Cross Border Regions And Climate Change: Legal Tools Of Cross Border Friendly Legislation For Coherent Actions

Prof. Dr. Michael Frey, Mag. rer. publ.[1]*, University of Applied Sciences Kehl, Germany, frey@hs-kehl.de*
Rahel Alia Müller[2]*, University of Applied Sciences Kehl, Germany, rahel-alia.mueller@stud.hs-kehl.de*

Abstract

This contribution depicts the ability of various legal tools under the label of cross-border friendly legislation to enhance the capacity of cross-border regions to act coherently facing climate change. By focusing on the problem that due to rule of law as well as the principle of sovereignty, borders constitute real obstacles, it presents the European law inducted idea of how territorial and social cohesion can serve as a valid legislatory aim. Therefore, the contribution answers the research question how these legal obstacles can be overcome by a legal and administrative toolbox of cross-border friendly legislation. Additionally, it develops how these tools can be considered as improving steps towards openness, transparency and effectiveness, as well as citizen participation.

From an applied legal and administrative research perspective the contribution shows how the tools mentioned could be used to solve concrete issues of cross border cooperation in the field of renewable energies and climate change actions (cross border heating networks, hydroelectric power or hydrogen plants and pipelines). By using the legal methodology set, various options such as e.g. centralized and decentralized opening or experimental clauses and a cross-border impact assessment to overcome border effects in the legal sphere will be concretized. Legal starting point is the principle of sovereignty, including at its maximal extension the right to renounce or to extend the use of sovereign rights in one's own country or in a neighboring country by means of treaties. In terms of anticipation, methods like the introduction of a binding cross-border impact assessment procedure and the establishment of cross-border one-stop agencies which also serves to improve the participation of civil society, it is aimed to present options of more proactive and coherent public management.

In conclusion, it is shown that tools of cross border friendly legislation on all levels, such as EU, state and substate level could help to solve concrete legal obstacles. Providing this legal tool box not only increases the “capacity to act" of the multi level structure, but also offers a preventative, innovative way for public actors to not only react but also to be prepared for several situations. With the example of cross border climate change actions, the contribution depicts legal and administrative instruments to improve cross border territorial cohesion by overcoming incompatibility of national legislation due to a mandatory cross border impact analysis.

[1] Prof. Dr. Michael Frey is Professor of Public law at the University of Applied Sciences Kehl, Germany and head of its Institute of Applied Research.
[2] Rahel Alia Müller is student at the University of Applied Research Kehl and works as student research assistant at the Chair of Professor Dr. Michael Frey.

Keywords

border regions, climate change, experimentation clause, legal toolbox, territoriality

Introduction: Climate protection and border regions

In general, boundaries can be viewed from many different scientific perspectives and classified in terms of type and function. However, this will not be the focus of this paper. This paper focuses on border regions and how they deal with climate change.

In this paper, climate change is understood as the human-induced global change of the climate, which leads to an increase of the annual average temperatures due to the emission of greenhouse gases and, besides the change of vegetation and precipitation frequencies, a rise of the sea level as well as an increase of extreme weather events can be expected.

Border regions are defined here as regions that are situated directly on the border of a state. The concrete legal definition of a border region depends on national laws or bilateral or multilateral agreements. The fact that climate change does not stop at borders should be obvious at first glance. A second glance also reveals that border regions are often particularly vulnerable to climate change. This can first be traced back to the geographical origins of borders. Historically, borders are typically natural boundaries, especially mountain ranges, seas or deserts. Characteristic of this type of natural border is that these borders usually also represent barriers to exchange and, in this respect, often coincide with linguistic and cultural borders. River courses, on the other hand, are also natural borders, but only appear later as borders - unlike the first group of natural borders, rivers typically represent connecting trade routes and traffic axes. For example, the Rhine has embodied the function of a border at times only since the mid-18th century. Even later, lines of longitude, latitude, and similar abstract features appear as boundaries. Unlike the types of borders mentioned above, these are characterized precisely by the fact that they do not follow certain natural features.

From the perspective of political science, borders have their origins in war and peace, but also in colonialism. The consideration of postcolonial approaches shows that the drawing of borders along a development taxonomy, i.e. the classification of spaces in an axis of linear progress (Fabian, 1983), is a central element of hierarchy and order (Leutloff-Grandits, 2021)

From a legal perspective, borders usually have their origin in (international) legal treaties or, with a view to the three-element doctrine by Jellinek (Jellinek, 1914, p. 394), in the de facto exercise of rule in the sense of Max Weber. The legal perspective typically focuses on political borders. An example of this is the so-called cannon shot line between Limburg and Prussia along the Meuse River agreed upon at the Congress of Vienna (1814 - 1818) which defined as the boundary line the distance from the Meuse as a navigable river, which at the time was seen as the maximum range of a cannon so that shipping traffic would not be impeded (Khan, 2007).

The legal effect of a border is the applicability of the principles of international law of territoriality, which spatially limits the exercise of sovereignty of the bordering states.

Against this background, it may not be surprising that borders are always particularly climate change sensitive areas: This applies to natural borders, starting with rivers, where flood risk as a primary risk can only be addressed by joint action across borders, but where measures such as nature conservation and water protection must also be undertaken

jointly as secondary climate-relevant measures. This also applies to measures in coastal regions that reduce the rise in sea level - such measures must even be taken globally and are intended to compensate for its consequences as climate impact adaptation (mitigation) (flood protection through dikes and coastal protection in Germany and the Netherlands). Mountains are also sensitive to climate change (due to glacier melt with effects on the water balance, erosion and rockfalls, for example the mountain called Hochvogel at the border between Germany and Austria (Lingenhöhl, 2020). This also applies to political boundaries without natural features - here, climate change sensitivity follows precisely from the common structure of the region.

On this basis, this article presents from a legal and administrative science perspective which legal instruments can be used to achieve solutions for cross-border climate protection.

Main Body: The Legal Dimension Of Cross-Border Climate Protection Measures

1. Literature review

In the field of cross-border climate change mitigation, there are already several published studies in the field of cross-border climate change impacts (Benzie, 2019), some of which include conceptual considerations (Carter et al, 2021). Subsequently, however, there is a lack of descriptions in which the legal-administrative dimension of the impacts and measures described by the other scientific disciplines is presented. This text also attempts to contribute to filling this gap from an application-oriented perspective.

2. Research Methodology

This text gains its insights essentially on the basis of a jurisprudential methodology, supported by the evaluation of the relevant legal and administrative literature, as well as through the interpretation and application of the underlying legal principles, norms and court decisions.

3. General Legal Framework Of Cross-Border Cooperation

The central starting point for any legal assessment of a cross-border measure is international law. It constitutes the framework of all forms of cooperation and thus defines on the one hand the space that the actors involved can construct, but at the same time also the limits of what is legally possible.

The following basic principles of international law are particularly relevant for cross-border cooperation:

First, the equal status of the subjects of international law or the principle of the sovereign equality of states is of fundamental importance (Doehring, 2004). Furthermore, the principle of sovereignty under international law must be observed. According to this principle, no state is entitled to exercise acts of sovereignty on foreign territory, as a state exercises these acts in its own territory in principle without restriction (Doehring, 2004). The principle of sovereignty is divided into two elements: external sovereignty, i.e. the fundamental independence of a state from other states, and internal sovereignty, i.e. the right of self-determination in matters of state organization (Schweisfurth, 2006).

The third principle, which also applies to cross-border cooperation, is derived from the sovereignty of states under international law: the prohibition of intervention under international law. According to this, states have a right to non-intervention by other subjects of international law (Schweisfurth, 2006) particularly other states and their constituents, in the latter capacity also the municipalities and territorial entities of a state, although these are of course not subjects of international law (Beyerlin, 1988). Such an intervention, which is in principle contrary to international law, would exist if foreign states (or their subdivisions) were to perform sovereign acts on foreign territory based on their national law.

At first glance, this idea may seem rather contrived but taking into account for instance an employee of a German municipal enforcement service issuing penalty notices for parking offences on French territory in accordance with German law. However, the existing links between Germany and France in the border region are now so close that such a case does not seem inconceivable: a penalty notice issued by a french inspector in the context of the use of the cross-border tram line between Strasbourg and Kehl on German territory on the basis of the public-law bus-tram usage regulations of the Strasbourg transport authority would also fall under the intervention requirement under international law.

This would only be different if a treaty under international law permitted the extraterritorial activity of another state on the territory of its own state. Corresponding state treaties are not only theoretically possible, but also exist in

practice. An example of such a licensing treaty in the Upper Rhine region is the railway station “Badischer Bahnhof” situated in Basel (Switzerland). Furthermore, an intervention in violation of international law does not exist if a state applies the law of a foreign state through its own state authorities. In this situation, the other state could at most protest. The creation of an international law enabling act is an instrument that is only available to the states (and in Germany to the Länder as member states in the area of their competences) - but not to the municipalities and regional authorities, which do not have the quality of a subject under international law (Niedobitek, 2001) and are therefore not allowed to act under international law. Sovereign action by municipal or regional authorities within the framework of cross-border cooperation would therefore only be possible if a corresponding international treaty concluded by the Länder or the federal government creates a state of affairs that allows it. This also and especially applies in the area of competences delegated to the municipal level by virtue of the guarantee of self-government.

The existing intergovernmental agreements that form the framework of cross-border cooperation beyond the principles described above are such valid acts of authorisation under international law - even if they exclude sovereign action by the local authorities (e.g. Art. 4 (3) of the Karlsruhe Convention)

3.1. Definition, Categorisation And Special Features Of Cross-border Climate Protection Measures

In order to shed light on the subject area of cross-border climate protection measures, the relevant terms will first be defined and then categorized according to their nature, their legal basis and their degree of cross-border integration.

Therefore, in the following, the terminology of cross-border climate protection measures will be defined first. Climate protection measures are those that can counteract or reduce or partially prevent anthropogenic climate change and the associated consequences such as global warming (IPCC, 2007). Cross-border climate protection measures are understood here as measures between two or more states that consist either in concrete joint action (such as joint construction of a coastal protection measure) or in national measures that are coordinated across borders (such as green concepts or flood retention). Cross-border climate protection measures are distinguished from non-coordinated, purely national measures in border regions by the characteristic of at least cross-border coordination. The cross-border component of climate protection measures was also emphasised by the Federal Constitutional Court in its climate decision on 24 March 2021. Accordingly, the climate protection requirement in Article 20a of the Basic Law is to be interpreted internationally to the effect that the state has to take internationally oriented action for the global protection of the climate within the framework of international coordination (Bundesverfassungsgericht, 2021).

In the following, cross-border climate protection measures are generally categorised according to their actual nature, the degree of cross-border integration and their legal basis, and are presented below (6.) in the form of a profile. Due to the broadness of the concept of climate protection measures, a more extensive categorisation is required. On this basis, cross-border climate protection measures will be categorized according to their actual nature.

Cross-border climate protection measures can first be differentiated and categorised according to their actual nature. For example, cross-border climate protection measures can be those that consist of the joint construction of structural infrastructures, such as the joint construction and operation of cross-border flood protection dikes or erosion protection measures at mountain borders. However, cross-border climate protection measures in structural terms can also consist of the construction of structural infrastructures that are coordinated on a national but cross-border basis (such as, to remain with the example, the construction of flood protection dikes on both banks of a border river). The coordinated construction and joint operation of climate protection facilities on the side of a bordering state, for example for

wastewater or waste treatment, can also fall under this category. This group of cases also includes, for example, the joint planning and awarding of cross-border shared mobility solutions such as cross-border bicycle rental systems. Ultimately, this also includes measures that actually legally link purely nationally effective measures across borders, such as the integration of existing local public transport services into a cross-border tariff association. Furthermore, they can be categorized according to their legal basis.

Ultimately, cross-border climate protection measures can also be categorised according to their legal basis. International treaties are commonly defined as "an express or implied agreement between two or more subjects of international law creating rights and obligations under international law" (Thürer, 2007). They can first be classified into bilateral and multilateral treaties according to the number of contracting parties (Doehring, 2004). According to their content, these can be divided into law-shaping (or mutual) and law-setting contracts (Doehring, 2004). According to their typology, a distinction is made between state treaties, which are concluded on behalf of the states, intergovernmental agreements, in which not the states but (only) their governments are contracting parties, and departmental agreements, in which the ministries appear as contracting parties. Administrative agreements, for example on the basis of Article 59 (2) of the German Grundgesetz, on the other hand, also fall under international treaties. In all cases, the states are contractually bound as subjects of international law. Beyond international treaties, there are numerous other legal forms, in particular non-treaty instruments and non-international treaties. Characteristic of the latter group is the absence of a will to be legally bound under international law. This includes, for example, private law contracts, cross-border public authority agreements (cross-border contracts between public authorities, institutions, foundations or bodies under public law within their respective legal competences), negotiation or consultation protocols (in which the results of negotiations, talks or consultations are documented, but which are not intended to create obligations under international law).

Last but not least, they can be categorized according to their degree of cross-border integration.

According to the degree of their cross-border integration (Beck, 2023), cross-border climate protection measures can be categorised according to Beck: At the lowest level are cross-border climate protection measures that consist of cross-border meetings (such as cross-border climate protection forums). Cross-border climate protection measures based on cross-border information, such as mutual information on climate protection measures with or without cross-border impact, should be placed above this. Cross-border climate protection measures based on cross-border coordination would be the next stage of cross-border integration, such as cross-border coordinated flood protection measures. The fourth level would be cross-border climate protection measures that represent a joint strategy or joint planning, such as a cross-border flood protection strategy along a border river. The fifth stage would be cross-border climate protection measures based on joint decision-making, for example on the basis of a state treaty. According to Beck, the sixth and highest level would be cross-border climate protection measures that are jointly implemented across borders (implementation), such as the delegation of the implementation of cross-border climate protection measures to a joint institution.

On this background, legal particularities of cross-border climate protection measures can be found.

The legal particularity of cross-border climate protection measures is that they are typically based on a joint agreement. Depending on the form of this agreement, it would even be conceivable to create a uniform legal framework, for example by ceding sovereignty rights. The implementation of the measures agreed in this agreement also in the respective agreed form requires either that the measure fully complies with the respective national legal framework or

that the national legal framework for such cross-border measures can be made more flexible in the sense of a corresponding adaptation. The legal framework of such agreements is therefore presented below (1.) as well as the legal possibilities for making one's own legal framework more flexible through experimentation and opening clauses (2.). Examples of cross-border climate protection measures (3.) conclude the presentation.

Another special feature of cross-border climate protection measures should be mentioned, which concerns the temporal dimension of borders: Through subsequent border changes, previously national climate protection measures can later become de facto cross-border climate protection measures.

4. Legal Framework And Limits Of Cross-Border Agreements For Cross-Border Climate Protection Measures

The legal framework and limits result from the respective international and constitutional legal framework. Whereas an agreement under international treaty law would generally fulfil the framework under international law for an act of permission (see above) and would thus even permit a complete cession of sovereign rights or the assumption of the exercise of foreign sovereign rights, the respective national constitutional law generally sets narrower limits for the acting states in domestic relations. For example, strict requirements are usually imposed on the complete cession of parts of the national territory, cf. Art. 53 of the French Constitution of 1958, for the federal system of Germany see Art. 29 GG. Insofar as only individual, specific sovereign rights are to be ceded from the national territory as a minus to the cession, Article 24 (1) GG regulates that this is only possible for the benefit of intergovernmental institutions and not, for example, for the benefit of foreign states or their subdivisions and only by (formal) law (Heintschel von Heinegg &Frau, 2023). In this respect, the concept of sovereign rights itself is also shaped by the respective national understanding of the constitution. An international treaty is required in each of these cases. The common feature of these solutions presented so far (cession of state territory or transfer of certain sovereign rights) is that legal uniformity is brought about in the points relevant to cross-border climate protection measures by extending the legal framework of one state to another.

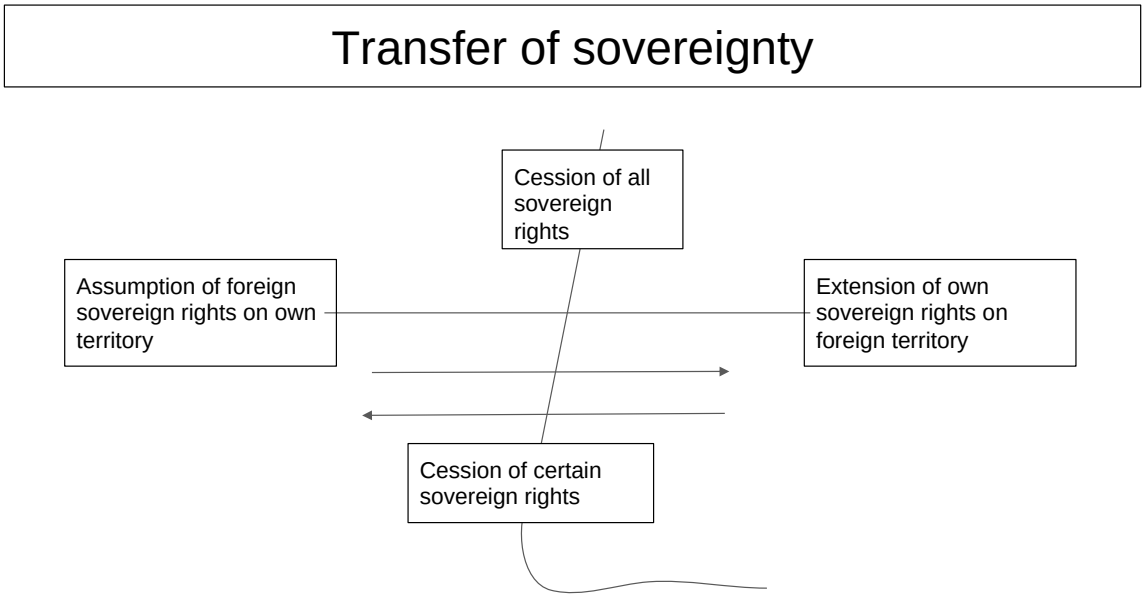

Fig. 1: Transfer of sovereignty

5. Legal Options For Making The Legal Framework For Cross-Border Climate Protection Measures More Flexible

Between these classic possibilities, there are numerous other options for overcoming border effects in the legal sphere by the means of legal flexibilization. First of all, centralised and decentralised opening clauses would be conceivable. In addition, such regulations would also be conceivable as experimental clauses, limited in terms of space, time or content. In terms of anticipation, the introduction of a binding cross-border impact assessment procedure would be worth considering. Accounting administrative competencies, they could be exercised jointly by cross-border one-stop agencies. This could also be seen as an instrument for improving the participation of civil society, information transparency as well as an early warning radar for legal administrative application problems.

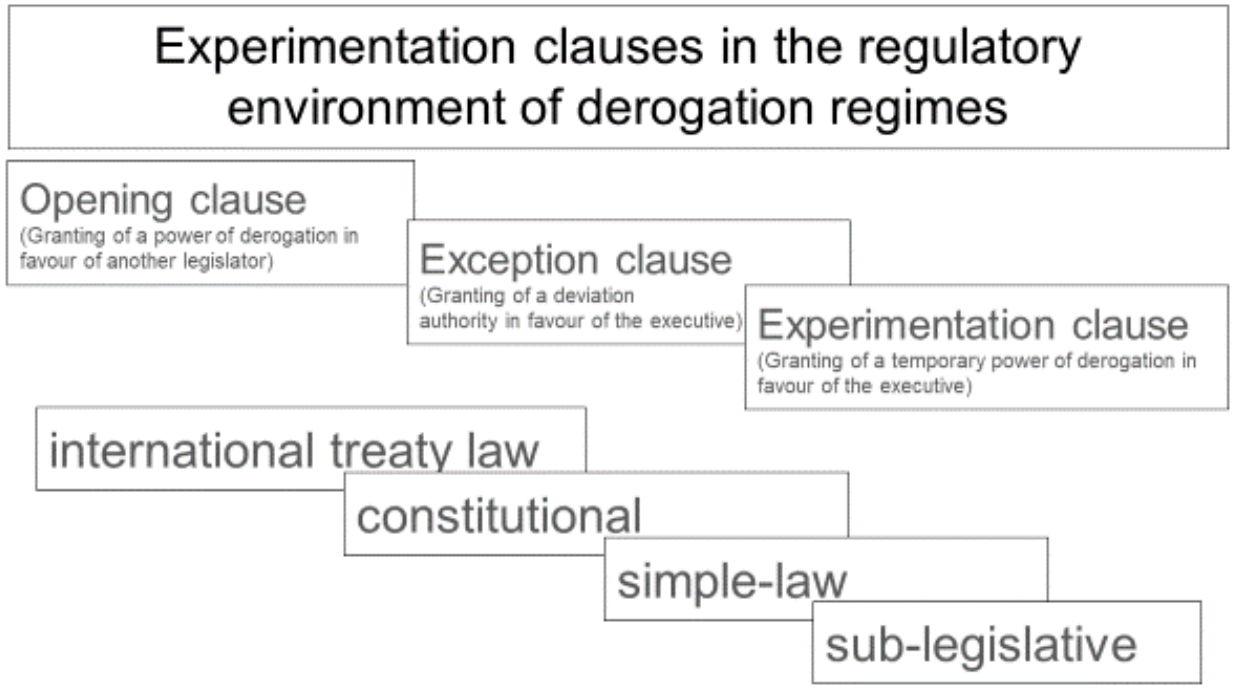

Fig. 2: Experimentation clauses in the regulatory environment of derogation regimes

5.1. Experimentation Clauses, Opening Clauses And Exception Clauses Against The Background Of Cross-border Climate Protection Measures

In addition to this general - classic - framework of cross-border options for action, the more flexible tools of experimental, opening and exception clauses will now be presented, classified and examined for their usability in terms of cross-border climate protection measures.

The term "experimental clause" itself is not legally defined. In substance, such legal provisions can be subsumed under the term, which typically permit the testing of a deviation from a regulation that otherwise continues to apply for a limited period of time. One aim of experimental clauses can be to gather experience in a subject area, which can later be the basis for a permanent, application-oriented standardisation. Only those experimentation clauses that grant the executive the power to allow exceptions to the legislature's orders in individual cases have a systematic effect.

Opening clauses are regulations with which a legislator grants another legislator the possibility to deviate from certain regulations, to make them more specific or to supplement them, i.e. to replace the regulations with their own

regulations. These include, for example, the provisions of Article 72 (3) of the Basic Law or, at the level of Union law, the numerous opening clauses of the GDPR. Opening clauses can be divided into the following further categories: those that give a further legislature, such as the state legislature, the possibility to supplement and concretise and those that give the further legislature the possibility to modify the regulation.

Exception clauses are regulations provided for by the legislator that allow for a factually deviating decision by the executive branch if certain predefined conditions are met.

With regard to cross-border climate protection measures, but also in general, the question arises in view of over-complex cross-border issues, whether a time-limited experimentation clause is a suitable tool for the implementation of cross-border climate protection measures. This applies in particular to those cross-border climate protection measures that involve structural measures (such as cross-border flood protection) or require cross-border coordinated legal changes. As a rule, experimental clauses are not suitable for such measures because they are limited in time. Instead, the classic solutions or open-ended and exemption regulations for an unlimited period of time appear preferable for such measures because of their long useful life instead of experimental clauses. The selection of the appropriate legal solution for the intended measure in each case must be made in advance within the framework of a cross-border impact assessment as part of a prospective regulatory impact assessment.

5.2. Cross Border Impact Assessment

The basic purpose of a cross-border impact assessment is, first of all, that cross-border obstacles caused by incompatible legislation, for example in the case of cross-border climate protection measures, must be identified and avoided at an early stage, i.e. already during the legislative process, and not laboriously removed after the legislative process has been completed in the application stage. Furthermore, such obstacles should not be identified aleatorically, but systematically in a formal and substantive sense (in terms of content all areas of legislation are comprehensively and not specific to individual cases) and on the basis of a cross-borderly agreed standard building block.

Guided by the principle “prior rather than later” standards for legal measures with cross-border effects could be defined. With an explicit cross-border impact assessment in the legislative process via a focused regulatory impact assessment could be assured

Instead of today's procedure, in which the cross-border effects of legislation are only identified, documented and transmitted after the legislative process has been completed at the application stage and at regional level, cross-border effects of legislative proposals should already be examined during the legislative process for their cross-border effects as part of a legislative impact assessment. Already today, at European level, as well as in many Member States and, of course, in Switzerland, new legislation is being examined in the context of the legislative process by means of a regulatory impact assessment on various aspects, such as their financial impact, on the economy and on public finances. The same should be done for the cross-border effects of the provision. This could be justified by the importance of the internal market and thus by the impact on the economy (Article 16 TFEU et seq.) of virtually all provisions with cross-border effects. However, in order to do so, it would first have to be known through the regulatory impact assessment and thus whether a legislative amendment would have cross-border effects. By means of this procedure, all rules with cross-border effects could first be identified and, subsequently, legislation considering this dimension could identify at an early stage the number of problems encountered in cross-border practice and thus reduce it in anticipation by appropriate legislative measures.

A systematic approach should be established instead of the actual case-based solution procedure:

In addition to a cross-border-friendly, technical and policy-specific legislation based on the regulatory impact assessment described above, which focuses on cross-border effects and which systematically considers all legislative proposals with potential cross-border effects already during the legislative phase, but especially those under public law, cross-border problems in the application of the law could be avoided more efficiently. Building on this, a general authorisation to adopt regionally different rules to avoid cross-border problems would have to be included in all laws with cross-border implications. The use of that option may be subject to a number of conditions, which may be known, for example, from the provisions of Article 13 (2) of the treaty of Aachen: No breach of higher-ranking legislation. This concerns primarily the provisions of national constitutional law, but also those of EU law. France has already inserted a constitutional experimentation clause in article 37-1 and article 72 of the CF with the so-called *loi 3DS* in its constitution. Alternatively, a regional competence to derogate could be envisaged rather than a decentralized integration into the numerous specialised laws with potential cross-border effects, also by means of a centrally formulated and effective manner in all the relevant technical acts.

6. Interim Conclusion

In the area of cross-border climate protection measures, due to the inherent time limit of experimental clauses and the frequent over-complexity of cross-border planning and approval procedures on the one hand, and on the other hand, due to the fact that the duration of operation of structural climate protection measures in particular usually exceeds the time limit, experimental clauses only appear suitable for measures that consist, for example, of short-term networking projects. Otherwise, the classic path via an intergovernmental agreement with the legal regulation to be agreed therein for the respective cross-border climate protection measures still seems preferable in principle. In addition, the basis for future cross-border climate protection measures can be created in advance in the relevant national laws by means of (time-limited) opening clauses. These clauses thus represent an essential component of cross-border friendly legislation. Within the framework of a cross-border impact assessment procedure in the context of a prospective legislative impact assessment as a further central component of cross-border friendly legislation, these opening clauses could be systematically inserted in the context of legislative amendments.

Conclusion

As shown, cross-border climate protection measures are of central importance for successful climate protection - nevertheless they face considerable challenges - in technical terms, but above all also in legal terms. This is also due, among other things, to different legal frameworks, in material and formal terms, which results in considerable complication and thus also lower profitability. This leads to the fact that cross-border climate protection measures in border regions are comparatively rare and that even in border regions purely nationally planned climate protection measures are often implemented. And even if such projects are implemented across borders, they often do not achieve the same functional scope and thus practical benefits as comparable national measures.
In order to solve these legal differences, which hinder the realisation of the project, there are various legal solutions at different levels. Classical in this respect are regulations under international treaties that provide for the cession of all or individual sovereign rights and thus an opening of the national legal framework for foreign law. There are numerous

examples with climate protection relevance from the past and present (Basel Badischer Bahnhof; cross-border operation of railway or tram lines such as the Strasbourg-Kehl tram or the planning of the Mont-Cenis base tunnel). New additions include, for example, experimentation and opening clauses at the international treaty or national level, which open up a state's legal framework in favour of neighbouring states. In order to avoid the increased cross-border complexity of cross-border climate protection measures, a cross-border impact assessment should be considered in advance as an element of cross-border-friendly legislation within the framework of the prospective impact assessment, which should also include the systematic insertion of such cross-border opening clauses in the national sectoral laws. This should be particularly helpful in areas where cross-border climate protection measures require a legal basis.
In general, an indispensable prerequisite for successful cross-border measures of all kinds is a common will to implement them, in the absence of a relationship of superiority/subordination. This is usually supported by common interests in the implementation of cross-border (climate protection) measures.

References

Beck J. (2023). Horizontal Integration. Nomos Baden-Baden. p. 77 et sqq.

Benzie, M. (2019). Cross-border climate change impacts: implications for the European Union. *Regional Environmental Change,* 19, 763-776.

Beyerlin, U. (1988). Rechtsprobleme der lokalen grenzüberschreitenden Zusammenarbeit. Springer Berlin, Heidelberg. p. 242.

Bundesverfassungsgericht (2021). Order of the First Senate of 24 March 2021 - 1 BvR 2656/18 -, paras. 1-270.

Carter T., Benzie M., Campiglio E., Carlsen H, Fronzek S., Hildén M., Reyer C. P. O. & West C. (2021). Cross-border climate change impacts: implications for the European Union. *Global Environmental Change*. 102307. https://doi.org/10.1016/j.gloenvcha.2021.102307.

Doehring K. (2004). *Völkerrecht* (2nd edition). C. F. Müller Heidelberg. p. 121 et sqq. DOI: 10.36198/9783838583396.

Fabian, J. (1983). *Time and the Other: How Anthropology Makes its Object*. New York: Columbia University Press.

Heintschel von Heinegg B. & Frau R. Art. 24 GG. In Epping V. & Hillgruber C. (eds.). BeckOK Grundgesetz, Art. 24, marg. 17. (54th edition).

Jellinek, G. (1914). *Allgemeine Staatslehre* (3rd edition). Springer Berlin, Heidelberg. p. 394. httpps://doi.org/10.1007/978-3-662-43104-7.

Leutloff-Grandits, C. (2021). Die zeitlichen Dimensionen von Grenzen und Grenzüberquerungen. In Gerst, D. & Klessmann, M . & Krämer H. *Grenzforschung, Handbuch für Wissenschaft und Studium.* p. 419-435/ p. 420.

Lingenhöhl D. (2020). *Töne könnten Abbruch des Hochvogels ankündigen*. Spektrum (26.12.2020). https://www.spektrum.de/news/am-hochvogel-im-allgaeu-droht-ein-bergsturz/1811930 (11.04.2023).

Niedobitek, M. (2001). Das Recht der grenzüberschreitenden Verträge. Mohr Siebeck, Tübingen. p. 199.

Solomon, S.; Qin, D.; Manning, M.; Chen, Z.; Marquis, M.; Averyt, K.B.; Tignor, M.; Miller, H.L., eds. (2007). IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)) (PDF). Cambridge: Cambridge University Press.

Schweisfurth T. (2006). *Völkerrecht*. Mehr Siebeck Tübingen p. 351.

Thürer D. (2007). Völkerrecht. (3rd edition). Schulthess Verlag Zürich. p. 90.