the EC-Bananas case⁹, Appellate Body in its report held that there is a possibility that the same regulatory scheme affects both trade in goods and trade in services. Therefore, both regulatory regimes — the one for the trade in goods and the one for the trade in services — may be applicable. The situation in which a whole category of potential service providers is excluded from the market will probably be identified as a situation of breach of the WTO law (Martin, 2007).

The lack of direct references of WTO law to legal regulation of climate protection results in a situation where any dispute which can arise will be resolved in the proceedings before the Dispute Settlement Body of the World Trade Organization on the case by case analysis. National instruments related to the implementation of reduction targets, which may raise doubts as to their compliance with WTO law, are primarily the imposition of carbon border taxes on imported goods (Pauwelyn, 2013; Vranes, 2009). Another example of national standards introduced to achieve reduction targets are subsidies and production incentives characterized by low emission levels. An area of potential conflict may also be the government purchases, which in the OECD countries may account for 10–25% of GDP. In the case of introduction (which is already planned) of the issue criterion as an element considered in the case of tenders for government purchases, there may be doubts about the compliance of such measures with the Agreement on Government Procurement operating under the WTO system (Condon, Ignaciuk, 2013).

Some solution may be found in the existence of so-called environmental exceptions in the WTO law. Despite the fact that they exist in Article XX GATT from the very beginning of the history of GATT/WTO system, their importance changes. World Trade Organization experiences something that can be called the process of "greening" of international economic law (Ciechanowicz-McLean, Nyka, 2010). This process can be identified in substantial law and in the Dispute Settlement Body decisions. Most important element of greening of the substantial norms of the WTO is the inclusion of the reference to sustainable development principle in the preamble to the Agreement Establishing the World Trade Organization. This reference is a strong interpretative advice in cases of conflict between the international rules of environmental protection and world trade law (Gehring, Cordonier Segger, 2005). Another important element of this process is the existence of

environmental exceptions included into the GATT and GATS agreements, and, even more importantly, their evolutionary interpretation in line with changing priorities of the system of world trade (Voigt, 2009). Two exceptions are of particular relevance to the protection of the environment: paragraphs (b) and (g) of Article XX (Wilder, 2005). Pursuant to these two paragraphs, WTO members may adopt policy measures that are inconsistent with GATT disciplines, but necessary to protect human, animal or plant life or health (paragraph (b)) or relating to the conservation of exhaustible natural resources (paragraph (g)). Similar exception can also be found in the GATS agreement. Article XVI of GATS states that nothing in this Agreement shall be construed to prevent the adoption or enforcement by any Member of measures which among others are necessary to protect human, animal or plant life or health. The Appellate Body in *US — Gambling* elaborated on the similarities between Article XX of the GATT 1994 and Article XIV and stated that the article sets out general exceptions under the GATS (services), much in the same way as Article XX of the GATT 1994 does under the GATT (goods)¹⁰. It seems, however, that we can now observe a problem of convincing Panels and Appellate Body by the states which use trade-related environmental measures, that the conditions upon the use of above-mentioned environmental exceptions have been satisfied while designing the national trade policy measures.

Energy policy-related WTO disputes

Energy policy-related WTO disputes have emerged since 2010 and involved the EU, the US, Canada, China, India, and others. National unilateral measures are being questioned as discriminatory towards foreign goods and services. Subject of the disputes are trade in solar cells, solar panels, or modules; trade in wind power equipment; and national support for suppliers of solar and wind equipment through local content requirement and through subsidies. The first to be resolved by the Dispute Settlement Body was *Canada — Renewable Energy/FIT Program*¹¹, followed by the case *India-Certain Measures Relating to Solar Cells and Solar Modules*¹², also already completed by the Appellate Body Report. It referred to Feed-in tariffs to renewable electricity generators or solar power generators and discrimination by introducing the local content requirement into the support schemes. Other, pending cases refer to various forms of subsidization of green energy sector. It is beyond any doubt that questionable measures could support the objectives of the Kyoto protocol or in the future, Paris agreement. However, it is very hard to see a specific link between the flexibility mechanism introduced by Kyoto protocol, trade-related environmental measures introduced by countries as a consequence of using those mechanisms, and the so-called climate change cases in the WTO. Reports adopted by the Dispute Settlement Body of

the WTO indicate that states still do not know how to use trade-related environmental measures in WTO-consistent way to support their climate change policy (Espa, Marin Durán, 2018), and that measures which are being adopted can be challenged in the WTO dispute resolution system. Some authors even call for changes in the WTO law to include special climate change trade-related environmental measures exceptions into the agreements annexed to the WTO agreement. Above-mentioned facts can also be interpreted differently. They may show the scale of using climate change prevention arguments to introduce the protectionist measures, which is not only against WTO law but also against basic international instruments for the protection of climate. Such conclusion is relatively pessimistic, as it shows the preference for individual protectionist national economic interest above the international climate protection efforts.

Conclusions

Trade-related environmental measures can offer an interesting solution in the developing international climate change regime. They offer flexibility which is necessary for obtaining global support for climate change mitigation actions. The newly-designed instruments offered by the Paris Agreement seem to remedy many of the disadvantages observed in functioning of those mechanisms in Kyoto Protocol. They try to find some balance between efficiency in achieving the climate change mitigation goals and diversity of conditions under which energy and environmental policies function in the states which are parties to this agreement. Use of trade-related environmental measures also poses a challenge in terms of their compliance with World Trade Organization's nondiscriminatory policy. For a number of years, despite the legal risk, identified by the doctrine, in using the trade-related environmental measures in the field of climate protection, there seemed to exist political accord that such measures should not be questioned by use of WTO's Dispute Settlement system. Recent developments seem to indicate that national measures which aim at implementing the international climate change mitigation goals are becoming subject of disputes. Lack of proper identification of the climate change mitigation value in the WTO legal system may lead to a situation where climate change mitigation efforts will be hampered by the measures aimed at elimination of protectionism in international trade. The already developed instruments, based on general environmental exceptions to the main WTO's treaties, might be insufficient to rationalize the use of trade-related environmental measures. Rising number of disputes concerning climate change prevention trade measures may also indicate something different — that climate change mitigation argument is being misused by those who use it in order to give illegal and unfair protection to domestic economies.

Przypisy/Notes

- ¹ United Nations Framework Convention on Climate Change (1992) 1771 UNTS 107.
- ² Kyoto Protocol to the United Nations Framework Convention on Climate Change (1997). 2303 UNTS 148.
- ³ FCCC/CP/2015/10/Add.1.
- ⁴ WT/MIN(01)/DEC/1.
- ⁵ FCCC/CP/2015/L.9.
- ⁶ Draft CMA decision on guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement.
- ⁷ www.afdb.org/en/news-and-events/cop24-progress-on-article-6-of-the-paris-agreement-18754/ (24.04.2020).
- ⁸ WT/DS285/AB/R par 263-265.
- ⁹ WT/DS27/AB/R par 221.
- ¹⁰ WT/DS285/AB/R.
- ¹¹ WT DS412/DS426.
- ¹² WT DS456.

Bibliografia/References

- APEC (1999). *Survey on Trade-Related Environmental Measures and Environmental-Related Trade Measures*. Singapore: APEC.
- Bartels, L. (2012). The WTO Legality of the Application of the EU's Emission Trading System to Aviation. *European Journal of International Law* vol. 32 no. 2 429–467. <https://doi.org/10.1093/ejil/chs017>
- Bhagwati, J., Mavroidis, P. (2007). Is action against US exports for failure to sign Kyoto Protocol WTO-Legal? *World Trade Review*, 6(2), 299–310. <https://doi.org/10.1017/s1474745607003291>
- Ciechanowicz-McLean, J. (2004). *Międzynarodowe Prawo Ochrony Środowiska*. Warszawa: Polskie Wydawnictwo Naukowe.
- Ciechanowicz-McLean, J. (2016). *Prawo ochrony klimatu*. Warszawa: Powszechne Wydawnictwo Prawnicze.
- Ciechanowicz-McLean, J., Nyka, M. (2009). Multilateralism as a way of obtaining compliance in national environmental policies with international economic law. *Gdańskie Studia Prawnicze*, 22, 47–62.
- Ciechanowicz-McLean, J., Nyka, M. (2010). Rola międzynarodowych instytucji finansowych w ochronie środowiska, In: A. Dobaczewska, E. Juchniewicz, T. Sowiński (eds.), *Finanse publiczne*. Warszawa: CeDeWu.
- Condon, M., Ignaciuk, A. (2013). Border Carbon Adjustment and International Trade: A Literature Review. *OECD Trade and Environment Working Papers* 2013/06. <https://doi.org/10.1787/5k3xn25b386c-en>
- Deane, F. (2015). *Emissions Trading and WTO Law. A Global Analysis*. Northampton: Edward Elgar.
- Espa, I., Marin Durán, G. (2018). Renewable Energy Subsidies and WTO Law: Time to Rethink the Case for Reform Beyond Canada — Renewable Energy/FIT Program. *Journal of International Economic Law*, 21, 621–653. <https://doi.org/10.1093/jiel/jgy031>
- Espa, I., Rolland, S. (2015). *Subsidies, Clean Energy, and Climate Change*. Geneva: ICTSD.
- Gehring, M., Cordonier Segger, M. C. (2005). *Sustainable Development in World Trade Law*. Hague: Kluwer Law International.
- Gralczyk, A., Gralczyk, A. (2011). *Wprowadzanie mechanizmów rynkowych w ochronie środowiska*. Warszawa: Polskie Wydawnictwo Ekonomiczne.
- Hawkins, S. (2016). *Carbon Market Clubs under the Paris Climate Regime: Climate and Trade Policy Considerations*. ICTSD Policy Brief, October.
- Howse, R., Eliason, A. (2009). Carbon Trading and the CDM in WTO Law. In: R. Stewart, B. Kingsbury, B. Rydyk (eds), *Climate Finance: Regulatory and Funding Strategies for Climate Change and Global Development*, 254–258. New York: New York University Press. <https://doi.org/10.1017/cbo9780511757396.005>
- Howse, R., Eliason, A. (2009). Domestic and international strategies to address climate change: an overview of the WTO legal issues. In: T. Cottier, O. Nartova, S. Bigdeli (eds), *International Trade Regulation and the Mitigation of Climate Change*. *World Trade Forum*, 48–94. Cambridge: Cambridge University Press.
- Hryszak, D. (2002). The Impact of Trade-related Environmental Measures on International Trade 4. *The Saskatchewan Economics Journal*, 15, 15–25.
- Kenig-Witkowska, M. M. (2011). *Międzynarodowe prawo środowiska. Wybrane zagadnienia systemowe*. Warszawa: Wolters Kluwer Polska.
- Kenig-Witkowska, M. M. (2016). Porozumienie Paryskie w sprawie zmian klimatu — refleksje ze stanowiska prawa międzynarodowego. In: B. Krzan (ed.), *Ubi Ius Ibi Remedium. Księga dedykowana pamięci Profesora Jana Kolasy*, 229–238. Warszawa: C.H. Beck.
- La Hoz Theuer, S., Schneider, L., Broekhoff, D. (2019). When less is more: limits to international transfers under Article 6 of the Paris Agreement. *Climate Policy*, 19(4), 401–413. <https://doi.org/10.1080/14693062.2018.1540341>
- Matecki, J. (1982). *Prawno-finansowe instrumenty ochrony i kształtowania środowiska*. Poznań: Uniwersytet Adama Mickiewicza.
- Marceau, G. (2001). Conflicts of Norms and Conflicts of Jurisdictions, The Relationship between the WTO Agreement and MEAs and other Treaties. *Journal of World Trade*, 35(6), 1081–1131.
- Monuro, J. (2014). Trade in Carbon Units as a Financial Service under International Trade Law: Recent Developments, Future Challenges. *Carbon and Climate Law Review*, 8(2), 106–114.
- Nyka, M. (2016). Trade-related instruments of promotion of human right to the environment in international climate law. In: S. Kosciarova (ed.), *Právo na životné prostredie a nástroje jeho presadzovania*, 176–188. Trnava: Trnavská Univerzita.
- Nyka, M. (2018). *Instrumenty ograniczania wpływu handlu na środowisko. Studium z prawa międzynarodowego*. Warszawa: Difin.
- Pauwelyn, J. (2013). Carbon Leakage Measures and Border Tax Adjustments under WTO Law. In: D. Prévost, G. Van Calster (eds), *Research Handbook on Environment, Health and the WTO*, 448–506. Northampton: Edward Elgar. <https://doi.org/10.4337/9781781006146.00024>
- Rosenzweig, R. (2016). *Global Climate Change Policy and Carbon Markets: Transition to a New Era*. Washington: Palgrave Macmillan.
- Schneider, L., La Hoz Theuer, S. (2019). Environmental integrity of international carbon market mechanisms under the Paris Agreement. *Climate Policy*, 19(3), 386–400. <https://doi.org/10.1080/14693062.2018.1521332>
- Singh, N. (2009). Trade-related Measures in Multilateral Environmental Agreements and WTO: Irreconcilable Differences? *American Journal of Economics and Business Administration*, 1(3), 251–256. <https://doi.org/10.3844/ajebasp.2009.251.256>
- Stiglitz, J. (2006). A New Agenda for Global Warming. *Economists' Voice*, 3(7), 3.
- Tietenberg, T. (2006). *Emissions Trading: Principles and Practice*. 2nd edition. Washington: Resources for the Future.
- UNEP (2007). *Trade-related Measures and Multilateral Environmental Agreements*. Nairobi: UNEP.

- Voigt, C. (2009). *Sustainable Development as a Principle of International Law. Resolving Conflicts between Climate Measures and WTO Law*. Dordrecht: Martinus Nijhoff. <https://doi.org/10.1163/ej.9789004166974.i-428>
- Vranes, E. (2009). *Trade and the Environment. Fundamental Issues in International Law, WTO Law, and Legal Theory*. Oxford: Oxford University Press. <https://doi.org/10.1017/s147474560999022x>
- Watson, J. (2013). *The WTO and the Environment. Development of competence beyond trade*. London/New York: Routledge.
- Wilder, M. (2005). Implementing the Clean Development Mechanism and Emissions Trading beyond Europe, 231–262. In: F. Yamin (ed.), *Climate Change and Carbon Markets*. Earthscan.
- Woederman, E. (2004). *The Institutional Economics of Market-Based Climate Policy*. Amsterdam: Elsevier.
- Wold C., Gaines S., Block G. (2011). *Trade and the Environment. Law and Policy*. Durham: Carolina Academic Press.

Dr hab. Maciej Nyka

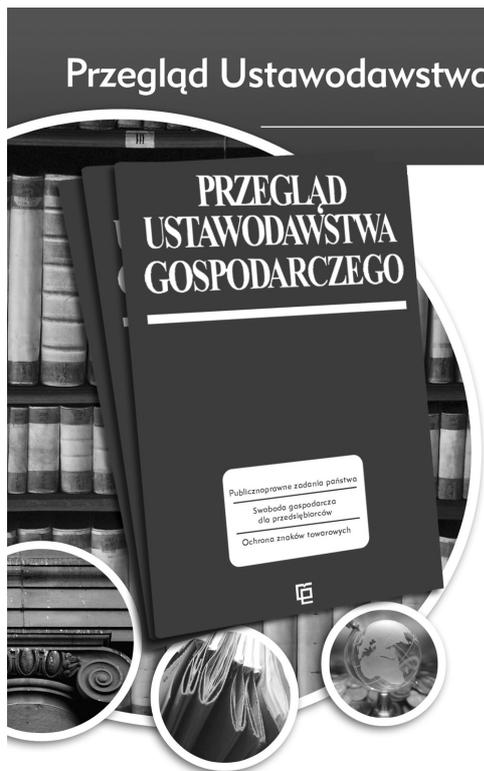
Professor of Law at the Faculty of Law and Administration, University of Gdansk. Expert in environmental law. Member of Maritime Law Commission of Polish Academy of Science. His research focuses on environmental protection in Polish, international and EU Law. He is especially interested in marine waters protection, climate change legislation, application of trade regulatory measures for achieving environmental goals, biodiversity and nature protection law. He is also interested in natural resources regulation and management. His side interest are space law and public health law. His current research is connected with Earth system law and liability in the climate change regime.

Dr hab. Maciej Nyka

Profesor na Wydziale Prawa i Administracji Uniwersytetu Gdańskiego. Ekspert prawa ochrony środowiska. Członek Komisji Prawa Morskiego Polskiej Akademii Nauk. Jego badania koncentrują się na problematyce prawnych aspektów ochrony środowiska zarówno w prawie krajowym, jak i międzynarodowym i unijnym. Szczególnym zainteresowaniem badawczym obejmuje problematykę ochrony środowiska morskiego, ochrony klimatu oraz stosowania instrumentów regulacji handlu dla osiągnięcia celów w obszarze ochrony środowiska. Jego zainteresowania badawcze obejmują także problematykę ochrony różnorodności biologicznej, prawne aspekty ochrony przyrody, a także prawne instrumenty zarządzania zasobami naturalnymi środowiska. Aktualnie prowadzi badania w obszarze globalnego prawa dotyczącego środowiska oraz zajmuje się problematyką odpowiedzialności odszkodowawczej w obszarze ochrony klimatu.

Przegląd Ustawodawstwa Gospodarczego Business Law Journal

www.pug.pl www.pwe.com.pl



PRZEGLĄD
USTAWODAWSTWA
GOSPODARCZEGO

Publicznonprawne zadania państwa
Swoboda gospodarcza
dla przedsiębiorców
Ochrona znaków towarowych

ZNAJDZIESZ NAS TU

www.pug.pl
tel. 795 155 583
ul. Podwale 17