Nuclear Energy in the Article 6 of the Paris Agreement

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Introduction

Article 6 of the Paris Agreement PA [1] calls for international cooperation. Specifically, its first paragraph reads: “Parties recognize that some Parties choose to pursue voluntary cooperation in the implementation of their nationally determined contributions to allow for higher ambition in their mitigation and adaptation actions and to promote sustainable development and environmental integrity.”

In this paper, it will be claimed that Parties to the Paris Agreement could use nuclear power to cooperate and even to increase their nationally determined contributions NDC. Under Article 6 PA, Nuclear Power could be used in generating internationally transferred mitigation outcomes under Article 6 Paragraph 2 or as an integrated, holistic and balanced non-market approach under 6.8. While it also could be part of the mechanism under 6.4, this paper claims that addressing Nuclear Power under 6.2 as more compatible with the spirit of Article 6 PA as well as with the needs of the Parties to the Agreement. Also, this paper claims that nuclear energy could fit under 6.8 – as a more integrated and complete approach in mitigation as well as in adaptation.

Basing on the logic of the Paris Agreement, this paper develops operationalization criteria for incorporating Nuclear Power under the different paragraphs of Article 6 PA. The issues identified here can be used for Party or non-Party submissions to the subsidiary body of the United Nations Framework Convention on Climate Change UNFCCC under which technical negotiations are taking place.

1. Article 6 PA

Article 6 itself consists of a general clause and three distinct parts (this and all subsequent information based on [2]). The general clause in paragraph 1 covers all parts of the Article. Elements of this clause are the voluntary nature of any cooperation, the idea that it can extend to mitigation or adaptation actions, or the combination of both, as well as the commitment towards higher ambition, sustainable development and environmental integrity.

The three parts of the Article following the general clause are the provisions for the use of “internationally transferred mitigation outcomes” ITMOs (paragraphs 2 and 3), the establishment of a “mechanism to contribute to the mitigation of greenhouse gas emissions and support sustainable

development" (paragraphs 4 to 7), and the recognition of the "importance of integrated, holistic and balanced non-market approaches being available to Parties to assist in the implementation of their nationally determined contributions, in the context of sustainable development and poverty eradication, in a coordinated and effective manner, including through, inter alia, mitigation, adaptation, finance, technology transfer and capacity-building, as appropriate" (paragraphs 8 and 9).

While negotiations on the specificities of Article 6 PA still go on, independently from them, there is the question of which activities fall under them. Article 6 addresses international cooperation, which can take several forms. For example, it could rely on or use so-called "carbon markets" under 6(2-3) or 6(4-7), or it can take the form of exchange without commodification, under 6(8-9), for example in the realms of joint technology-development, multi- and supranational coordination of policies, or additional financing, inter alia.

Paragraphs 6(2-3) can be conceived as the "bottom-up" part of multinational cooperation. Under these provisions, Parties to the Agreement can engage in cooperation on their own terms. On the one hand, it is likely the bodies of the framework convention to elaborate fine-grained guidance with a semi-mandatory character regarding technical issues such as robust accounting and transparency; on the other hand, it is equally likely that their guidance on the scope of activities falling under 6(2-3), governance, environmental integrity and sustainable development will remain on a general level. The ultimate goals of cooperation under 6(2-3) remain open, since the cooperating Parties or the cooperation entities set goals independently from the framework convention; however, their outcome seems to be narrowed down to mitigation.

Paragraphs 6(4-7) are the "top-down" part of multinational cooperation. Most probably, their outcome will be a mechanism with centralized governance and granular rules, modalities, and procedures, which will be developed and managed under the framework convention. Decisions on which activities, programs, sectors, or technologies qualify to participate in the mechanism will most likely be made by a centralized body. This mechanism serves towards multiple goals: mitigating greenhouse gas emissions, fostering (sustainable) economic development; and delivering overall mitigation in global emissions; its seems, therefore that there is a necessary mitigation component as well as – at least – adaptation co-benefits.

Paragraphs 6(8-9) are the "non-market" component of international cooperation under Article 6 PA. They are much more open concerning what can occur under them an and how they are governed as well. While the other two parts are more geared towards mitigation, these paragraphs are explicit in including adaptation as well as the public sector. Aside from questions of accounting and transparency, much of the common ground in negotiations is that these paragraphs do not necessitate further definitory work under the framework convention, but will develop with their continued implementation "on the ground". The goals of these paragraphs can be mitigation as well as adaptation.

2. Nuclear Energy under Article 6 PA

Article 6 PA concerns international cooperation. This paper, therefore does not discuss how nuclear energy can be domestically used for fulfilling NDCs or increasing NDC ambition. This papers argues that nuclear energy can additionally serve as the object of international cooperation under the Agreement. This claim is based on a large number of NDCs being open to international cooperation, and international cooperation usually having a finance-component as well as a component of technology transfer.

For most countries / Parties willing to consider nuclear energy as an instrument in climate policy, some sort of international transfer will be necessary because of their lack of financial means and technology, as well as due to potential for capacity-building regarding grid, energy and efficiency policies, which comes with the process of adopting and scaling-up nuclear energy.

3. Nuclear Energy under 6(2-3)

Paragraphs 2 and 3 of Article 6 PA are likely to enable a diversity of different international, multilateral cooperation mechanisms. This part of Article 6 is concerned with mitigation under a nationally determined contribution (NDC). Different safeguards apply here, for example environmental integrity and sustainable development. The content of the guidance is still being elaborated. In any case, for nuclear energy to fit under these provisions, the following points need to be addressed – they are largely based on [3]:

- The use of nuclear energy leads to mitigation outcomes, which are within the scope of the country/Party's NDC and can be metricized.

- Nuclear energy contributes to achieving sustainable development goals (SDG) [4]. In the social pillar, it contributes to the addressing needs such as electrification of economies and households, leading not only to reduced carbon dioxide (-equivalent) emissions, but also to increased comfort, health-standards, human development et al. In the economic pillar, nuclear power contributes to the security of energy supply, local employment and technological development, all of them facets of accumulation of capital. Furthermore it also leads to lower energy prices which especially benefit local employment and the poorest households. The environmental contribution of nuclear energy bases on its environmental integrity as well as diminished impact on natural ecosystems.

- Nuclear energy is environmentally integer because in addition to reducing carbon dioxide (-equivalent) emissions it impacts less on different aspects of the ecosystems, such as land use and wildlife maintaining biodiversity. This lesser impact occurs in comparison to other technologies used at comparable scale. While there are concerns about water use and waste, these can be addressed in equally integer manner. Similar concerns regarding environmental integrity apply to all forms of energy generation and use.

Some of the strengths in including nuclear energy under 6(2-3) are the clear mitigation outcomes it generates and therefore their relatively easy metrication. Also, nuclear power generation faces fewer legitimacy-related problems as an instrument for reducing carbon dioxide (-equivalent) emissions, especially when compared to other ways of generating electricity on a large-scale.

Some of the weaknesses in this approach are the constraints of the mechanism per se: The units generated can only be exchanged within a multilateral agreement. Because of the political concerns involving nuclear power, mitigation units going back to nuclear energy face potential political resistance about being included in a multilateral trading scheme. The problem of political resistance is the argument for including nuclear power under bi- and multilateral instruments (6.2) rather than under global instruments (6.4).

Another weakness of this approach is that it reduces nuclear energy to mitigation. Reducing nuclear energy to mitigation disregards many of the social and environmental advantages it could bring to its adopters.

4. Nuclear Energy under 6(8-9)

Paragraphs 8 and 9 of Article 6 PA address a broad scope of actions. First, it considers adaptation and mitigation as equal goals that can be combined. Second, it is open to both, public and private agents. And third, it combines mitigation and adaptation with yet other areas for climate-action, such as finance, technology transfer and capacity building, as deemed appropriate by the individual country/Party and its eventual cooperation partners. In any case, for nuclear energy to fit under these provisions, the following points need to be addressed – they are largely based on [4]:

- The use of nuclear energy leads to mitigation outcomes and adaptation; it generally is organized as public-private-partnerships and it sets in motion flows of finance and technology, including the

mobilization of local and endogenous technologies. In this sense, it fulfils most of the criteria of paragraphs 8 and 9 – criteria that were not conceived as cumulative, but could be cumulatively fulfilled by nuclear energy.

- Nuclear energy could contribute to enabling opportunities for coordination across instruments and relevant institutional arrangements. For example (1): when deploying or scaling up nuclear energy, often regulations and organizations have to be updated, too; this opens windows for introducing energy-efficiency, cross-sectional and other provisions into the market-architecture. Or (2): when deploying or scaling up nuclear energy, transformational opportunities for the local economy might be identified, such as reviewing the distribution grid making it more efficient and less prone to disturbances, opening new economic sectors and activities, or making electrification of households or mobility possible. And (3): The adoption of nuclear energy leads to international cooperation in matters of finance, be it as loan guarantee, reducing market risk, or equity stakes, among others.

- The implications of nuclear energy for sustainable development and environmental integrity, as they were discussed above in section 3, also apply here. In fact, it is the relationship between nuclear energy and sustainable development as well as environmental integrity that makes nuclear able to combine mitigation and adaptation. Cumulating different desiderata of these paragraphs, nuclear energy could be conceived, here, as an enabler of strong sustainability, which allows for exchange of natural capital for human and technological capital.

The strength of this approach are the openness of paragraph 8 and 9 to the multifaceted nature of the adoption and scaling up of nuclear energy. This corresponds to the open texture of adaptation [5]. Through this, nuclear energy can better be understood as an instrument contributing towards the achievement of a variety of goals. It especially enables a strong approach to sustainability via adaptation. Also, since it is probable that these paragraphs will be less the object of further negotiation under the framework conventions, the quicker their implementation can occur.

The weakness of treating nuclear energy here are future problems that might arise due to the lack of methodologies, especially for counting and accounting, comparing, as well as transparence. Also, the meaning of the word “holistic”, which is featured in the text of the paragraph, remains little understood.

Conclusions

This essay developed a series of arguments for including nuclear energy in international cooperation under Article 6 PA. It took an approach favoring arguments for including nuclear energy under paragraphs (2-3) and (8-9). This paper is not as a stand-alone, but a guidance about which arguments could be make when submitting input to the further negotiations of Article 6 PA.

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