



## **1. INTRODUCTION**

Energy matrices of the India-Brazil-South Africa (IBSA) countries are highly varied despite the fact that India and South Africa share a common dependence on coal. Cooperation in the field of energy presents a significant opportunity for IBSA countries to work together in de-carbonising their economies. This cooperation is currently being facilitated through formally signed Memorandums of Understanding (MoUs) specifically on energy.

## **2. MAIN OBJECTIVE OF THE ENERGY WORKING GROUP**

The main objective of this working group is to promote and facilitate cooperation on energy matters among the IBSA countries, that being done on the basis of mutual agreement.

## **3. CONTENT**

### **3.1 Trilateral Co-operation**

Since the establishment of the IBSA Energy Working Group, to date three energy related MoUs have been signed. These MOUs are on:

- Establishing a Trilateral Task Team on Biofuels (signed on 13 September 2006);
- Co-operation on Wind Resources (signed on 17 October 2007); and
- Solar Energy (signed on 15 April 2010)

The main focus areas of cooperation under the **Biofuels MoU** are:

- Technology transfer and promotion of biofuels production and consumption with a view to establish a world market for biofuels, in particular ethanol and bio-diesel;
- Promoting compatible frameworks for biofuels production, use, distribution and marketing;
- Developing technical cooperation programs, including downstream operational aspects (transport, storage, blending, and distribution) of ethanol and biodiesel;
- Sharing information on policy-making aspects and technology development for biofuels including the creation of a market;
- Promoting capacity building on all aspects of sustainable biofuels production including environmental impact assessment, land use, plant configuration, use of by-products, disposal and waste recycling, distribution infrastructure, logistics, etc.;

- Fostering joint programs of research on the production and use of biofuels; and
- Promoting exchange of information among the Parties on the design of automobile engines for promoting the use of biofuels.

The main areas of cooperation under the **Wind Resources** MoU are:

- Wind power resource measurement through the various measurement and modelling methodologies in order to identify the technical and economic potential of wind resources;
- Standards, testing facilities and certification procedures for wind resource systems, sub-systems and components;
- Deployment of wind power systems;
- Design and development of wind power systems including low wind regimes; and
- Identifying relevant research institution and expert organization to strengthen linkages and cooperation.

Key areas of cooperation under the **Solar Energy** MoU are:

- Promotion and facilitation of cooperation in the development and commercial application of solar energy;
- Bringing on board relevant research institutions, expert organizations and industry partners to strengthen linkages and cooperation; and
- Establishing working groups in order to identify scope, modalities and terms of reference for various cooperation activities to enhance cooperation in the solar field.

## **3.2 Progress on Implementation of the Biofuels, Wind Resources and Solar MOUs**

### **3.2.1 Biofuels MoU**

Two technical workshops have been held in Brazil and South Africa in September and December 2010 respectively to discuss issues pertaining to *Biofuels Production and Use* as well as an *Investigation into Harmonisation of IBSA Biofuels Specifications and Standards*. The latter workshop resolved that there seems to be a fairly high degree of alignment of parameters across the three countries. The last technical workshop still to be hosted by India will be on *Technologies for the Production of Biofuels*.

At the 6<sup>th</sup> meeting of IBSA Working Group a decision was taken to establish a technical specialist task team that would look into the alignment of biofuels parameters. The team should consist of representatives from the Standards Bodies of the IBSA members i.e. the South African Bureau of Standards in the case of South Africa, ANP in the case of Brazil and the Indian Bureau of Standards in the case of India.

### **3.2.2 Wind Resource MoU**

At the 7<sup>th</sup> Energy working Group meeting a proposal was endorsed that a wind energy technical workshop needs to be convened and may be attached to the biofuels workshop.

### **3.2.3 Solar Energy MoU**

India proposed that each country must prepare a paper highlighting solar energy research that it has undertaken. This task is still to be completed and shared.