Adaptation Finance and the EU Taxonomy

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1 Introduction

The paper at hand was written within the context of the research project “Climate resilience in Europe” funded by the Federal German Environment Agency (UBA). The main goal of the project is to connect researchers and practitioners working on the topic of climate resilient infrastructures across Europe. The project has three sub-themes, one of them being adaptation finance – in particular an analysis of the current design of the EU Taxonomy as a tool for advancing adaptation actions in Europe.

This paper serves a variety of purposes, it…

- summarises the current state of the Taxonomy and the next steps for its implementation,
- features a critical analysis of the adaptation component of the Taxonomy – in the context of the current discussion on adaptation finance, and
- proposes ways of optimising the treatment of adaptation issues within the Taxonomy, also highlighting how to include infrastructure operators along the way.

The paper addresses all individuals and organisations who are keen to contribute to how adaptation is being framed as a topic within the Taxonomy. The long-term goal of the project team is to unite a committed group of individuals from science and practice to network and draft suggestions on how to amend, interpret and / or implement the Taxonomy with respect to the topic of adaptation.

This document is the first step along this path. Part A of the paper is intended as background for those readers who are not familiar with the Taxonomy and the process around it; the sections in this part provide introductory information on the Taxonomy and how adaptation is framed in it. Part B (starting on page 9) constitutes the core of this document and presents a number of recommendations to optimise the framing of adaptation in the Taxonomy as well as next steps to be taken in the project mentioned above, focussing on adapted activities (less on enabling activities).
PART A – INTRODUCTION TO THE EU TAXONOMY

2 Overview on the EU Taxonomy

2.1 The EU Taxonomy in the context of adaptation finance

Questions related to adaptation finance have been discussed on different levels for about 25 years now (Khan et al. 2019) but really only picked up steam after COP 21 in 2015 with article 9 of the Paris Agreement. This article states that Parties to the UNFCCC convention that are developed countries shall provide financial means to support developing countries in activities on mitigation and on adaptation (for a broad introduction see Burmeister et al. 2019). The heading of adaptation finance provides a broad umbrella for the discussion of a variety of questions; the key issues that are being raised under this topic can be divided into the following themes:

- How to raise capital for investments into activities related to climate change adaptation or climate resilient infrastructure (e.g. Micale et al. 2018; Restle-Steinert et al. 2019)?
- What incentives and tools can guide investors, analysts and businesses towards taking climate risks into account when making decisions, e.g. how to determine climate risks in portfolios, how to assess (and mitigate) climate risks when making a decision on financing infrastructure for example (e.g. Schulten et al. 2019, Zimmermann et al. 2019)?
- How to channel money for adaptation to where it is needed most in an efficient way (e.g. “the plumbing of adaptation finance”, Terpstra et al. 2013; Restle-Steinert et al. 2019) and how to track such financial flows (e.g. Richmond and Hallmeyer 2019)?
- How to assess the impact of investments, the resilience dividend or the return on investment made into adaptation activities (e.g. Nakhooda et al. 2014)?

The EU Taxonomy is an approach that addresses the first three themes: it intends to provide incentives for disclosing in how far certain business activities contribute to adaptation and thereby increasing capital flows towards businesses that engage in adaptation.

However, the background of the Taxonomy’s development is not primarily the topic of adaption finance – it is far broader and consists of general considerations concerning a transition to a more a sustainable Europe. The rationale is that the European economy needs to undergo a rapid and fundamental transition in order to mitigate negative impacts on the environment and to adapt to a changing climate (TEG 2020a: 8). But, initially, such a transition will require vast resources; to achieve the goals of the Paris Agreement by 2030 for example, the OECD estimates that 6.35 trillion Euros a year will be needed (OECD 2017). To steer capital flows towards this transition, the EU Commission has developed the Taxonomy – among other steps, like initiating the European Green Deal.

2.2 The Taxonomy in a nutshell

A “taxonomy” is a classification of concepts or things. In this case, the EU Taxonomy is a classification of economic activities. The Taxonomy provides “technical screening criteria” to determine whether a certain economic activity contributes to the following six policy objectives:

1. climate change mitigation,
2. climate change adaptation,
3. sustainable and protection of water and marine resources,
4. transition to a circular economy,
5. pollution prevention and control, and
6. protection and restoration of biodiversity and ecosystems. (TEG 2019: 19)

According to the Taxonomy, an economic activity can contribute in two ways: it can make a “substantial contribution” or enable other activities to make substantial contributions.

- “Economic activities that make a substantial contribution based on their own performance: For example, an economic activity being performed in a way that is environmentally sustainable.
- Enabling activities: Economic activities that, by provision of their products or services, enable a substantial contribution to be made in other activities. For example, an economic activity that manufactures a component that improves the environmental performance of another activity.” (TEG 2020a: 14)

To be in line with the Taxonomy, an economic activity needs to meet three requirements: it needs to contribute to at least one of the above-mentioned goals, “do no significant harm” on achieving the other goals and maintain certain minimum safeguards. By providing a legally-binding taxonomy for these activities, it will be possible for financial market participants to state in how far their products include investments in or loans for companies that contribute to the six environmental goals. It will also enable companies to show how they contribute to the goals and thereby, possibly, make themselves more attractive for investors, providers of loans or certain customer groups.

For activities that do not (yet) meet the technical screening criteria, the financing of measures within that activity can be considered “Taxonomy-aligned if they are part of an implementation plan to meet the activity threshold over a defined time period” (TEG 2020a: 15; the Technical Expert Group recommends a five-year horizon). This consideration is included as an incentive to pursue a transition.

For the Taxonomy to have an impact, companies of course not only have to assess their own activities but they also need to disclose information on how they are aligned with the Taxonomy to the public. The reporting or disclosure requirements in the Taxonomy are complex. The actors or organisations that will be required to make disclosures against the Taxonomy are financial market participants and large companies that already have to publish a non-financial statement as required by the European Non-Financial Reporting Directive (TEG 2020: 26). The following companies have to issue such a statement:

- capital market oriented companies who have more than 500 employees and
- all credit institutions and insurances with more than 500 employees.

Non-financial companies must disclose what proportions of the following financial indicators are aligned with the Taxonomy: turnover, investment expenditure (capex) and operating expenditure (opex). The reporting on this alignment should be done annually in a special sustainability report. In order to create transparency with respect to which environmental objective is concerned, companies should disclose their contribution to each of the six goals separately.

Financial market participants are required to disclose the extent to which they have used the taxonomy in determining the sustainability of underlying investments, the environmental objective to which these investments contribute and the percentage of their investments that are based on the taxonomy.

Once businesses report on the alignment of their activities or measures with the Taxonomy, the following is envisioned to happen:
- Businesses who have activities or measures aligned with the Taxonomy would gain access to green finance instruments, e.g. qualify for certain loans ("Green Loans", TEG 2020a: 22).
- Investors can use the information disclosed by companies to screen their own portfolios and check in how far they have invested in companies that contribute to climate change mitigation or adaptation, for example.
- Issuers of financial products, like green bonds, can proof the greenness of their product by only including activities that are aligned with the Taxonomy.
- The EU already works towards certain labels or regulations for green financial products, e.g. so that an investment fund can get an official “green” label, if a certain percentage of the investments are Taxonomy-aligned.

Hence, the EU is promoting the Taxonomy as a tool for investors, companies and issuers of financial products to "navigate" the sustainability / climate transition and as a tool “to help plan and report [on] the transition to an economy that is consistent with the EU’s environmental objectives” (TEG 2020a: 8).

2.3 Development of the Taxonomy and next steps

The Taxonomy was developed over the past two years following the ratification of the Paris Climate Agreement and the adoption of the Sustainable Development Goals in 2015. Subsequently, the EU Commission established a “High Level Expert Group on Sustainable Finance” in December 2016 which was tasked with providing policy recommendations on how to increase the flow of capital towards more sustainable investments (EC 2018: 36). Among their recommendations, they called for “a technically robust classification system at EU level to provide clarity on what is ‘green’ or ‘sustainable’ – a so called sustainability taxonomy.” (EC 2018: 2). In March 2018, the EU published an Action Plan on Financing Sustainable Growth that called for the “creation of the classification for sustainable activities or Taxonomy” (TEG 2020a: 9). Thereupon, the Commission published a “Proposal for a regulation of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment” (EC 2018) in May 2018. This document is known as the “Taxonomy Regulation” (TR). It provides a lot of context for the proposal of the Taxonomy and, as required for such EU regulations, offers information on the possible impacts of the regulation as well as its budgetary implications.

To support the finalisation of the Taxonomy, the European Commission summoned a Technical Expert Group (TEG) in July 2018. The TEG had a fairly encompassing mandate. It was supposed to develop technical screening criteria responding to the overarching framework of the TR, draft guidance on investment benchmarks related to climate change, develop a Green Bond Standard that is linked to the Taxonomy, and design guidelines on disclosure activities for corporations related to the Taxonomy. The TEG consists of 35 members and mainly represents the financial sector.

The final recommendations of the TEG on the overall composition of the taxonomy were published in a final report in March 2020. The report also contains guidance on the development of Taxonomy disclosures, a summary of the economic activities covered and a detailed technical annex that includes technical screen criteria and really defines what “substantial contribution” means (TEG 2020b). With the publication of this final report, previous reports of TEG are being replaced.

Looking forward, the next steps in this process are:

- Currently (July 2020) there is a call for applications for 50 members of a Platform on Sustainable Finance which is to be established in autumn 2020 and should function as “a permanent body under the Taxonomy Regulation” (TEG 2020a: 12). This group will have four
main tasks “(1) Advise the Commission on the technical screening criteria for the EU Taxonomy, including on the usability of the criteria. (2) Advise the Commission on the review of the Taxonomy Regulation and on covering other sustainability objectives, including social objectives and activities that significantly harm the environment. (3) Monitor and report on capital flows towards sustainable investments. (4) Advise the Commission on sustainable finance policy more broadly.” (see https://ec.europa.eu/info/publications/sustainable-finance-platform_en)

- By the end of 2020 the technical screening criteria developed by the TEG in their report will officially become part of the taxonomy regulation (become “part of the explicit legal requirements from the European Commission” (TEG 2020a: 26)). It is not yet known how much of the current proposal the Commission will adopt.
- The obligations on what companies will have to disclose when reporting on the alignment of their activities with the Taxonomy will be finalised by June 2021.
- Financial market participants are asked to submit their first disclosure against the taxonomy by Dec 2021. Companies are requested to disclose information starting in 2022.

It should be noted that many international observers from outside of the EU have followed this process with great interest. It seems likely that the final setup of the Taxonomy will also influence how other countries and regions approach this topic.

3 Climate Change Adaptation in the Taxonomy

The following sections present and reflect how the topic of climate change adaptation is framed and addressed in the Taxonomy with focus on the technical screening criteria.

Summary

![Climate change adaptation diagram](https://example.com/climate_change_diagram.png)

Quelle: Technical Expert Group on Sustainable Finance (2020a)

Central requirement is the disclosure about the substantial contribution of economic activities to one of the six environmental objectives with the additional requirements to not significant harm the other objectives and to fulfill minimum safeguards with respect to social and human rights. To be in line with the Taxonomy the activity in question also must meet the minimum social safeguards, e.g. the OECD Guidelines on Multinational Enterprises, and the Do No Significant Harm criteria with respect to the other five objectives.
Article 7 of the Taxonomy Regulation is the one that defines what constitutes a substantial contribution to climate change adaptation. It will be specified by the technical screening criteria (see below). As it is short and in order to be most precise, we would like to quote it here in full:

"Article 7

Substantial contribution to climate change adaptation

1. An economic activity shall be considered to contribute substantially to climate change adaptation where:

   a. that economic activity includes adaptation solutions that either substantially reduce the risk of adverse impact or substantially reduces the adverse impact of the current and expected future climate on that economic activity itself without increasing the risk of an adverse impact on other people, nature and assets; or where

   b. that economic activity provides adaptation solutions that, in addition to the conditions laid down in Article 11a, contribute substantially to preventing or reducing the risk of adverse impact or substantially reduces the adverse impact of the current and expected future climate on other people, nature or assets, without increasing the risk of an adverse impact on other people, nature and assets.

1. a The adaptation solutions referred to in point (a) of paragraph 1 shall be assessed and prioritised using the best available climate projections and shall, as a minimum, prevent or reduce:

   (a) The location-specific and context-specific adverse impact of climate change on the economic activity; or

   (b) The adverse impact that climate change may have on the environment within which the economic activity takes place." (TEG 2020b: 21, italics added)

Adverse impacts of climate change relate to both slow onset as well rapid climate related hazards. Hazards named as examples are: average temperature increase, sea level rise, extreme rainfall, storm surges, flooding, and heat waves). The Taxonomy focuses on “material climate risk” which is the “risk of (financial and non-financial) losses occurring due to performance failure, performance delays or incomplete performance of an economic activity resulting from climate-related hazards.” (TEG 2020b: 21).

Against this background, the Taxonomy defines two types of substantial contributions to the adaptation objective:

1. “Adapted activities: an economic activity is adapted to all material physical climate risks identified for the economic activity to the extent possible and on a best effort basis”; (TEG 2020b: 21) This could for example be the implementation of early warning system by a water utility to reduce flood risk.

2. “Activities enabling adaptation of an economic activity: the activity reduces material physical climate risk in other economic activities and/or addresses systemic barriers to adaptation, and is itself also adapted to physical climate risks.” (TEG 2020b: 21) Such an activity could be the development of an early warning system for flood risk by a corporation.

The TEG proposes a set of technical screening criteria to determine whether a certain economic activity makes a contribution towards the adaptation objective. The criteria differ depending on whether they are concerned with “adapted activities” or “activities enabling adaptation”. Again, to allow for as
much precision as possible in the discussion section of this paper, we quote the criteria as tables in full as they appear in the annex of the TEG report (TEG 2020b: 25-27):

**Technical screening criteria for ‘adapted activities’ an economic activity**

Table 01 Screening criteria for substantial contribution: adapted activities (TEG 2020b: 25-26)

<table>
<thead>
<tr>
<th>Criterion and description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A1: Reducing material physical climate risks</strong></td>
<td>The economic activity must reduce all material physical climate risks to that activity to the extent possible and on a best effort basis.</td>
</tr>
<tr>
<td><strong>A1.1</strong> The economic activity integrates physical and non-physical measures aimed at reducing - to the extent possible and on a best effort basis - all material physical climate risks to that activity, which have been identified through a risk assessment.</td>
<td></td>
</tr>
<tr>
<td><strong>A1.2</strong> The above-mentioned assessment has the following characteristics:</td>
<td></td>
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<tr>
<td>- considers both current weather variability and future climate change, including uncertainty;</td>
<td></td>
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<tr>
<td>- is based on robust analysis of available climate data and projections across a range of future scenarios;</td>
<td></td>
</tr>
<tr>
<td>- is consistent with the expected lifetime of the activity.</td>
<td></td>
</tr>
<tr>
<td><strong>A2: Supporting system adaptation</strong></td>
<td>The economic activity and its adaptation measures do not adversely affect the adaptation efforts of other people, nature and assets.</td>
</tr>
<tr>
<td><strong>A2.1</strong> The economic activity and its adaptation measures do not increase the risks of an adverse climate impact on other people, nature and assets, or hamper adaptation elsewhere. Consideration should be given to the viability of 'green' or 'nature-based-solutions' over 'grey' measures to address adaptation.</td>
<td></td>
</tr>
<tr>
<td><strong>A2.3</strong> The economic activity and its adaptation measures are consistent with sectoral, regional, and/or national adaptation efforts.</td>
<td></td>
</tr>
<tr>
<td><strong>A3: Monitoring adaptation results</strong></td>
<td>The reduction of physical climate risks can be measured.</td>
</tr>
<tr>
<td><strong>A3.1</strong> Adaptation results can be monitored and measured against defined indicators. Recognising that risk evolves over time, updated assessments of physical climate risks should be undertaken at the appropriate frequency where possible.</td>
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</table>
Screening criteria for an activity enabling adaptation

Table 02 Screening criteria for substantial contribution: economic activities enabling adaptation (TEG 2020b: 26-27)

<table>
<thead>
<tr>
<th>Criterion and description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B1. Supporting adaptation of other economic activities</strong></td>
</tr>
<tr>
<td>The economic activity reduces material physical climate risk in other economic activities and/or addresses systemic barriers to adaptation. Activities enabling adaptation include, but are not limited to, activities that:</td>
</tr>
<tr>
<td>a) Promote a technology, product, practice, governance process or innovative uses of existing technologies, products or practices (including those related to natural infrastructure); or,</td>
</tr>
<tr>
<td>b) Remove information, financial, technological and capacity barriers to adaptation by others.</td>
</tr>
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</table>

| **B1.1** |
| The economic activity reduces or facilitates adaptation to physical climate risks beyond the boundaries of the activity itself. The activity will need to demonstrate how it supports adaptation of others through: |
| • an assessment of the risks resulting from both current weather variability and future climate change, including uncertainty, that the economic activity will contribute to address based on robust climate data; |
| • an assessment of the effectiveness of the contribution of the economic activity to reducing those risks, taking into account the scale of exposure and the vulnerability to them |

| **B1.2** |
| In the case of infrastructure linked to an activity enabling adaptation, that infrastructure must also meet the screening criteria A1, A2 and A3. |

For the moment, the Taxonomy part on adaptation covers selected economic activities in nine sectors (classified via NACE codes). These sectors are: (1) forestry, (2) agriculture, (3) manufacturing, (4) electricity, gas, steam and air conditioning supply, (5) water, sewerage, waste and remediation, (6) transportation and storage, (7) buildings, (8) financial and insurance activities, (9) professional, scientific and technical activities (see TEG 2020b: 391-579). The TEG concedes that other activities and other sectors can also make important contributions towards adaptation but for technical reasons the Taxonomy only covers the sectors mentioned (TEG 2020a: 13); however, it is planned to add sectors and activities in the future (see TEG 2020b: 20). For the moment this means though that if a company undertakes economic activities that meet the screening criteria (e.g. because they adapted the activity to climate change) but are not among the list of activities covered in the Taxonomy, the financial flows connected to the activity would not be considered Taxonomy-aligned.

In summary, all companies that fall under the NFRD requirement will have to disclose from 2022 on, in how far they are undertaking activities (listed by the Taxonomy in the nine sectors mentioned above) that fulfil the criteria just listed and are thereby contributing to the adaptation objective. Disclosure requirements differ:

- for activities enabling adaptation: the turnover associated with these activities (or %)

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1 An Excel-tool developed by the TEG provides a good overview with respect to the activities: https://ec.europa.eu/info/publications/sustainable-finance-teg-taxonomy_en#documents (sheet “Adaptation summary”)

for adapted activities: the capex and opex for these activities, if they are part of a larger plan
(TEG 2020a: 30) [or for the measures that are integrated?]

When companies carry out activities that are not (yet) included in Taxonomy sectors and activities, the
TEG proposes that they comment about this in their disclosures to “reflect the fact that their activities
are not yet covered by the Taxonomy – as opposed to them being unable to meet technical screening
criteria. TEG believes this is an important signal for companies to be able to send.” (TEG 2020a: 14)

For infrastructure operators the Taxonomy has two main implications: if the operators have more than
500 employees and are tradable stock corporations then they will have to report against the Taxonomy
and thereby also conduct risk assessments as outlined above. If the instrument of the Taxonomy is
working as envisioned, then operators should get better access to capital needed for adaptation
measures that could reduce the risks identified in assessments.

PART B – RECOMMENDATIONS FOR THE FRAMING OF
ADAPTATION IN THE EU TAXONOMY

4 Analysis and recommendations

The TEG undertook a great and important effort in developing the Taxonomy. A commonly accepted
way for determining whether an economic activity contributes to climate change mitigation or adaptation
is essential when developing a framework for climate action. Finding a precise and user-friendly
methodology is a tremendous challenge. The TEG has responded to this challenge with very apt and
solid recommendations.

In the following sections, we would like to present some thoughts on how to refine the current approach.
The intention behind these ideas is to contribute to a final Taxonomy that can be easily applied in
practice and yields results that are reliable and robust, i.e. applying the Taxonomy should not be too
complex while at the same the results of its application should not depend on how one interprets the
Taxonomy. Instructions and criteria need to be precise and easy. The following ideas focus on four
issues: risk assessments, monitoring of adaptation results, consistency with sectoral, regional and / or
national adaptation efforts, and limited coverage of economic sectors.

The elaborations focus mainly on adapted activities and less on enabling activities.

4.1 Risk assessments

The topic of adaptation is treated somewhat differently than the other topics. For climate change
mitigation for example (article 6), the Taxonomy lists rather concrete technical screening criteria of which
the activity has to meet one or more in order to be considered to contribute to this goal, e.g. the activity
reduces greenhouse gases by increasing climate neutral mobility or by switching to the use of
sustainably sourced renewable materials.
The TEG report acknowledges that the “context-specific nature of adaptation means that it is not possible to produce a stand-alone and exhaustive list of activities that could be viewed as contributing to adaptation under all circumstances.” (TEG 2020b: 18).

Hence, the approach chosen by the TEG is process-based: activities are aligned with the Taxonomy if they integrate measures that aim at reducing physical climate related risks that were identified in a thorough risk assessment. A process-based approach seems indeed like the only feasible way to deal with this topic when it comes to adapted activities, as it very much depends in which context such an activity is implemented: flood-proofing production facilities for example can contribute to the adaptation objective in a flood-prone region while in areas that are projected to become more arid, it is likely not to offer any benefits. However, a process-based approach poses challenges:

A. Undertaking a thorough climate risk assessment is time intense and requires a certain expertise that is unlikely to be at hand in most companies. Especially if, as the criteria require it, the assessment has to consider “both current weather variability and future climate change, including uncertainty” (TEG 2020b: 25) and has to be “based on robust analysis of available of climate data and projections across a range of future scenarios” (ibid).

B. The results of such an assessment depend in part on the methods, scenarios and data chosen for the assessment, making the outcome often a subjective one.

The TEG already proposed that the Sustainable Finance platform should provide guidance to companies on how to undertake risk assessments. The TEG has also developed an “indicative framework for classification of climate-related hazards and a climate sensitivity matrix for specific economic activities” (TEG 2020b: 18).

To further address the challenges outlined above, the authors make the following suggestions:

1. The final Taxonomy or associated user guides should make reference an internationally accepted methodology for the risk assessments that are mentioned in criteria A1.1 and A1.2. Such reference and description of a method would support the individuals who have to conduct such assessments, introduce a certain degree of quality control and make the assessments a little more comparable. Many such guidelines and methods have been published in recent years. The authors propose that the criteria or associated user guides recommend that the risk assessments follows the guidelines from the ISO 14091 “Adaptation to climate change — Guidelines on vulnerability, impacts and risk assessment”. This standard (to be published late 2020 / early 2021) was developed by an international group of experts over the last four years and can be taken to represent a broad consensus on how to conduct climate risk assessments in a wide range of settings. Referencing ISO 14091 seems suitable for a variety of reasons:
   - The standard offers concise definitions for terms that are important for risk assessments (hazard, exposure, sensitivity, adaptive capacity etc.) which makes it appealing for individuals who are not familiar with the topic. Terms and concepts employed build on the widely accepted terminology from the 5th Assessment Report of the Intergovernmental Panel on Climate Change.
   - ISO 14091 describes how to conduct a risk assessment on twelve pages in very accessible language: the main steps that the standard describes are “Preparing a climate change risk assessment”, “Implementing a climate change risk assessment” and “Reporting and communicating climate change risk assessment results”. Each of these steps has up to nine sub-steps that describe in short paragraphs what needs to be done and how to do it or what to consider when doing it, e.g. “setting the time
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horizon”, “developing impact chains”, “selecting indicators” and “interpreting and evaluating the findings”. The balance of detail and length and its universal approach make this standard very suitable for being used in the context of the Taxonomy.

2. In order to deal with the subjectivity of such assessments, the Taxonomy should require businesses to publish the assumptions (e.g. on the extent of expected change in flood risk), key steps and results of their risk assessments. Making this information public will increase accountability of those who are carrying out the assessments. It will make it easier to interpret the results (i.e. what businesses disclose against the Taxonomy with respect to the adaptation objective) and should, in the medium-term, contribute to the overall quality of the many risk assessments that will have to be undertaken in the future. It can be expected that some businesses will oppose this recommendation because it would disclose sensitive information that competitors might take advantage of. Hence, one probably needs to aim for a balanced approach here that excludes sensitive business data. Requiring the use of ISO 14091 (see #1) would yield benefits for transparent reporting as well, as the standard has a dedicated section on how to prepare a “Climate change risk assessment report” which lists in detail what pieces of information to provide.

3. To aid businesses further, decrease subjectivity and increase comparability of the risk assessments it should be considered to make more prescriptions on what climate data and what “future scenarios” should be taken into account when assessing risks, e.g. prescribing two standard scenarios or requiring that the changes considered should be at least of the magnitude of – for example – a 1.5 degree scenario. Otherwise, businesses could shape the outcome of the assessment by choosing scenarios and time horizons accordingly. These requirements would need to be updated frequently; to allow for case specific needs users should be permitted to deviate from the prescriptions if they provide adequate justifications.

4. To support businesses in carrying out risk assessments the Platform on Sustainable Finance should provide a wide range of examples for how to conduct risk assessments satisfy the requirements mentioned in criterion A1.1 that fit the EU Taxonomy. These examples can be cases of actually conducted risk assessments or hypothetical examples can also take the form of checklists or step-by-step guidance of how to approach such an assessment. Linking useful data sources to the examples would increase their value.

4.2 Monitoring of adaptation results

Criterion A3 requires that the “reduction of physical climate risks can be measured” (TEG 2020b: 26) while the sub-criterion A3.1 asks that the “[a]daptation results can be monitored and measured against defined indicators” (ibid). However, it remains unclear what the term “adaptation results” is referring to. An example for an adapted economic activity that the TEG uses frequently is a water utility that implements an early warning system to reduce the risk of flood (e.g. TEG 2020b: 23). What would be the adaptation result in this case? Here one can think along the lines of a logic model as used for the evaluation of the German adaptation strategy (Kind et al. 2019: 12). Is the adaptation result the issuing of warnings by the warning system (output)? Is it people taking notice of the warnings (short-term outcome)? People changing their behaviour because of the warning (medium-term outcome)? Or the reduction of flood damage costs because of the implementation of the early warning system (impact)?

All of these options could be considered “adaptation results”. Obviously, some are more meaningful than others, and the more meaningful ones are more difficult to measure. The authors are strongly convinced that more explicit requirements and support for meeting them should be introduced for this point.
Otherwise, the users will measure a) what is easy to measure and b) what suits their means (i.e. probably indicators that are likely to signal success of the implemented measure).

Ideally, criterion A3 would require that adaptation results can be measured across the range from output, outcome to impacts – by using a logic model or logical framework and with indicators corresponding to each of the three phases (output, outcome, impact). For users of the Taxonomy with limited experience in monitoring and evaluation this might not be a trivial requirement. Hence, examples for indicators and instructions on how to prepare a logic model will be essential.

Still, even with guidance this point remains a challenging one as, most of the times, the time horizon for reporting is very much shorter than the time horizon, which is needed to verify the impacts that the measures aimed at.

### 4.3 Consistency with sectoral, regional and / or national adaptation efforts adaptation results

The criterion A2.3 requires that the “economic activity and its adaptation measures are consistent with sectoral, regional, and/or national adaptation efforts.” (TEG 2020b: 26). Consistency certainly sounds like something desirable but it remains unclear what this would actually mean in practice and how one would check whether this criteria is fulfilled or not. From the authors’ point of view, this criterion is a very demanding one and could pose a challenge for different reasons:

1. In some cases, it would require knowledge of adaptation efforts on three different levels, in a field that is developing very dynamically. This is a lot to ask and would be a significant barrier to applying the Taxonomy unless the users are provided with appropriate tools to check for consistency, e.g. a sectoral checklist.
2. The criterion is a time-sensitive one: as the type of efforts will change over time, the activity and its adaptation measures could be consistent with them at one point but inconsistent at other points in time.
3. It remains unclear whether the measures need to be consistent with sectoral, regional AND national adaptation efforts or just one OR two of these. As it can be the case that some regional and national adaptation efforts are not consistent with each other, it would seem appropriate that the activity only has to be consistent with one of the levels mentioned.
4. The term “sectoral adaptation efforts” is very open to interpretation, which might make it difficult to fully grasp the scope of the criterion. Sectoral could for example refer to efforts of other peers in the sector but it could also allude to some kind of overarching sector strategy.

The authors see two main options for improving the precision and user-friendliness of this criterion. The first option would be to make it more explicit how this criterion should be interpreted and to provide suitable tools for applying the criterion, e.g. a sectoral checklist for what activities or measures can be consistent. The second option would be to change the scope of the criterion. The authors propose to move away from the term “consistency” and aim lower by requiring that it needs be demonstrated that the activity or measure contributes to one or more goals mentioned in regional or national adaptation plans OR that it responds to adaptation needs mentioned in regional or national adaptation plans or assessments. This still emphasises the importance of activities tying in well with ongoing efforts and plans but does not require full consistency anymore. The authors are convinced that this approach is more realistic than aiming for complete consistency.
4.4 Coverage of economic sectors

The Adaptation Taxonomy covers 70 economic activities in nine sectors. The TEG is transparent about the fact that this choice of sectors was determined by the sectors selected for the Mitigation Taxonomy (TEG 2020a: 19): the economic sectors for the mitigation part were selected first, and that selection was based on their greenhouse gas emissions (sectors cover 93.5 per cent of industry emissions, TEG 2020a: 11). For each of the selected economic activities, the TEG developed criteria that specify what it means for this activity to not do any significant harm to the other five environmental objectives.

Some sectors and economic activities that are important for adaptation are missing in the current setup of the Taxonomy, which limits the impact of this instrument: There are, for example, no activities related to health, emergency services, road infrastructure, telecommunications, tourism or coastal protection in the Taxonomy. Hence, the authors would like to support the TEG’s call (TEG 2020a: 19) to include more sectors and activities in the Adaptation Taxonomy. We recommend focussing on activities surrounding the topics just mentioned.

5 Next steps

To support the institutions in charge of finalising the Taxonomy and rolling it out as well as those who will have to disclose against the Taxonomy, we would like to undertake activities along all of the following three pathways:

A. Sharing and discussing our views with experts on adaptation and sustainable finance across Europe

B. Presenting our findings to the Sustainable Finance Platform at a suitable point in time

C. Establishing a network of users or early adopters of the taxonomy

- 12/2020-03/2021: Identifying and contacting companies across Europe who will have to disclose against the Taxonomy (from different sectors, some but not only infrastructure operators) – we would like to get in touch both with companies that are particularly affected by climate risks as well as with companies who sell products or services that help with adaptation; When identifying suitable companies, we would primarily focus on companies that stand out for their good sustainability reporting, as we assume that they would be more likely to have the capacity and interest in such an exchange.

- 04/2021-05/2020: Using bilateral exchanges and at least two events (face-to-face or virtual) to learn about the questions and support needs of companies who will have to use the Taxonomy. We want build a group of committed companies whose feedback could then inform the development of the platform and the support structures there. The concrete outcomes of this activity (product-wise) is difficult to determine at this point as this will depend on the interest and needs of the businesses involved. But, aside from recommendations on the platform, we envision compiling recommendations to companies for the application of the taxonomy. Depending on the available time, we can also envision assisting with and documenting a pilot application of the taxonomy.
6 References


