

**MEMORANDUM OF UNDERSTANDING BETWEEN THE
FEDERATIVE REPUBLIC OF BRAZIL AND THE REPUBLIC OF
INDIA ON BIOENERGY COOPERATION**

The Government of the Federative Republic of Brazil

And

The Government of the Republic of India

(hereinafter referred to as the "Parties")

Convinced of the importance of pursuing and developing progress in bioenergy in order to increase its economic efficiency, strengthen its social benefits and reinforce sustainable deployment, contributing to sustainable development goals.

Aiming to intensify the already strong bonds between the two countries through bioenergy cooperation;

In view of the close work and collaboration by both countries in the Biofuture Platform initiative and in Mission Innovation Sustainable Biofuels Innovation Challenge initiative, to promote sound policy dialogue and research collaboration in the fields of bioenergy and the sustainable low carbon bioeconomy;

Appreciative of the several bilateral dialogue cooperation activities on bioenergy held in the recent past, including the exchange of technical visits, and the holding of a bilateral meeting on bioenergy cooperation in Delhi;

Noting the increasing interest by academia and private sector regarding biofuels and bioenergy cooperation, and the large potential for knowledge exchange and lessons sharing, considering both countries similarities and differences with respect to bioenergy and crop production, and transport and biofuels policies;

Agreeing that this Memorandum of Understanding expresses the willingness of both countries to cooperate on bioenergy; including biofuels;

Have come to the following understanding:

ARTICLE I

Objective

Through this Memorandum, the Parties will intensify their biofuels cooperation, based on the principles of equality and mutual advantage, to promote the production and use of biofuels, including ethanol, biodiesel, biokerosene and biogas, as well as suitable bioenergy and biomass-based co-products and by-products, taking into account the experience accumulated by both countries.

ARTICLE II

Reach and Modalities

1. The Parties agree to undertake joint activities and exchange of information, in accordance with their respective laws and regulations, in the following focus areas of interest, among others that can be agreed on by the Parties as decided by the Joint Working Group :

- (i) Exchange of information on sustainable biofuel production and use, including policies and regulations, and other related areas of interest;

- (ii) Dialogue, cooperation and investment promotion in biofuel, bioelectricity and biogas supply-chains, including feedstock, industrial conversion, distribution and end use sectors;
- (iii) Exchange of policies and practices for quality assurance and sustainability of bioenergy;
- (iv) Exchange of information on agricultural practices and policies regarding biomass for bioenergy, including sugarcane, corn, rice, oil-crops, and lignocellulosic crops;
- (v) Exchange of information on advanced technologies for bioenergy production, including lignocellulosic conversion and other advanced biofuels;
- (vi) Exchange of information on policies for reducing greenhouse gas emissions levels based on the use of biofuels, using cycle analysis and the issuance of emissions reduction certificates traded in an organized market;
- (vii) Exchange of information with respect to blending mandate laws and regulations, deployment strategies, and addressing implementation challenges;
- (viii) Exchange of experience on trade aspects and the promotion of a joint position to address market access and sustainability of biofuels, including advanced biofuels;
- (ix) Encouragement of the efficient use of biofuels, in particular bioethanol and biodiesel, and discussion on possible developments in sustainable biofuels for air and sea transport;
- (x) Optimization of blend ratios for top engine performance;
- (xi) Engine and fuel modifications / adjustments that may be necessary for different percentages of biofuels blended with fossil fuels;
- (xii) Selection of appropriate materials to match fuel system components with biofuels;
- (xiii) Sharing information on vehicular performance under different blending options and climatic conditions, and positive externalities in reducing greenhouse gas emissions and improving the environment;
- (xiv) Development of stabilizers, additives and denaturants, in particular for use in blends;

- (xv) Regulation and infrastructure needed by biofuels suppliers and distributors;
- (xvi) Exchange of Lab analysis and equipment necessary for determining blending levels;
- (xvii) Promotion of more efficient technologies in automotive vehicles; including ethanol-fueled electric cell for electric motors;

2. Cooperation under this Memorandum may take the following modalities:

- i. organization of workshops seminars and working groups, including through videoconferencing and other digital means;
- ii. organization of investment facilitation meetings and business roundtables;
- iii. technical and high level dialogue on policies, investments, and regulatory frameworks;
- iv. development of joint research or technical projects on subjects of mutual interest;
- v. exchange visits of Government officials and technical experts for sharing of experiences on renewable energy practices, policies, frameworks, incentives and technologies;
- vi. direct dialogue and coordination in related international fora and organizations, including the Biofuture Platform, the IEA, IRENA, BRICS and the G20 Energy Transitions Working Group, among others;
- vii. exploration of the possibility to cooperate in the creation of centers of excellence in bioenergy in both countries; and
- viii. other modalities as may be agreed upon by the Joint Working Group.

ARTICLE III

Joint Working Group

1. In order to coordinate the implementation of the above-mentioned focus and modalities, the Parties agree to establish a "Joint Working Group" (JWG) which will hold the following attributions:
 - (i) Agree on undertaking specific actions and projects in line with the priority area and modalities identified in this Memorandum;
 - (ii) Identify, designate, and / or encourage relevant entities in each country, including in the public and private sectors, to participate in supporting the implementation of agreed actions and projects;
 - (iii) Agree on, as needed, new areas and modalities for bioenergy cooperation;
 - (iv) Monitor and evaluate cooperation activities.
2. The coordination of activities, by the Brazilian side, related to this Memorandum of Understanding will be co-exercised by representatives designated by the Ministry of Mines and Energy and the Ministry of Foreign Affairs.
3. The coordination of activities, by the Indian side, related to this Memorandum of Understanding will be co-exercised by representatives designated by the Ministry of Petroleum and Natural Gas.
4. Each of the coordinator Ministries from each Party will formally designate one main and one alternate focal point to the JWG.
5. The four main focal points and four alternate focal points are listed in the Annex to this Memorandum, and can be updated at any time via formal written communication by any of the Parties.
6. The JWG shall prioritize the use of electronic communication to conduct its work. Videoconferences and video calls may also be used.
 - (i) The JWG can hold face-to-face meetings as deemed necessary, on the margins of international forums attended by the two Parties.

(ii) Face-to-face meetings of the JWG in Brazil or in India may be convened at any time, by mutual agreement.

7. In implementing its work, the JWG can invite or mobilize, as part of its agreed actions, members from Government agencies, scientific institutions, research centers, universities, business associations, companies, or any other entity, as and when considered essential.

ARTICLE V

Intellectual Property and Information Protection

Aspects of intellectual property rights and information protection, wherever applicable, shall be subject to specific negotiations that take into account the national law of both countries and international standards accepted by both countries.

ARTICLE VI

Participation Costs

Expenses for all activities under this MoU shall be borne by the participating agencies, in accordance with their own allowances, plans, and regulations, as well as with mutually agreed conditions.

ARTICLE VII

Amendments

Amendments or modifications to this Memorandum of Understanding shall be made at any time by mutual consent of the Parties and shall be valid when made in writing by the Parties or their authorized representatives and when specifically providing that they constitute amendments to this Memorandum of Understanding.

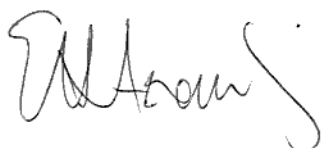
ARTICLE VIII

Final Dispositions

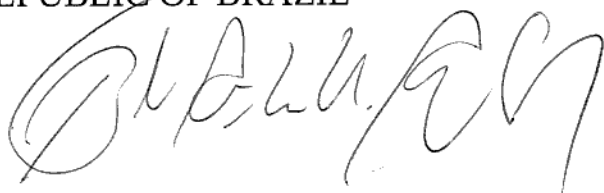
1. This Memorandum of Understanding will enter into force on the date of its signature and will remain in force until formal and express manifestation to the contrary by one of the Parties.
2. This Memorandum of Understanding does not imply binding or onerous commitments by either Party.
3. This Memorandum of Understanding may be terminated by either Party upon notification to the other Party. The termination will be concluded 90 (ninety) days after receipt of the termination communication by the other Party.

IN WITNESS WHEREOF the undersigned being duly authorized thereto have signed this MoU

Signed on January 25th, 2020 in two original copies, in the Portuguese, Hindi and English languages, all texts being equally authentic. In case of any divergence in interpretation, the English text shall prevail.



FOR THE FEDERATIVE
REPUBLIC OF BRAZIL



Ernesto Araújo
MINISTER OF FOREIGN AFFAIRS
BENTO ALBUQUERQUE
MINISTER OF MINES & ENERGY



FOR THE REPUBLIC OF INDIA
DHARMENDRA PRADHAN
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