



Stakeholder Communication Form (Version 01.0)

This form shall be used for any CDM-related communication with the UNFCCC secretariat or the CDM Executive Board. All the questions are mandatory unless otherwise indicated.

The completed form and any supplemental documents shall be submitted electronically to cdm-info@unfccc.int, or via fax to +49-228-815-1999 or via post to: Sustainable Development Mechanism (SDM) Programme, UNFCCC secretariat, P.O. Box 260124, D-53153 Bonn, Germany.

SECTION 1: COMMUNICATION HEADER

Please provide your contact information.

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Stakeholder Type: CDM Focal Point (FP) If other:

Please indicate from whom you would like to get an answer.

This communication is addressed to¹: Chair of CDM Executive Board (normal track)

SECTION 2: PROJECT ACTIVITY OR PROGRAMME OF ACTIVITIES (PoA)

If this communication refers to a specific CDM project activity/PoA, please answer questions in this section (otherwise proceed to Section 3).

Project/PoA Ref. Number If applicable, CPA Ref. Number:
5-digit# format 01234 *8-digit# format 0123-4567*

Project Cycle Stage [Choose an item] If other:

If there is no specific CDM Reference Number, please answer the remaining questions in this section (otherwise proceed to Section 3).

Host Country(ies)

Project/PoA Title

Technology Type [Choose an item] If other:

SECTION 3: YOUR COMMUNICATION

Title/Subject
Maximum 250 characters Request to reconsider the assessment of NM0378 - "green plastics"

Communication Text
Include background, details, and conclusion (unlimited length)

This communication aims to request the EB to reconsider and to provide further guidance to the Meth Panel regarding the assessment of NM0378 (Use of renewable sources of carbon instead of fossil sources in the production of thermoplastic resins and its components). In short, the key reasons for the rejection of the methodology were (as stated in the Final Recommendation Form):

a) The Methodologies Panel considers that the proposed methodological approach would involve claiming emission reductions for the sequestration of carbon to produce the thermoplastic resins, while the modalities and procedures of the CDM do not cover such activities.

b) Further, it is unclear how baseline emissions could be claimed from the production of fossil-based thermoplastics, considering that in the baseline thermoplastics would not release emissions

¹ In accordance with the "Procedure: Direct communication with stakeholders" (version 02.0), stakeholders may address communications either (a) to the secretariat, in order to seek a fast-track technical or operational explanation regarding the implementation of existing CDM rules, or (b) to the CDM Executive Board, in order to communicate to the Board their views on CDM rules and their implementation, or to seek official clarifications of CDM rules.

into the atmosphere within a crediting period of 10 or 7 years (renewable up to 21 years).

As the methodology proponents, before starting the methodology development process, we have sought to assess the concept of the proposed climate benefit in light of its physical consistency, as well as of the background of documents and parameters provided by the vast body of methodologies, guidance and principles applied throughout CDM history. Within this process, we have identified a very strong connection between the proposed NM0378 and AM0027, which basically adopts the same concept when justifying the generation of CERs.

Although AM0027 addresses inorganic compounds and a residual off-gas, the concept of the associated climate benefit is fundamentally the same or very similar in nature. In our view, the approval of such a concept in a CDM methodology meant that the discussion on its merits had already taken place within the EB/CDM system. Hence, we have built upon such a rationale to help demonstrating a similar type of climate benefit, although in an industry that may in fact generate a substantially larger mitigation opportunity.

However, given the recommendation by the Meth Panel, despite the approved status of AM0027, it seems that there is also room to interpret that the concept proposed by NM0378 is not fully consistent with CDM M&P. As the methodology proponents, we have the impression we may be at a grey zone, with possibilities for different types of interpretation.

We are very confident that the proposed concept is fully consistent with all the principles of physics, which determine a climate benefit. We honestly believe it could be currently applied in the CDM system for the reasons that are summarized below. In our view they could respond to both of the reasons for rejection mentioned in the Final Recommendation by the Meth Panel, as long as the EB provides guidance for the proposed interpretation. We therefore kindly request the EB to assess the topics presented below in connection with the proposed NM (please also refer to the supplemental documents in the next section of this form, for further details):

Regarding reason for rejection (a): "CDM M&P do not cover claiming emission reductions for the sequestration of carbon to produce thermoplastic resins":

(i) Throughout CDM history and by analysing the CDM M&P, one may notice that the term "emission reduction" is not only used for the cases when a molecule that was being emitted to the atmosphere is no longer emitted, e.g. when the fossil sources of a thermopower plant (active emission source) are replaced by renewable sources. If the interpretation of "emission reductions" under the CDM M&P were restricted to cases such as those, other project activities based on "emission avoidance" would have never occurred, e.g. a new renewable-based power plant, or new industrial facility based on innovative technologies. In these cases, emissions are not reduced but avoided. Even though the term "avoided emissions" does not appear in the CDM M&P they are deemed to be equivalent to "emission reductions", which is basically the rationale suggested by NM0378.

(ii) In this context, we understand the term "sequestration of carbon" does not need to be interpreted in a strictu-sensu basis to comply with the types of climate benefits covered by the CDM M&P (i.e. the term sequestration solely restricted to the cases of removals through afforestation or reforestation or to CCS, as explicitly mentioned by the CDM M&P or by further guidance provided by the CMP). In fact, it is worth recalling that the climate benefit under NM0378 may occur through emission reductions, for example in the cases where thermoplastics are incinerated. When incinerated, the emission reduction becomes obvious since the carbon emitted to the atmosphere will be renewable (bio-based) instead of the fossil based.

(iii) If, somehow, the thermoplastics are not incinerated, the carbon will be stored permanently in the product by definition, generating exactly the same climate benefit, (please check explanation in the supplemental documents section). Hence, even though the emission reduction becomes more explicit in the case of incineration, at least the same climate benefit occurs in the cases where incineration does not occur. In fact, the climate benefit occurs before incineration and regardless of such. Incineration just marks the period of time when the fossil equivalent molecule would have returned to the atmosphere, but it does not represent the climate benefit, since it is physically determined by the moment when the reduction in the concentration of GHG in the atmosphere has taken place. In other words, in the case of NM0378, the climate benefit occurs at the production facility, regardless of the final destination of the product and whatever the terminology used for such a climate benefit, e.g. emission reduction, permanent removal (not subject to the risk of non-permanence, as explained below), storage in product, emission avoidance or carbon sequestration).

(iv) Considering the three points presented above, including the one on the flexibility of terminology to define "emission reductions", we believe there might be room for the CDM EB to allow for the interpretation of the climate benefit proposed under NM 0378 as part of the category

of “emission reductions”. In short: (i) it may actually be, as per the case of incineration, (ii) if it is not incinerated, the carbon uptake from the atmosphere remains in the product, permanently generating a climate benefit 100% mathematically equivalent (please check the supplemental documents[1]), and (iii) there are many other cases or project and methodologies which generate climate benefits, such as the avoidance of emissions, even though such a term is also not explicitly mentioned in the CDM M&P.

[1]-There are two ways of addressing the lifetime of thermoplastics after their consumption: (i) a human-based scale, ultimately addressed by the GWP 100-year time scale, or (ii) a geological perspective, based on a broader time scale, which considers that any amount of oil extraction (basis of conventional thermoplastics) will be oxidized. This means that the non-permanence dynamics of both fossil and renewable thermoplastics are the same. In fact, the climate benefit generated by the renewable thermoplastics occurs immediately, since CO₂ is permanently removed during the production process that incorporates carbon into thermoplastics.

(v) For the avoidance of doubt, it is worth noting that the climate benefit claimed for the methodology differs from the cases of A/R and CCS activities, since there is no risk of non-permanence. In fact, in the case of reversals (disintegration of the molecules in the thermoplastic material) the climate benefit becomes even more explicit as it will fall under the category of “emission reductions”, such as in the case of incineration. That is also one of the reasons why we believe it would not be necessary to change CDM M&P or to create a new category of project activities just for this case.

Regarding the second reason for rejection (b) ...“in the baseline thermoplastics would not release emissions into the atmosphere within a crediting period of 10 or 7 years (renewable up to 21 years)”.

(i) Firstly, in the case of incineration, yes, thermoplastics could release emissions into the atmosphere within a crediting period. But, most importantly, by adopting the rationale suggested above, this point would not be a relevant issue, since the climate benefit physically (reduction in the concentration of GHG in the atmosphere) and mathematically occurs during the production of the thermoplastic. As such, the climate benefit remains on a permanent basis, either through the emissions avoided in comparison with incineration or through the permanent removal in case the molecules do not dissociate. As a matter of fact, the climate benefit would endure since day 1 of the crediting period. Therefore, the occurrence of the climate benefit in this case is not dependent on the disintegration of the fossil molecules in the baseline.

(ii) As a reference to the EB, since the beginning of the submission process, we have basically incorporated all the other types of feedback we have obtained from the Meth Panel, including references to many tools and other matters. We are confident that if the EB provides the guidance requested through this communication, the rest of the methodology will be already in a good shape for approval.

At last, we would like to emphasize the following points which, although less technical, are equally important for us, since they are part of the short-term investment decisions regarding the proposed NM and potential project activities:

(i) The proposed NM addresses an innovative and sustainable alternative to decarbonize one of the largest production complexes at the global level, i.e. oil-based thermoplastics, with potential positive impacts throughout a structural supply chain in the global economy. We believe the proposed concept provides a sound mitigation alternative in a time where the urgency of the climate crisis is increasingly recognized, with a pressing need for the deployment of carbon-negative solutions, capable of enabling a carbon-neutral economy by mid-century.

(ii) As entrepreneurs, the recognition of the carbon value of the proposed alternative under NM078 will have a pivotal and immediate role in large-scale investment decisions we (and very likely others) need to make in the short term, which in turn will be locked-in for years, given the scale and type of investment. The recent double impact of the crisis in oil prices (baseline situation even more attractive) and covid-19 have made the overall context for such types of investment decisions ever more challenging. Although, both of these crises may be faced as temporary, the uncertainties they both unveil pose a substantive additional challenge for short and medium term decisions. The role of carbon has become even more sensitive for us.

(iii) We are aware of the end of the second commitment period of the Kyoto Protocol as well as of the negotiations regarding the transition of the CDM into Article 6.4 (A6.4) of the Paris Agreement. We understand this process may have several implications. However, considering the urgency with which we have to address several investment decisions, we will very much appreciate the opportunity of moving forward with the process triggered under NM0378. We are also confident that methodologies and project activities related to it are likely to be transitioned into A.6.4. We

	<p>know these processes take time under the UNFCCC system and hence our decision to keep working within the system in place (CDM), keeping the proposed new methodology alive in the CDM pipeline, which could save precious time for us and others in future investment decisions with direct impacts on climate change.</p> <p>Respectfully, as the ultimate body for providing interpretation on the CDM M&P and related CMP guidance, we believe the CDM EB has the authority to clarify the situation. We would then kindly request the Board to assess the possibility of (i) indicating that the proposed concept may be currently accepted within the CDM system, since the climate benefit is 100% equivalent to the effect of emission reductions and, if necessary, (ii) requesting the Meth Panel or other bodies within the UNFCCC system to indicate the conditions upon which the concept could applied, with a view of adopting such a methodology.</p> <p>Thank you for the opportunity of communicating directly and we look forward to hearing from you. We also would like to specially thank the CDM Secretariat Team for promptly clarifying all the procedural aspects and helping with the communications and feedback throughout the entire submission process.</p> <p>With our best regards,</p> <p>The NM0378 drafting team.</p>
Supplemental Documents <i>If applicable, list the title(s) of any attached file(s) or link(s)</i>	File "SUB_200424_SupplementalDocuments_NM0378": supplemental document regarding the request to reconsider the assessment of NM0378
This communication may be made public	Yes

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
01.0	02 March 2015	This form supersedes and replaces the following: <ul style="list-style-type: none"> • F-CDM-RtB: <i>Form for submission of Letters to the Board</i> (version 01.2) • F-CDM-RtB-DOE: <i>Form for communication on policy issues initiated by AEs/DOEs</i> (version 01.1) • CDM-RtB-DNA: <i>Form for communication on policy issues initiated by DNAs</i> (version 01.1)

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**Supplemental document accompanying
the “Stakeholder communication form” (version 01.0) for NM0378**

Supplemental document regarding the request to reconsider the assessment of NM0378 - “green plastics”.

Note to the EB: Table 2, presented below, has been extracted from the methodology text and, together with observation 1 at the end of it, helps explaining the concept proposed under the NM0378.

Table 2: Emissions balance in the “renewable C activity”

		Does the thermoplastics release CO₂ after the production phase?	What happens to emissions in the project activity scenario?	What would happen to emissions in the baseline scenario?	Emissions balance, from the difference between baseline and project emissions
Project scenario with renewable source and baseline scenario with fossil source	SITUATION 1 With dissociation (e.g. incineration)	Yes, molecule dissociates, and CO ₂ is emitted to the atmosphere after the production phase	CO ₂ emissions occur and are carbon neutral (net emission is zero)	Fossil CO ₂ emissions would occur (net emission would be positive)	Emissions reductions occur due to the avoidance of fossil CO ₂ emissions, hence decreasing the concentration of GHG in the atmosphere
	SITUATION 2 Without dissociation	No, molecule does not dissociate, and CO ₂ is not emitted to the atmosphere after the production phase, but is permanently removed during the production process	CO ₂ from atmosphere is permanently removed by the molecule (net emission is negative)	Fossil CO ₂ would remain in the molecule (net emission would be zero)	Emissions reductions 100% equivalent to Situation 1, due to the permanent removal of CO ₂ from the atmosphere by the molecule. It decreases concentration of GHG in the atmosphere by at least the same amount with no risk of non-permanence (reversal would lead to “Situation 1”, i.e. a redundancy that leads to the same climate benefit).

1. Please note that, switching from one situation to the other does not affect the net emission reductions of the project, as it may be assumed that the afterwards of the production phase in the baseline would be the same as in the project activity. It means that, even if CO₂ is released after the production phase, in the project activity scenario, it would also happen in the baseline scenario and vice-versa. Thus, the emissions reductions would be the same, independently of the situation occurring in the downstream phase.

Note to the EB: the following general explanation and Table 3 have been provided separately (not included in the official methodology text) with the demonstrating the equivalence of both situations:

2. The following topics facilitate the understanding of the rationale proposed by the new methodology:
3. 1) The proposed new methodology is already restricted to cases where the same molecules are synthesized by use of the fossil or renewable alternative, i.e. baseline and project scenarios do not change the use/functions of the product. Therefore, what happens after the production process does not change in the baseline and in the project scenarios. In other words, since they are the same molecule, what happens in the downstream process is not relevant for the determination of monitoring provisions and most importantly for the climate benefit, as illustrated by Table 2 above. This condition is crucial for the understating of the complete equivalence of both situations:
4. a) **Situation 1:** If fossil-based thermoplastics are incinerated at the end of the lifecycle, carbon emissions would occur, increasing the concentration of GHG. The incineration of the renewable-based thermoplastics (same molecules, as explained above) would also result in emissions, which are, however, carbon neutral by definition. Hence, the concentration of GHG in the atmosphere is reduced in comparison with the incineration of fossil based.
5. b) **Situation 2:** Thermoplastics are not incinerated at the end of the lifecycle, i.e. they do not dissociate, for example in a landfill. In this case, the quantified climate benefit is 100% equivalent to Situation 1 for the following reasons:
6. i) If the biobased thermoplastics do not dissociate, it means that they generated the permanent removal of CO₂ from the atmosphere, decreasing the GHG concentration immediately (as the production takes place). The climate benefit is not dependent on any further downstream actions and, as such, there are no implications for crediting periods. Quantitatively, the climate benefit is at least the same as in Situation 1 (same molecules, as explained above). If they eventually dissociate, the effect would also be the same as in Situation 1 (incineration¹). Hence, on a logical basis, the risk of non-permanence is not applicable and, by definition, it does not affect the climate benefit: permanent remission reductions and permanent reduction in the concentration of GHG, regardless of the direction of the carbon flow (avoided or permanently removed, because reversals/non-permanence is 100% equivalent to incineration/avoided emissions, a redundancy that ensures physical equivalence).
7. ii) Since the climate benefit generated under Situation 2 is 100% equivalent, physically and mathematically, to the emissions reductions under Situation 1 with zero risk of non-permanence, it is consistent with the CDM Modalities and Procedures. Other approaches, such as A/R and CCS activities differ because they imply a clear risk of non-permanence,

¹ There are two ways of addressing the lifetime of thermoplastics after their consumption: (i) a human-based scale, ultimately addressed by the GWP 100-year time scale, or (ii) a geological perspective, based on a broader time scale, which considers that any amount of oil extraction (basis of conventional thermoplastics) will be oxidized. This means that the non-permanence dynamics of both fossil and renewable thermoplastics are the same. In fact, the climate benefit generated by the renewable thermoplastics occurs immediately, since CO₂ is permanently removed during the production process that incorporates carbon into thermoplastics.

which explains the special provisions to address these activities under the CDM. As explained before, the “risk of non-permanence” in the case of bio-based thermoplastics would not damage the climate benefit generated by its production. On the contrary, the “risk of non-permanence” of the bio-based thermoplastics would automatically make its climate benefit 100% equivalent to the emission reductions accomplished through incineration.

8. An integrated analysis of the topics presented above leads to the conclusion that, as long as the baseline and project scenarios involve the production of the same products (same molecule), the discussion of what would happen to the thermoplastic materials after the production is not relevant to the emission reductions enabled by the project. This conclusion may be even stronger than the one previously reached by the CDM Executive Board when approving AM0027, since the potential climate benefit under the proposed methodology may occur on a larger scale, as it is directly related to the manufacturing of a chemical product, whose production is almost entirely based on fossil sources.

Table 3: Demonstration of the mathematical equivalence of Situations 1 and 2.

	SITUATION 1			SITUATION 2		
Baseline	X ton thermoplastic	EF (fossil): 44*(N/M)	X * EF = Y ton CO ₂ e released to atmosphere	X ton thermoplastic	EF (fossil): 44*(N/M)	X * EF = 0 ton CO ₂ e
Project	X ton thermoplastic	EF (renewable): 44*(N/M)	X * EF = 0 ton CO ₂ e released to atmosphere (renewable source)	X ton thermoplastic	EF (renewable): 44*(N/M)	X * EF = -Y ton CO ₂ e incorporated from atmosphere (permanent removal equivalent to emission reductions since there is no risk of non-permanence) Y = - Y
Emission Reduction	Y - 0 = Y ton CO ₂ e			0 - (- Y) = Y ton CO ₂ e		

9. The quantity of carbon in the thermoplastics of both fossil or renewable origin is the same, as shown by the circled expression in Table 3 above.

Note to the EB: For more information please refer to the full set of NM0378 documents, available at: <https://cdm.unfccc.int/methodologies/PAmethodologies/pnm/byref/NM0378>