

## RENEWABLES GO GLOBAL

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Voices of the South on Globalization is a monthly newsletter intended to inspire a meaningful North-South Dialogue by raising awareness for global interdependences and by offering a forum for voices from the South in the globalization debate. Each edition will present short analyses or commentaries from a Southern perspective on one particular issue of the globalization process.

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### IRENA COMES INTO BEING

The International Renewable Energy Agency (IRENA) was set up on January 26 at the founding conference in Bonn. More than 120 government delegations from across the world attended the conference and 75 nations, a broad cross-section of developing and industrialised countries, signed the agency's statute. Many others expressed their strong commitment to IRENA's goals and their intention to join in the near future.

The conference was chaired by Germany's Federal Environment Minister, Sigmar Gabriel, and Federal Minister for Economic Cooperation and Development, Heidemarie Wiecek-Zeul. As Denmark and Spain from the outset had actively supported the preparation together with Germany, the respective Ministers, Connie Hedegaard (Danish Minister for Climate and Energy) and Miguel Sebastián Gascón (Spanish Minister for Trade, Industry and Tourism) were elected Vice-Chairs.

The founding of IRENA is a milestone on the road towards a future-oriented energy supply. It is a clear sign that the global energy paradigm is changing and that more and more governments are committed to accelerating that shift.

Among the 75 founding countries are many European countries, including France, Italy and Poland, and many developing nations from Africa, such as Ghana, Nigeria and Uganda, from Asia, like the Republic of Korea, India and the Philippines, and from Latin America, including Guatemala, Chile and Argentina.

Keeping up the great momentum that had been generated, IRENA began its work only one day after the founding conference, on January 27. At the first session of the preparatory commission the signatories adopted criteria and procedures for selecting IRENA's interim director-general and its interim headquarters and invited the members to put forward candidatures by April 30.

They also created the institutional framework that will allow IRENA to embark on first elements of its working programme. The preparatory commission welcomed the invitation of Egypt to host the next session, planned for next June, where decisions will be taken on the agency's interim director-general and interim headquarters.

The aim of the new agency is to work throughout the world to close the gap that exists between the enormous potential of renewables and their current relatively low market share in energy consumption.

IRENA is the first international organisation to focus exclusively on the issue of renewable energies, addressing both the industrialised and the developing world.

The main task of IRENA will be to advise its members on creating the right frameworks, building capacity, and improving financing and the transfer of technology and know-how for renewable energies. IRENA seeks to cooperate closely with other international organisations and institutions active in the field of renewable energy. ☑

**'PRESS AHEAD WITH THE EXPANSION OF RENEWABLE ENERGIES'****Environnement Minister Sigmar Gabriel's Perspective**

The time has now come, with the founding of the International Renewable Energy Agency (IRENA), to press ahead with the expansion of renewable energies in an even more comprehensive and targeted way. IRENA is therefore: 1. An expression of our conviction that in future we can cover the main share of our energy consumption with renewable energies. 2. An expression of our awareness that renewable energies offer huge potential and that the technologies for their use are available. But also of our recognition that there are obstacles blocking the rapid expansion of renewable energies and that we have to join forces to overcome them. 3. An expression of our common commitment to international cooperation and our firm intention to develop and steer processes together.

In November 2008 the International Energy Agency once again warned that we are on course for disaster with our current wasteful use of energy. If we carry on this way, the Earth's temperature will increase by 5 or 6 degree C as a result of greenhouse gases from fossil fuels. Such a temperature increase would destroy the Earth as we know it. The IPCC has outlined the impacts we can expect: droughts will lead to further food shortages, extreme weather events such as more frequent hurricanes will leave trails of destruction, and rising sea levels will be a threat to almost 700 million people living less than one metre above sea level.

Lord Nicholas Stern has clearly demonstrated that business as usual will cause massive damage to our economies and societies. Business as usual is a much more expensive option than targeted investment today in climate-friendly technologies - such as renewable energy technologies.

But merely being aware of the threat to the environment, economy and peace is not enough. The international community has to act. We have to recognise the political and economic opportunities. We have to adopt an ambitious follow-up agreement to the Kyoto Protocol in Copenhagen. We have to specify challenging reduction targets in order to launch a global transformation of energy systems towards a low-carbon society.

Germany has set itself the target of reducing its emissions by 40 percent by 2020. To achieve this goal we are focusing on a two-track strategy: expanding renewable energy use and reducing energy consumption through energy efficiency measures. For example, we want to double the share of renewables in electricity production from the current 15 percent to more than 30 percent in 2020.

There is such great potential in solar, wind and hydro-power, geothermal energy and biomass that they can cover the energy needs of a global population rising to over 9 billion people. Furthermore, their use can be decentralised, thus bringing energy and development opportunities to isolated regions.

Due to technological advances, renewable energies are often already a competitive alternative to conventional energy sources. And what's more, technological progress means they are cheaper from year to year. Renewables are developing into an important economic sector. In 2008 over 150 billion dollars were invested in renewable

energies worldwide. In Germany alone, 250,000 people already work in this sector. The foundation of IRENA aims to promote the expansion of renewable energies **internationally**.

IRENA will help to remove the many obstacles which up to now have delayed the rapid expansion of renewables. The market is still distorted by subsidies for conventional energies; technological know-how is inadequate, information is not always correct.

**The right incentives and securities for investment**

IRENA will give concrete advice to both industrialised and developing countries to aid their introduction of political and legal frameworks. The goal is to create the right incentives and securities for investment. This needs to be steered by governments, since a distorted market is not capable of initiating the transformation of energy systems.

IRENA will act as a catalyst to facilitate technology and knowledge transfer, and to support capacity building. Using positive examples, the Agency will clear away deep-rooted concerns.

Denmark generates more than 20 percent of its electricity from wind - so why shouldn't other countries also be able to feed large, varying quantities of electricity into the grid using intelligent systems?

Large-scale solar thermal power plants are being built in Spain - so why not build some in the countries of North Africa too? And why shouldn't North Africa be able to sell its renewable electricity, as one of many export goods, to Northern Europe, where sunshine is in short supply?

Kenya operates Africa's largest geothermal power plant, generating 12 percent of total renewable electricity - so why shouldn't we use this base-load capable energy source to bolster power supply in other geologically suitable sites? There can be only one answer: yes we can!

IRENA will be an international platform for renewable energies. It will focus more resources on renewable energies than any other organisation to date. But others need not worry - there is more than enough work for everyone. IRENA will cooperate with other organisations and institutions to exploit synergies. With IRENA we are laying the foundation for an energy supply which takes equal account of the three principles of sustainability - social, ecological and economic aspects. ☑

WHAT IRENA IS UP TO

The intergovernmental organisation IRENA's principal tasks will be to offer concrete advice to its members about promoting the use of renewable energies. Although more than 60 countries around the globe have set themselves ambitious targets to increase the share of renewable energies in their national energy consumption, only a few of them have achieved these targets so far. Experience has shown that most countries need specific advice on the practical implementation of their energy targets.

There are many organisations and networks, including the IEA, UNDP, UNEP, UNIDO, REN21 and REEEP, working at the local, national and international levels to expand the use of renewable energies.

There is, however, no international organisation that offers both industrialised and developing countries support with regard to developing renewable energies.

This is where IRENA comes in: the agency will give its members concrete advice on developing and expanding political frameworks for promoting renewable energies, whilst seeking to work closely with existing organisations and initiatives.

By coordinating existing measures, IRENA will enhance synergy effects and help to avoid any duplication of efforts. One of IRENA's key advantages will be its global orientation and membership basis.

IRENA is aimed at providing access to the knowledge and wealth of experience on successful policies and practical applications as well as detailed know-how on state-of-the-art technologies in the field of renewable energies.

Its primary goal is to work towards broad-based, sustainable use of renewable energies throughout the world in the near future.

**Integrated approach**

This integrated approach is reflected in various specific targets. These include:

- Improving the political environment for renewable energies through targeted political advice;
- Expanding technology transfer in the area of renewables;
- Supporting capacity building measures for renewable energies.

The Agency will advise its member states using an integrated, practice-oriented approach that takes the three aforementioned specific aspects and the individual situation in each country into account.

IRENA provides political advice but does not strive to develop international regulations and agreements single-handedly. Instead, all its services will be provided only in response to requests from individual member states or groups of member states.

IRENA will not intervene in other countries' energy policies of its own accord, nor make any attempts to enforce certain political concepts. All its activities will be decided upon by the member states.

IRENA will not make available any technologies to its members. Rather, the agency will offer its member states practical support in identifying appropriate mechanisms for financing and implementing technology transfer measures and for the long-term maintenance and servicing of technology applications. Expert workshops will make an important contribution to this end.

Moreover, IRENA will facilitate the transfer of technologies and knowledge from public and private research and development projects by establishing databases containing best practices and setting up a flexible exchange system between the member states.

As regards capacity building, IRENA will act as a mediator and a catalyst by financing various programmes and offering support for national governments and the private sector.

Whenever possible, capacity building measures are to be carried out jointly with local institutions in the respective recipient countries. In order to identify needs and requirements, it will be necessary to take stock of current activities by national and international donor organisations.

This will allow for improved coordination of activities and place a focus on those areas and methods in which or through which the best results can be achieved. In the area of capacity building, IRENA will also focus on the training of multipliers.

Further goals pursued by IRENA are:

- Advising member states on financing options;
- Making available professionally prepared information and material to support the member states in their public relations activities;
- Developing a scientifically backed information pool based on applied policy research.

IRENA will focus its activities on supporting all forms of renewable energies. These include:

- Bio-energy
- Geothermal energy
- Ocean energy (e.g. tidal power and marine current power)
- Solar power
- Hydropower
- Wind energy

In order for projects to be eligible for IRENA promotion, their energy production methods must fulfil certain sustainability criteria. ☑

THE UNTAPPED POTENTIAL

Ensuring the world's energy supply is getting increasingly problematic. It is becoming more and more difficult and costly to meet the growing demand for energy with fossil fuels and nuclear power.

Oil prices almost doubled last year and in 2008 they hit the 100-dollar mark (price per barrel) for the first time. At the beginning of July 2008, oil prices reached a record high of almost 150 dollars per barrel.

The rise in the price of oil not only raised the price of gas, which is tied to it, it is also causing production prices for food to shoot up too.

The unsustainable use of bioenergy, particularly agrofuels, is causing competition for agricultural land, which also contributes to higher food costs.

If countries around the world do not change their existing policies and if the world population continues to grow, energy demand may increase by 50 per cent or more up to 2030.

The forecasts of the fourth Assessment Report of the IPCC are equally ominous. They predict that temperatures will rise by between 1.8°C and 4° C by the end of the 21st century.

Unless measures are taken to mitigate global warming, climate-induced economic losses could amount to as much as 20 per cent of the global gross domestic product according to estimates in the Stern Report.

More than 1.6 billion people do not have access to electricity, and more than 2.5 billion have to rely on firewood and dung as their sole sources of energy.

Building grid infrastructures in order to connect these people to the central electricity supply is often prohibitively expensive.

The inefficient, unsustainable use of biomass is a cause of serious health problems and environmental damage.

In the light of all this, renewable energies offer an enormous potential. The amount of renewable energy that could be generated by means of modern technologies is enough to meet the current global demand for energy several times over.

Lessons learned and likely price reductions due to economies of scale will mean that a far larger proportion of its potential can be tapped efficiently and cost-effectively in the future.

The benefits of renewables are indisputable:

- Thanks to the enormous energy potential of the wind, sun and other sources of renewable energy, even a significant increase in demand could be met.
- As technology costs decline, renewable energies can contribute to stable energy prices in the future.

· The use of renewables reduces greenhouse gas and air pollutant emissions.

· With renewable energies, even the poorest in the world can gain access to energy. No cost-intensive energy grids are needed, and renewables can meet the energy needs of the global population through off-grid power supply.

In 2006, renewable energies already accounted for 18 percent of global final energy consumption.

Power generation from renewables doubled between 2004 and 2007 to 240 gigawatts of installed capacity.

In fact, if the big hydropower plants are included the figure is more than 1,000 gigawatts.

In 2007, installed wind energy capacity rose by 40 percent compared with 2006 and it will soon break the 100 gigawatts barrier.

Germany plays a leading role in this field, followed by Spain, the United States, India, Denmark and China. Most recently, the amount of photovoltaic energy fed into the power grid grew by 50 per cent in 2006 and 2007, the strongest growth rate of all renewable energy sources.

On closer inspection, however, the picture is not quite as rosy.

The share of solar, wind and tidal power in worldwide primary energy supply is still marginal, although it is increasing at a steadily rising rate.

Set against absolute increases in the use of fossil-based primary energies, the share of renewable energies was disproportionately small in 2006.

The continued growth in primary energy consumption cancels out the growth of renewables.

**Lack of public awareness**

Moreover, there are still some obstacles in the way of the goal of considerably increasing global energy supply by means of renewables.

Among these obstacles are the lack of public awareness, market distortions in favour of traditional energy sources and structures, ineffective political frameworks, insufficient technical or administrative know-how and a considerable lack of proper information.

This means that the enormous potential of renewables is currently not being tapped to the full extent.

IRENA will contribute towards closing the gap between the huge potential of renewables and their relatively low market share as quickly as possible. ☑



## IRENA'S ROLE IN THE CONTEXT OF OTHER INTERNATIONAL ORGANISATIONS

A detailed comparison of IRENA's structure, tasks and draft initial work programme with the ongoing activities of other international organisations, as well as repeated discussions with representatives from most of these organisations lead to the following conclusions.

IRENA will play a central role in the context of the international organisations dealing with renewable energy issues by:

- filling a vacant role as dedicated worldwide inter-governmental organisation for renewable energy; providing leadership and expertise for a massive scale-up of renewable energy use;
- expanding and qualifying available resources (financial, human, institutional, expertise, etc.) for promoting renewable energy;
- providing transparency concerning the manifold landscape of ongoing activities and encouraging cooperation;
- offering support to the ongoing activities through in-depth expertise, reliable, comprehensive and up-to-date information, experience exchange, tools and methods;
- strengthening advocacy for renewable energy at all levels, and;
- facilitating networking and information exchange.

Good coordination and cooperation offers many opportunities for boosting existing and starting additional activities. Strengthening all partners in the joint endeavour to promote renewable energy is the key to IRENA's success.

The following priority areas for intensive cooperation have been identified:

- developing and maintaining appropriate reporting systems (with IEA, REN21);
- providing and facilitating fora for policymakers at high levels (with REN21);
- developing and providing easily usable information gateways (with REEEP), and;
- improving the access to financing mechanisms (with UNEP).

Overall, IRENA shall promote a collective learning process that includes the involvement of all international organisations in experience exchange, the mutual information on renewable energy activities and the development of specific formats for IRENA's support to other organisations.

Let us compare it with the International Energy Agency IEA, based in Paris. IEA is an autonomous agency linked to the OECD. It was created in 1974 by 16 OECD countries for ensuring energy security after a politically motivated oil shortage and a doubling of the oil price by the OPEC.

Today, it acts as an energy policy advisor to its 28 member countries, all of whom are OECD members and therefore, no emerging or developing countries are included.

IEA is steered by a governing board. The votes of the member countries are weighted according to their volume of oil consumption.

The objectives of the IEA are: Energy security, economic development and environmental protection. The IEA budget for 2008 equals € 24.5 million and it staffs about 190 employees. The IEA has designed arrangements for emergency preparedness, analyses and monitors developments on the international oil and gas market, undertakes policy analysis and cooperation, collects and processes data (World Energy Outlook), fosters energy technology, and among others focuses on energy efficiency and environmental issues.

It also produces extensive energy statistics that also cover some non-IEA countries. The World Energy Outlook is the IEA's main publication, quoted as an important reference worldwide. IEA's regular country reports review the respective energy policies.

Since the IEA covers all forms of energy with a traditional focus on conventional energy, only a small, yet growing part of IEA activities, is dedicated to renewable energies, strongly supported by targeted voluntary contributions. The International Technology cooperation of the IEA is organised in so-called Implementing Agreements, whereby nine concern renewable energy technologies. The agreement on Renewable Energy Technology Deployment (RETD), involving 10 countries, is in charge of cross-cutting issues.

IRENA and the IEA fundamentally differ in three regards: IRENA focuses on renewable energy, whereas the IEA covers all energy issues with an emphasis on the conventional energy system relying on fossil and nuclear sources; IRENA is open to all UN members, whereas the IEA is limited to OECD countries and, IRENA will look beyond the traditional energy supply sector, because renewable energies involve a much larger part of the economy than just traditional fuels (building sector, agriculture etc.).

Comparing IRENA's work programme with IEA activities leads to the following opportunities for cooperation, which have also been discussed at joint meetings:

- IRENA will deploy much larger resources on renewable energy than the IEA. Offering in-depth expertise on renewable energy, IRENA can support the IEA in giving renewable energy a stronger emphasis in its cross-cutting activities (e.g. Energy Technology Perspectives, World Energy Outlook, statistics etc.);
- the IEA maintains extended data reporting mechanisms in order to upkeep its statistics and policy databases. IRENA will have similar needs, but with a different perspective. In order to avoid duplications in member countries and in the organisations it will be **important to cooperate on reporting systems**;
- regarding the Implementing Agreements, cooperation should contribute to make best use of the results of the technical and ecological issues and the need for further research. ☑

**'THE SUN HAS NEVER SEEN A SHADOW'**

By Hermann Scheer, President of EUROSOLAR \*

The famous cosmopolitan scientist Leonardo da Vinci once said: "The sun has never seen a shadow." Today the world's civilization is shadowed by numerous existential energy crises, which cumulate at the same time. You all know the key-words: declining reserves, increasing energy demand - and therefore running exhaustion, rising prices, economic restrictions, social tensions within societies and international tensions between countries. And besides and above all that: climate change, air and water pollution, dying forests and desertification.

People and their governments are aware of all this. but people do not like to hear those ticking time bombs; they have a desire for solutions. The most basic and widespread solution is the change to renewable energy.

It is time for this change because the world civilization is in a race against time in order to leave the shadows of the various energy crises. As an old African wisdom says, "turn your face to the sun and you will leave the shadow behind you."

One of the most important incentives of IRENA will be to overcome mental barriers. This is the prerequisite for overcoming the physical, economic and political barriers against renewable energy. For too many years the potential of renewable energy was denounced and underestimated, and too many responsible authorities were misinformed rather than informed about its real potential. Like a captain on a ship that was sailing on the open sea without orientation and when all their water was consumed the captain cried, "water everywhere but no drop to drink." - Everywhere is renewable energy but no technology to harvest. We have to activate the natural, the technical, the economic and above all the human potential.

Fertilized with insufficient information too many remained unable to see the light of renewable energy including the unique chance for renewing our economies, for cleaning over polluted cities, and for all the other benefits of a new energy security for all nations.

For too many years the perception that the change to renewable energies would be an uncarryable burden dominated talks. But nowadays more and more people and their governments have recognized that the future of world energy supply and demand comes with renewable energy. This creates new perspectives which are inspiration for human action.

IRENA becomes the anchor and facilitator for the activation of common international action towards renewable energy. Nothing is more powerful than an idea whose time has come.

The new US president Barack Obama said in his inauguration speech six days ago, "we will harness the sun and the winds and the soil to fuel our cars and run our factories. All this we can do." And he added to this, "now, there are some who question the scale of our ambitions, who suggest that our system cannot tolerate too many big plans. Their memories are short, for they have forgotten what can be achieved when imagination is joined

to common purpose and necessity to courage. What the cynics fail to understand is that the ground has shifted beneath them, that the stale political arguments that have consumed us for so long, no longer apply".

I have a well reasoned hope that the Obama administration will join the IRENA initiative very soon. Renewable sources of energy are everywhere on our planet, and we can and should apply it everywhere.

With always updated technological information about the state of the art of renewable energy technologies and its diversities of different applications, served by IRENA, we can open the minds and encourage governments and investors for renewable energy strategies. We have learned many lessons for best policy and industry practice, and the role of IRENA will be that all can share the best practice experiences and enrich this with their own new ideas. IRENA will be the common learning and inspiring centre of renewable energy excellence.

It will empower countries to play a role in the new technological revolution. The IT revolution started 30 years ago, and now the world has joined it. We are now at the beginning of the ET revolution with renewable energies and new ways to come to energy efficiency. With IRENA we have created a unified vision and collaborative environment to implement renewable energies in all countries. No one should wait for the leadership of others, each country who wants to advance renewable energies should be enabled to do so with their own means.

. . . It was a long way to IRENA, since EUROSOLAR submitted the first proposal for it in January 1990. I have personally campaigned internationally for it in many countries and at numerous conferences and with many political initiatives. Many doubted that it could happen. Very few believed that there would be enough supporters.

\* These are extracts from a speech delivered by Scheer at the founding conference of IRENA. The idea to establish IRENA can be traced back to him. Over the last two decades, as president of EUROSOLAR and chair of the World Council for Renewable Energy, he has constantly argued for the establishment of a political institution in the form of an international governmental organisation for renewable energy. EUROSOLAR president Hermann Scheer introduced the Memorandum for the Establishment of an International Solar Energy Agency (ISEA) in 1990. In 2001, EUROSOLAR organised an international impulse conference for IRENA. At the International Parliamentary Forum on Renewable Energies in 2004, more than 300 members of parliament asked for the establishment of IRENA. ☑