

MEMORANDUM OF UNDERSTANDING  
BETWEEN  
THE GOVERNMENT OF INDIA  
AND  
THE GOVERNMENT OF FEDERATIVE REPUBLIC OF BRAZIL  
FOR TECHNOLOGY COOPERATION  
IN THE FIELD OF BLENDING OF ETHANOL IN TRANSPORT FUELS

The Government of the Republic of India  
and  
The Government of Federative Republic of Brazil  
(hereinafter referred to as the "Contracting Parties")

Desiring to enhance traditional ties of friendship between the two countries through cooperation on technology research and development;

Recognizing the advantages to be derived by their respective peoples from the promotion of such cooperation, particularly in the field of blending of ethanol in transport fuels;

Noting that the Federative Republic of Brazil have already implemented blending of ethanol with gasoline and are experimenting on blending of ethanol with diesel;

Noting further that Government of India are in the process of examining the feasibility of blending of ethanol in gasoline and in diesel;

Have agreed as follows:

ARTICLE I

The Contracting Parties shall enhance their cooperation in the field of ethanol blending with transport fuels, on the basis of equality and mutual advantage, and identify desirable areas of cooperation, taking into account the experience gained by subject experts and the possibilities available.

## ARTICLE II

In furtherance of such cooperation, the Government of Brazil agree to share the technology for blending of ethanol in gasoline and diesel and give consultancy on the following areas of interest:

- i) optimization of blending ratios for best performance with minimum adjustments/modifications on engines;
- ii) modifications/adjustments required in the engine and fuel system of the vehicles for using ethanol blended gasoline/diesel at different ratios;
- iii) selection of appropriate materials for fuel system components compatible with ethanol;
- iv) performance of vehicles with different blends/climatic conditions and the impact on auto emissions/environment;
- v) development of stabilizers/additives/de-naturants particularly for use in ethanol-diesel blends;
- vi) infrastructure to be provided at supply locations and at retail outlets;
- vii) lab tests to be carried out for determining the blending ratio and testing equipment to be provided;
- viii) consider any other area related to blending of gasoline/diesel with ethanol and use of blended products as auto-fuels.

## ARTICLE III

1. This Memorandum of Understanding shall be realised on the basis of implementation programmes signed periodically, but not less frequently than one for two years. These implementation programmes shall specify the range, subject and forms of cooperation including financial terms and conditions.

2. The implementation of this Memorandum of Understanding shall be the responsibility of the agencies designated by respective Governments in separate protocols, covering each specific project.

#### ARTICLE IV

The Contracting Parties agree to cooperate to provide training, exchange of experts, exchange of technical information and documentation, hold seminars/conferences to facilitate sharing of technology and enhance development of human resources in the subject field.

#### ARTICLE V

1. The Contracting Parties shall promote cooperation between the designated agencies in both countries with a view to concluding, if necessary, appropriate protocols or contracts within the framework of this Memorandum of Understanding.
2. Protocols or contracts, which shall be the basis for developing cooperation shall be signed in accordance with the laws and regulations in force in the respective country. These protocols or contracts shall provide for, in case of necessity:
  - i) transfer of technical know-how on stabilisers/additives/emulsifiers for blended fuels;
  - ii) joint projects related to use of bio-diesel, and transfer of technical know-how thereon;
  - iii) joint research on development of ethanol based fuel cells for power generation and automotive applications;
  - iv) financial compensation for licensing know-how or utilisation of patents;
  - v) exchange of patents, joint application for patents based on joint projects of research and development and conditions for their commercialisation by either party or jointly by them in a third country;
  - vi) conditions for introduction into commercial production;
  - vii) financial terms and conditions.

## ARTICLE VI

The Contracting Parties agree not to divulge information obtained by them or their personnel under this Memorandum of Understanding to any third party without the express consent of the other Party.

## ARTICLE VII

Aspects concerning intellectual property rights of the Cooperation Project, where they could be applied, shall be the object of particular arrangements taking into account the national laws of each country and the international rules accepted by both countries.

## ARTICLE VIII

Expenses for travel of experts between the two countries shall be borne by the designated agencies concerned, according to the terms mutually agreed upon.

## ARTICLE IX

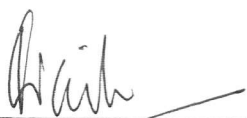
1. Any amendment or modification in this Memorandum of Understanding can be done at any time by mutual consent between the Contracting Parties and the same shall be valid when made in writing by both the parties or their authorized representatives and specifically stating the same to be an amendment of this Memorandum of Understanding.
2. The modifications/changes shall be effective from the date on which they are made/executed, unless otherwise agreed to.

## ARTICLE X

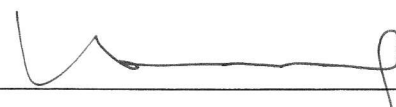
1. This Memorandum of Understanding shall enter into force when both Contracting Parties have mutually informed of the completion of their respective legal procedures and shall remain in force for a period of two years unless mutually terminated earlier.

2. This Memorandum of Understanding can be terminated by either Party by giving notice to the other Party three months in advance.
3. Notwithstanding the termination of this Memorandum, the activities already undertaken shall not be affected and shall continue until completed.

Done at NEW DELHI on 8<sup>TH</sup> APRIL, 2002, in three originals, each in Portuguese, Hindi and English languages, all texts being equally authentic. In case of any divergence in interpretation, the text in English shall prevail.



FOR THE GOVERNMENT OF THE  
REPUBLIC OF INDIA



FOR THE GOVERNMENT OF THE  
FEDERATIVE REPUBLIC OF  
BRAZIL

Name: RAM NAIK,

Designation: MINISTER OF  
PETROLEUM AND  
NATURAL GAS

Name: SERGIO SILVA DO  
AMARAL,

Designation: MINISTER OF  
DEVELOPMENT,  
INDUSTRY AND  
FOREIGN TRADE