**Management response to the Midterm Review of PIMS 4675 - Production of sustainable, renewable biomass-based charcoal for the iron and steel industry in Brazil*[[1]](#footnote-2)***

Project Title: Production of sustainable, renewable biomass-based charcoal for the iron and steel industry in Brazil

Project PIMS #: 4675

GEF Project ID (PMIS) #: 4718

Midterm Review Mission Completion Date: July 26th, 2019.

Date of Issue of Management Response: December 2019 (reviewed on June 2020 in light of new Workplan agreed between project counterparts – UNDP, MMA and ABC)

Prepared by: Paula Silveira, Project Manager (UNDP); Mônica Conceição, Technical Adviser (UNDP); Cláudia Câmara, Technical Analyst (UNDP), Carmen Moreira (former coordinator/ MMA)

Contributors: Haroldo Machado Filho, CO Focal Point (UNDP)

Cleared by: Ludmilla Diniz, RTA, UNDP/GEF

**Context, background and findings**

1. The Project: Production of sustainable, renewable biomass-based charcoal for the iron and steel industry in Brazil has the has the objective to reduce the greenhouse gas emissions from the iron and steel sector in the Brazilian State of Minas Gerais, by (i) developing and demonstrating enhanced, clean conversion technologies for renewable, biomass-based charcoal production, and (ii) implementing an effective, supportive policy framework.
2. The main objective of the Mid-term Review (MTR) was to assess progress towards the achievement of the project objectives and outcomes as specified in the Project Document (PRODOC) and assess early signs of project success or failure with the goal of identifying the necessary changes to be made in order to set the project on-track to achieve its intended results.
3. Progress towards objective: At the time of the MTR significant progress has been made toward achieving the project objective, “development and demonstration of enhanced, clean conversion technologies for renewable, biomass-based charcoal production, supported by an effective policy framework.” This statement is supported by the: (i) the implementation of proposals supported under the tender mechanism (7 proposals from 5 companies under execution); (ii) two kiln-furnace system demonstration units (UDs) installed and in use by producers within commercial sites in Zona da Mata region (small producer) and in Northwest of Minas Gerais (medium sized producers), respectively; (iii) the initial results of increase of gravimetric yields for both small and large charcoal producers (ranging between 32 and 36 % dependent on specific technology and scale of producer (still to be confirmed by audit); and (iv) projections of GHG emission reductions to be achieved by EOP. In light of the two planned additional proposals to be supported under the tender mechanism target emissions reductions are likely to continue to grow. The first call is aimed at supporting small producers to adopt better Federative Republic of Brazil Production of Sustainable, Renewable Biomass-based Charcoal for the Iron and Steel Industry in Brazil kilns and production processes.
4. However, the MTR reports that progress towards achieving the policy target is less clear. The target of a “strategy” contributing to a policy regulatory framework in support of renewable charcoal use in MG (confirmed by the target in the METT) is relatively straight-forward. It is also clear that the Project has contributed to elements that would likely be included in any such strategy. Unfortunately, it is highly unlikely that the Project will meet its target of leveraged capital investment of US$ 40 million in light of the loss of Fundo Clima and BNDES funding. However, this loss in co-financing was partially offset by participating company investment in financial and in-kind contributions to build/improve their commercial production facilities.
5. Progress towards outcome: Specifically, for Outcome 1, “with the exception of the policy indicator there has been substantial progress demonstrated through: (i) establishment of an operational MRV system supported by training that will migrate from the PMU to MMA before EOP; (ii) the development of methodologies to assess economic performance within the selected charcoal production value chains; (iii) two financial incentives consultancies (one still active) will assess the results of financial incentive schemes; and (iv) the establishment of two demonstrative units built and serving as bases for operational and structural studies carried out by University of Viçosa (UFV), which are scheduled to be concluded by September/2019.
6. For Outcome 2, progress at the time of the MTR has been marked by: (i) the on-going technology testing program; (ii) a new call for proposals from research and education institutions in Minas Gerais to build at least three additional UDs and link them to research and rural extension activities; (iii) the analysis and improvement of existing business models leading to cleaner, more efficient, charcoal production carried out during the first six months of 2019 and the development of additional business plans for using kilns-furnace system to be used in the project’s training program.
7. For Outcome 3, at the time of the MTR the main result from the tender mechanism was 7 proposals selected from 5 companies (Plantar, Rima, ArcelorMittal, Vallourec and PCE/Cossisa) of which three will complete their contracts and will deliver the results of GHG reductions emission and/or increase of gravimetric yield in the second semester of 2019. It is projected that tender mechanism supported companies will result in 300,315 tons/year of charcoal production capacity with the adoption of more efficient technologies. Similarly, technologies supported within the tender mechanism have been demonstrating progress towards achieving gravimetric yields higher than 33%.
8. Although, the principal barrier remaining to be faced by the Project will be to achieve the “enabling policy environment” required as one of the three legs of the stool that appears increasingly unlikely given the current institutional landscape and time and resources remaining in the Project.
9. About the Project Implementation and Adaptative Management, the MTR informs that the Project faced a number of external challenges that adversely affected the contextual environment in which implementation occurred, during its execution, such as: I&S economic crises, impeachment process (changes in federal ministries), exchange rate, 2018 elections, Brumadinho disaster, among others. Despite these not inconsiderable challenges, with the exception of the policy component, at the time of the MTR the Project appears to be well within reaching or surpassing its EOP targets. This seems to be due to the combined efforts of a smoothly function “coalition” of stakeholders consisting of the PMU, CAP, UNDP and a large number of representatives representing a range of sub-sectors.
10. Despite the delay in the beginning of the Project implementation, the progress towards the PO and Outcomes at the time of the MTR seems exceptional. Despite facing a “perfect storm” of challenges the PMU, together with support from the CAP, UNDP and partners were able to overcome most of these providing an excellent example of (near-continuous) adaptive management through time.
11. The MTR consultant found that the housing of the PMU staffed with GEF-funded consultants was an innovative approach to project implementation both for UNDP and GOB. The PMU proved to be particularly agile and was not burdened with time-consuming administrative procedures characteristic of working within large government bureaucracies.
12. During the MTR an analysis of risks identified in the PRODOC indicated that most are likely to remain through EOP at the same or in some cases a reduced level of probability. Two new risks to project sustainability identified for the remaining period of the Project (absence of an enabling policy framework in MG and reduced replanting of forest plantation in the state).
13. In conclusion, project objective and outcomes support a number of the SDGs, UNDP’s CPD and Brazil’s continued commitments to UNFCCC. At the project level, preliminary results stemming from the pilot technology activities supported under the Project, indicate that they have been successful in demonstrating that increased efficiencies are able to be achieved concurrent with contributing to improved socio-environmental conditions for small/medium charcoal producers. Nevertheless, the I&S sector is highly complex and there exist many conditions beyond the control of the Project that will determine whether these results can be scaled up and prove sustainable (e.g., general economic conditions, price of mineral coke, exchange rate risk, rival demand from cellulose market, etc.). These factors, together with the policy environment will likely be the main factors determining whether project objective and outcome prove sustainable.

**Recommendations and management response**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Midterm Review recommendation 1.** Policy Component. Framework strategy- it is unlikely to be “adopted” by Federal and/or MG governments in the remaining time before project closure. The report suggest that it will be recommended to redouble efforts, applying additional time, resources and the CAP together with other influential partners in the Project to see if a more permanent outcome can be achieved. | | | | |
| **Management response:**  It should be noted that discussions with CAP resulted in the decision to develop a more comprehensive strategy for the competitiveness of the Brazilian pig iron, steel and ferro-alloys sector based on the use of charcoal from planted forests. Therefore, longer-term results are expected to be obtained by fostering a market niche of the “green steel still unexplored in Brazil,” which is already valued by companies in the steel sector. In this context, efforts to develop the Strategy will be redouble, additional time to promote the Strategy actions will be employed, as well as actions with the MG government to internalize the Strategy's actions.  Attention will also be given to the dissemination of the Strategy’s preliminary text, which will be done in consultation with the main stakeholders in the iron and steel sector, in order to validate and improve it, giving credibility to its propositions  As reported in the PIRs, the charcoal-based industry strategy is not the only contribution that the project has in what regards implementing a policy framework to promote the use of renewable charcoal in the iron and steel industry. It should be highlighted that the project has contributed to the discussions which has resulted in the inclusion of renewable charcoal production incentives in the recently approved National Plan for the Development of Planted Forests in June 2019 (Plantar Florestas). The project has also supported partners in the discussions that resulted in DN 227/2018, the first Minas Gerais norm focused on charcoal production. DN 227/2018 establishes procedures to monitor and reduce atmospheric emissions of charcoal kilns from planted forests and to evaluate air quality in its surroundings. | | | | |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking[[2]](#footnote-3)** | |
| **Comments** | **Status[[3]](#footnote-4)** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1.1. Improve the communication component to guarantee larger participation of stakeholders in the discussions of the Strategy development. | Feb. – Dec. 2020 | UNDP CO  MMA | All meetings for the Strategy discussion had a large participation of representatives from civil society, academy, associations from I&S sector, as well as Federal and State government.  googovrengovernment | In Progress |
| 1.2. Strengthen project ownership within the organizations that comprise the CAP through project results presentation meetings. | Throughout project execution, with special attention to strategy elaboration period | CAP representatives | The CAP has been meeting regularly since the beginning of project implementation, which has ensured institutional security for the Project | In Progress |
| 1.3. Mobilize support from sector organizations (via Technical Forestry Chamber at the Ministry of Agriculture, for instance), to guarantee participation of higher-level decision-makers in the design and implementation of the charcoal strategy. | Throughout project execution, with special attention to strategy elaboration period | UNDP, with Ministry of Environment support | Direct contact has been maintained with the project partners.  The text of the Strategy was presented during the Ministry of Agriculture´s Forestry Chamber meeting (held in June 2020) and has received positive feedback. | In Progress |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Midterm Review recommendation 2.** Co-financing. It is clear that as a project objective indicator, the co-financing target will not be reached. Moreover, significant progress has been made to close the gap based largely on the cash and in-kind contributions of the participating I&S companies and the small/medium charcoal producing companies. Nevertheless, there is considerable evidence that many of the contributions of the partners are not being documented. The PMU should try to make estimates of project co-financing, not so much to attempt to meet (the unlikely) target, but to be able to show the level of interest among project stakeholders at the time of the TE. | | | | |
| **Management response:**  The PMU will implement annual collection of data regarding co-financing from main partners, not only by CAP members, but also partners who have supported the project in its implementation, such as EMATER/MG, SEBRAE/MG, Faemg System (including Senar/MG), and UFV.  In 2019, the co-financing in kind of each of these institutions was the following:  UFV - R$ 37,778.00  FAEMG (including SENAR/MG) – R$ 31,513.67  SEBRAE/MG – R$ 25,000.00  EMATER/MG – R$ 304,320.00  It is important to note that even though these institutions have no requirement to offer co-financing to the Project (as it was not predicted in PRODOC), as their participation is voluntary, they have offered in-kind co-financing (such as physical space, technical hours from technicians who participate in the field activities promoted by the project, support in events, as occurred in IUFRO 2019, coffee-break and dissemination of project actions).  Regarding CAP members, the updated co-financing (predicted in PRODOC) is as follows:    Ministério 2019 ACUMULADO USD  MMA R$ 956.880,00 R$ 3.710.760,00 R$ 678.383,91  MDIC R$ 389.519,11 R$ 1.558.076,44 R$ 284.840,30  MCTIC R$ 487.073,08 R$ 1.537.059,24 R$ 280.998,03  Gov. MG R$ 35.000,00 R$ 1.037.584,55 R$ 189.686,39  MAPA R$ 210.000,00 R$ 210.000,00 R$ 38.391,22  Total R$ 2.080.491,19 R$ 8.055.499,23 R$ 1.472.668,96 | | | | |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking** | |
| **Comments** | **Status** |
| 2.1. Revise co-financing template | December 2019 | UNDP CO | No comments. | Completed. |
| 2.2. Request co-financing data from all partners yearly. | Annually on February | UNDP CO | Request for update of counterpart values forwarded to project CAP partners and SEBRAE/MG, EMATER/MG, UFV, SENAR/MG and FAEMG. | Completed |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Midterm Review recommendation 3.** At the time of CEO Endorsement under Objectives 2 Energy Efficiency and Objective 3 Renewable Energy, project proponents projected reaching the following to be achieved by EOP: (i) policy/regulatory strategy adopted and enforced (5); (ii) establishment of financial facilities (e.g., credit lines) would be operationalized / funded and have sufficient demand (5); and (iii) institutional/human capacity utilized and sustained (5). At the time of the MTR, with the exception of capacity building target which was rated 3 (training delivered), all remaining categories were rated 1 with the exception of establishment of financial facilities in support of EE. Ratings at time of CEO Endorsement appear to be highly unrealistic, particularly for those targets that do not have an a priori baseline (i.e., it is very difficult to go from no policy to an adopted and enforced policy in 5 years). These EOP projections should be reviewed and revised accordingly. | | | | |
| **Management response**:  Project team agrees that the projection on the time of project design mainly regarding the (i) policy/regulatory strategy component is highly unrealistic, not only due to the lack of time (as the consultant argues the difficulty to go from no policy to an adopted and enforced policy in 5 years), but because a public policy enforcement depends on several factors that goes beyond the project competence.  Though it is known that the implementation of the Strategy cannot be assured by a technical cooperation project, all efforts are being made for the development of a public policy strategy, pointing out to several actions that should be taken for the development of the sector, as well as the indication of key actors for its implementation.  Regarding the (ii) establishment of financial facilities, despite the lack of investments leveraged, companies supported by the tender mechanism framework offered R$ 56 million in co-finance, which corresponds to six times the expected co-finance of the private sector in PRODOC (which was US$ 2.9 million). This partially compensates the unavailability of Brazil´s Climate Fund/BNDES resources for loans (US $ 25 million).  At this point of the project, due to time constraint and the political institutional changes, the process to review the EOP projections as recommended would be very time consuming in a moment that the reduced PMU staff need to give emphasis to the implementation the Workplan 2020/2021. Moreover, this kind of modifications is not encouraged by GEF. Yet it will not be possible to formalize the modifications in EOP projections, the adaptative management activities and realistic projections are being periodically reported in PIRs. | | | | |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking** | |
| **Comments** | **Status** |
| 3.1 Elaboration of a Strategy for the sustainability of the use of charcoal by the I&S sector, in partnership with the public and private sectors. | Jul 2019 –  Sept 2020 | UNDP CO/  CAP/  MMA | The objective to develop the strategy is to deliver a public policy proposal, not a public policy itself. It is also intended to raise the awareness of the Minas Gerais government in the adoption of the recommendations identified in the strategy.  The government of Minas Gerais has been effectively participating in the discussions of the strategy text. | In progress |
| 3.2 Report periodically on PIRs the projections on results and adaptative management activities. | At the time of PIR elaboration (Annually on June) | UNDP | No comments. | In progress |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Midterm Review recommendation 4.** Revision/clarification of Results Framework Targets. A review of the Project Results Framework at the time of the MTR with PMU indicated the following need to be revised/clarified: (i) PO indicator on policy regulatory framework; (ii) PO target for investment capital leveraged (US$ 40 million is not realistic); (iii) elimination of the PO target of indirect GHG emission reductions of 700 kton/yr (CCM-2); 200 kton/yr (CCM-3) due to lack of specification of the methodology used to calculate these numbers in the PRODOC; (iv) Output 1.1 on “detailed strategy adopted” by MG government; and (v) Output 1.4, it is unlikely that the Project will be able to “put in place” financial incentives. Failure to do so will just postpone the problem until the TE. | | | | |
| **Management response:**  Regarding the recommendation to review Project Log frame, it was not possible to do so because of time constraints as it need to go through a long discussion between partners and another submission for GEF approval, as there are specific GEF guidelines for changes in the logical framework, not highly encouraged. PO indicators, for instance, are not allowed to be modified in any case. All outputs that seems not possible to be achieved are described periodically in PIRs.  Another recommendation that was not approved by Regional Technical Advisor was the elimination of the PO target of indirect GHG emission reduction. The GHG indirect emission reductions will be measured as predicted on Workplan 2020/2021.  Regarding Output 1.4, the project team has visited many financial institutions, but the decision on which to open or not specific financing lines goes beyond the project competence, as this is an internal decision of the financial institution, which also depends on private sector actions to demand it. Even though no specific line of financing was opened for sustainable charcoal production, the project has achieved a counterpart of approx. USD 14,7 million from companies that have proposals approved by the bidding process. Therefore, commitment of partners companies has been able to resolve this issue partially. | | | | |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking** | |
| **Comments** | **Status** |
| 4.1 Finalize the strategy for the sustainability of the use of charcoal by the I&S sector, in partnership with the public and private sectors and academy. | Jul. 2019 – Sept 2020 | UNDP CO  CAP  MMA | Consultancy hired since July 2019 | In progress |
| 4.2 Hire an expert consultant to calculate the indirect emissions reductions of the activities supported by the project | Aug – Dec 2020 | UNDP CO | ToR in elaboration | In progress |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Midterm Review recommendation 5.** Project Extension. The Mission found that the Project will likely achieve an MMA-approved national strategic framework in support of sustainable charcoal in place by June 2020. However, for reasons detailed in the report it is not feasible to expect government “adoption” through a congressional approval national law (or even a state law) by EOP. In light of the importance of the policy component to the success of the Project the Mission strongly recommends consideration be given to approving a one-year extension (June 2020 – May 2021). | | | | | |
| **Management response:**  The extension request for additional 12 months was sent to GEF/UNDP on December 2019 (the maximum time for extension allowed), which has been approved on March 2020. Therefore, the Project extension is being formalized through a Substantive Revision in compliance with Brazilian Agency Cooperation guidelines.  The workplan 2020/21 was reviewed in order to include the present recommendations, considering the exit strategy and sustainability of the actions. | | | | | |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking** | | |
| **Comments** | **Status** | |
| 5.1 Request the project extension to GEF/UNDP (additional 12 months with no-cost extension). | Nov-  Dec/2019 | MMA/  UNDP CO | The Project Board (MMA / UNDP / ABC) held a Tripartite meeting defining the need to request a project extension. | | Completed |
| 5.2 Analyze the extension request. | Dec 2019 -April/2020 | UNDP GEF | The extension request was approved by GEF/UNDP. | | Completed |
| 5.3 Review Implementation Strategy and Workplan 2020/2021 with MMA recently appointed coordination. | March – June 2020 | MMA/UNDP CO | A series of virtual meetings had been taken between MMA, UNDP CO and Sergipe stakeholders for 2020 and 2021 Annuals Workplans. | | Completed |
| 5.4 Elaborate and approve Substantive Revision of the Project | April –  July 2020 | MMA, UNDP CO and ABC | Substantive Revision Project Document has been formalized by counterparties (ABC, MMA and UND). | | Completed |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Midterm Review recommendation 6.** Use of Excess Project Funds. Due to the exchange US$:R$ rate favoring the project there exists an estimated surplus of US$ 1.3 million. There is no shortage of good ideas how to use it (pilot activities linked to small/medium charcoal producer tender recipients such as charcoal certification, micro electricity co-generation, expanding UD to additional biomes, incorporating on-farm charcoal production into integrated farming plans). The Team may also want to consider using some of these resources to identify additional finance to carry-through the policy outcome (e.g. through preparation of a PIF/PPG for a GEF Medium-sized Project). | | | | |
| **Management response:**  The surplus resulting from exchange rate fluctuations will be applied in extending the range of the projects results, as per Workplan 2020/2021 agreed upon the Substantive Revision, as follows:  (i) expand its support to charcoal producers in Minas Gerais, as well as the possibility of promoting sustainable production of charcoal in other Brazilian states with significant production of charcoal;  (ii) expand the results of the project with the second call for technologies to produce charcoal with GHG reduction;  (iii) launch a call for proposal for the development of projects for the recovery and use of co-products from the carbonization process, such as: pyroligneous, tar, coal fines and smoke;  (iv) foster the implementation and monitor the internalization of the actions listed in the strategy to encourage economic, social and environmental sustainability of the Brazilian steel industry using charcoal;  (v) invest in actions to systematize the knowledge generated within the project and disseminate the lessons learned;  (vi) update and monitor the implementation of the MRV system, with training actions, update the system with new features, including support in the transfer of hosting and training for maintaining the platform for the competent government agency; | | | | |
| **Key action(s)** | **Time frame** | **Responsible unit(s)** | **Tracking** | |
| **Comments** | **Status** |
| 6.1 Launch the second call for proposals to small/medium rural producers to develop/improve sustainable charcoal production. | Aug 2020 - Apr 2021 | UNDP CO/  CAP/  MMA | This activity will also include technical support for the preparation of documentation, training materials, dissemination and to raise awareness among producers  This activity will be the focus until EOP, as it’s predicted approximately US$ 1.2 million of the remaining budget. | Pending |
| 6.2. Implement Workplan 2020-2021 agreed on Substantive Revision. | Aug 2020/  Apr 2021 | UNDP CO/  MMA | As the Workplan details the activities, responsibilities, timeframe, costs and chronogram, it will not be described in the Management Response. | In progress |

1. This template is in alignment with the [Management Response Template](http://web.undp.org/evaluation/handbook/documents/templates/Independent-Evaluation-Management-response.doc) for UNDP project-level evaluations in the Evaluation Resource Centre. [↑](#footnote-ref-2)
2. If the MTR is uploaded to the ERC, the status of implementation is tracked electronically in the Evaluation Resource Centre database (ERC). [↑](#footnote-ref-3)
3. Status of Implementation: Completed, Partially Completed, Pending. [↑](#footnote-ref-4)