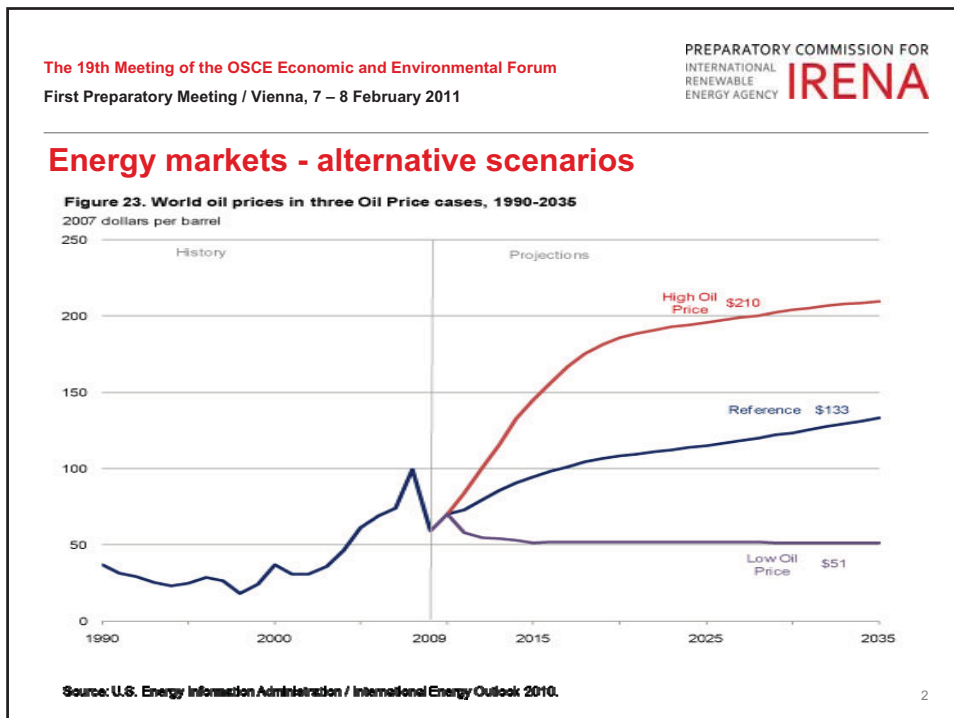


PREPARATORY COMMISSION FOR
INTERNATIONAL
RENEWABLE
ENERGY AGENCY **IRENA**

Renewable Energy and Energy Security
Mr. Andrea Marroni, IRENA

“Promotion of common actions and co-operation in the OSCE area on the fields of development of sustainable energy and transport”
**19TH OSCE ECONOMIC AND ENVIRONMENTAL FORUM
FIRST PREP MEETING
Vienna, 7-8 February 2011**



Re-balancing the global energy mix

High volatility of energy market prices, as well as some uncertainty about the future of nuclear power on a number of issues (high capital and maintenance costs, power plant safety, radioactive waste disposal, nuclear material proliferation concerns, ...) could facilitate increasing use of renewable energy in many Countries

Renewable Energy deployment could enhance and facilitate price stability – and therefore provide a more stable investment climate to stabilize the long-term

The deployment of renewable technologies increases the diversity of electricity sources and, through local generation, contributes to the flexibility of the system and its resistance to central shocks.

Energy Security and International Organizations

The need to increase “energy security” was the main objective for the establishment of the IEA. With emphasis on oil security.

The impact of the 1973 oil crisis and the emergence of the OPEC cartel was a particular milestone that prompted some countries to increase their energy security on a short-term

Energy Security has also long-term aspect: mainly linked to timely investments to supply energy in line with economic developments

IRENA as a new Organization with a clear mandate and with the capacity to enhance international efforts to re-balance the global energy mix and improving energy security by:

- promoting diversity, efficiency and flexibility within the energy sector
- expanding international co-operation with all global players in the energy market

Energy security and market distortions

“... removing fossil-fuels consumption subsidies, which totalled \$312 bil in 2009, could make a big contribution to meeting energy security”

Source: WEO 2010 - IEA

Improve transparency and reporting of fossil-fuel subsidies

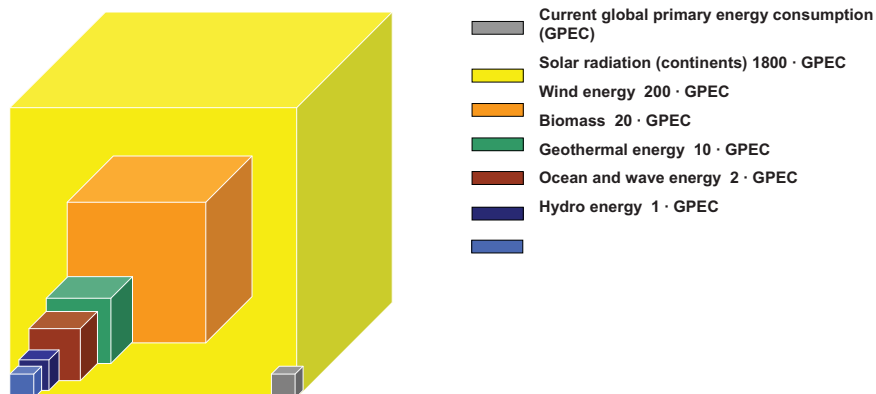
Establish mechanisms for monitoring and ensuring compliance with commitments to reduce fossil-fuel subsidies

Promote sharing of best practice and cooperation on the reform of subsidies

Offer capacity building and technical assistance to developing countries

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Potentials of Renewable Energies



Source: Nitsch, F.: Technologische und energiewirtschaftliche Perspektiven erneuerbarer Energien.
German Aerospace Center. 2007.

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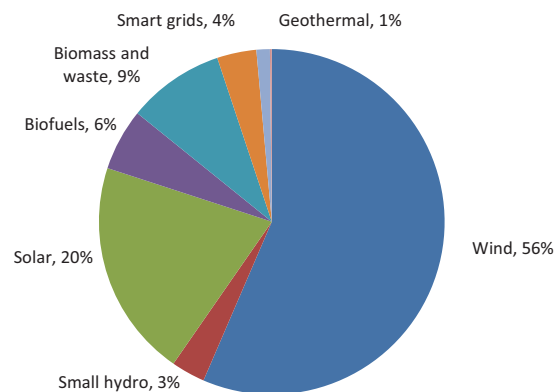
Power generation capacity, 2004-2009, GW

Source	2004	2005	2006	2007	2008	2009
Large scale hydroelectric (>50MW)	714	726	739	745	860	866
Small scale hydroelectric (<50MW)	42	49	56	77	85	100
Non-hydro renewables (Wind, Solar, Biomass, Geothermal, Marine)	118	133	151	163	197	232
Conventional thermal	2,639	2,737	2,864	2,968	3,049	3,132
Nuclear	374	377	378	379	384	389
Total	3,887	4,023	4,188	4,332	4,575	4,718

Source: Bloomberg New Energy Finance, EIA, IEA, REN21

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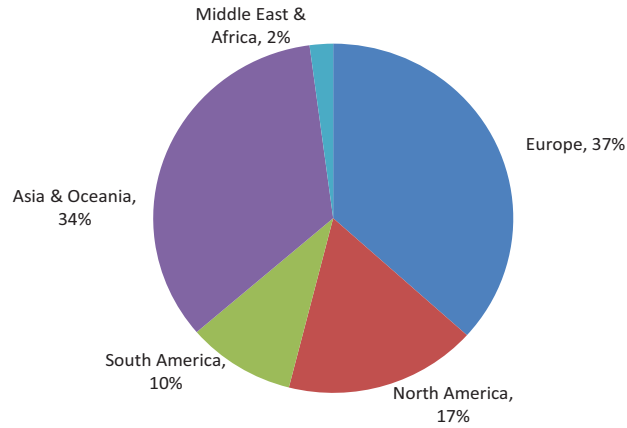
Renewable energy investment 2009: US\$bn 119



Source: UNEP-SEFI-BNEF, 2010

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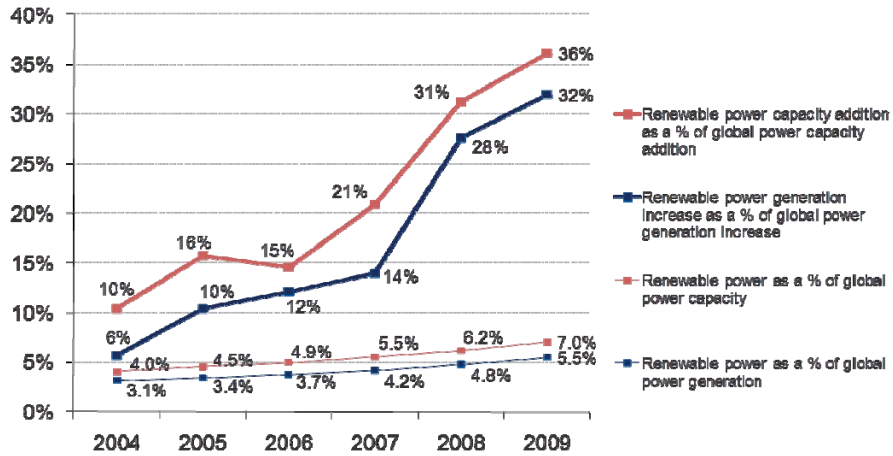
Mapping renewable energy investment in 2009



Source: UNEP-SEFI-BNEF, 2010

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RE generation accounts for an increasing proportion of total capacity - rate of growth accelerated since 2006

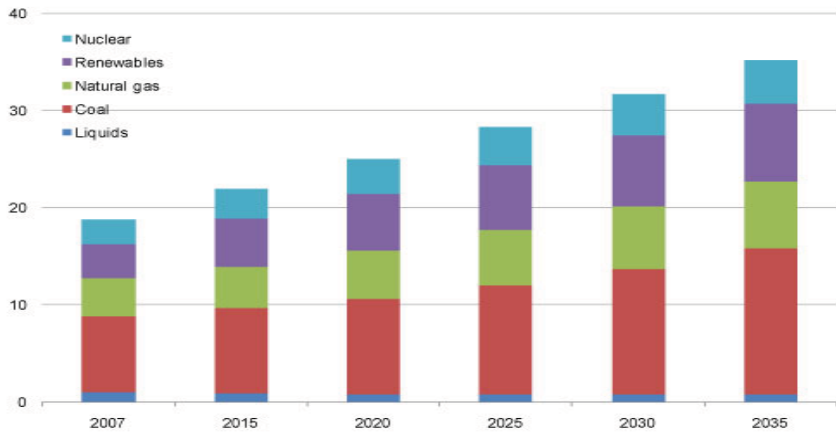


Source: Bloomberg New Energy Finance, IEA, EIA, REN21

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Scenarios

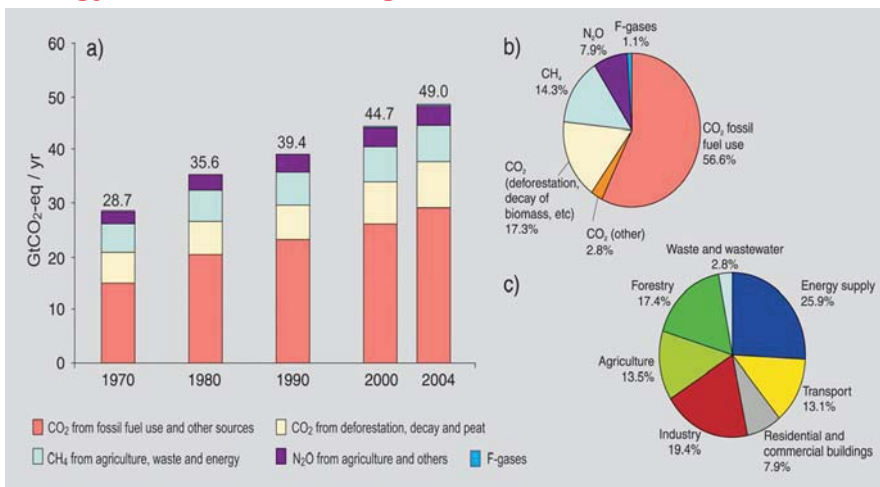
Figure 18. World electricity generation by fuel, 2007-2035
 trillion kilowatthours



Source: U.S. Energy Information Administration / International Energy Outlook 2010.

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Energy and climate change

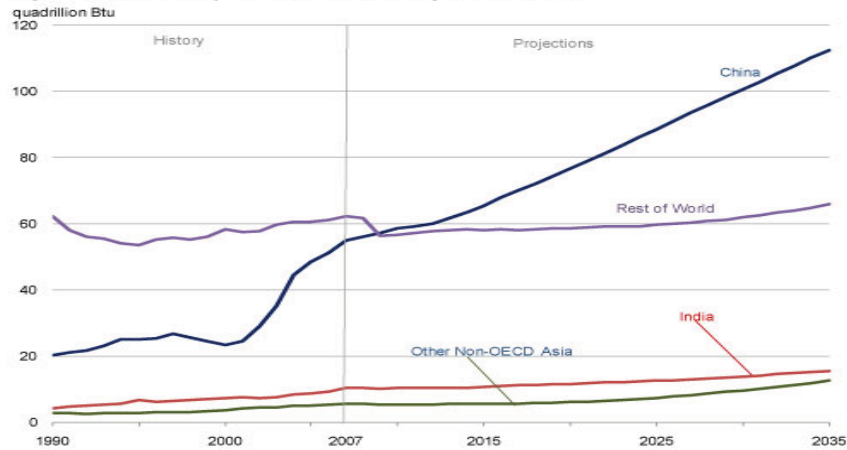


Source: IPCC 4th Assessment Report

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The cheapest energy....

Figure 17. Coal consumption in selected world regions, 1990-2035



Source: U.S. Energy Information Administration / International Energy Outlook 2010.

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About IRENA

Foundation: **26 January 2009** in Bonn.

Members: **148 and the EU** (as of today).
56 ratifications

Mandate: Deployment of **RE sources**

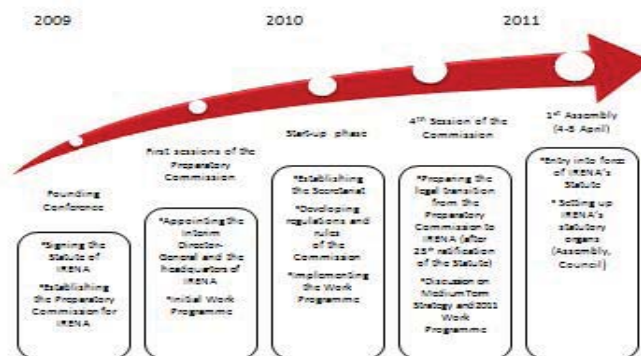
Headquarter: **Abu Dhabi**, United Arab Emirates

Other centers: Innovation and Tech Center in Bonn (being established)
UN Liaison Office (in Vienna?)

Interim DG: **Mr. Adnan Z Amin**

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IRENA Milestones



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IRENA in 2011

- 1st Assembly to be held in Abu Dhabi on April 4-5th.
- IRENA's permanent organs will be operational.
- Development of a multi-annual strategy, and building the institutional framework, both on the programmatic and operational side.
- Focus put on key concrete actions
 - IRENA's information system on energy potentials together with the World Meteorological Organization (WMO)
 - IRENA's technology database in partnership with the World Intellectual Property Organization (WIPO)
 - two actions for evaluating the renewable energy deployment opportunities in Africa and Pacific Islands, with a view to set up long term strategies.

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IRENA – main assets

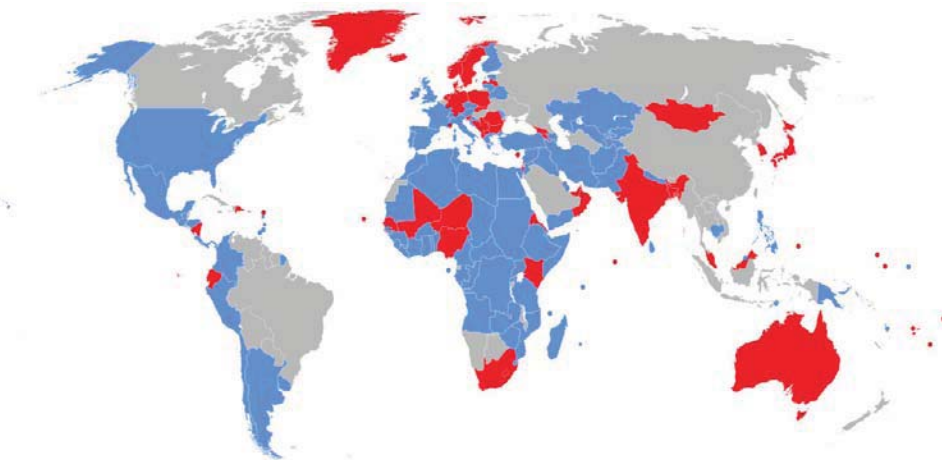
Facilitate Member Countries to assess their potential, build policy and capacity
Renewable energy readiness - Policy assessment review
Enabling environment for investments

Facilitate technological innovation and technology cooperation
Set up governance mechanisms for technology cooperation
Network of research centres
A platform for exchange of knowledge
Global potential mapping
Statistics database

IRENA will cooperate closely and strive for establishing mutually beneficial relationships with existing Institutions and Organizations

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IRENA Signatory States



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IEA / OECD	CEM / The Global Partnership	UNEP/UNDP/...	UNFCCC / IPCC
<i>Energy policy advisor to 28 countries</i>	20 Countries	UN Format	
Emergency Preparedness	Advanced Vehicles	Biodiversity	Climate Science Climate system Models and Projections Data and Scenario support for Research
Oil & Gas Markets	Carbon Capture, Use & Storage	Climate Change	
World Energy Outlook	Cross Cutting R&D	Environmental assessment	Adaptation Vulnerability of natural systems to CC Negative and positive consequences of CC. Options for adapting to socio-economic impacts
Global Energy Dialogue	Energy Efficiency - Buildings Sector	Health	
Energy Efficiency	Energy Efficiency - Industrial Sector	Waste	
Energy Technology Network	High-Efficiency, Low-Emissions (HELE) Coal Technologies	Water	Mitigation Limiting or preventing GHG emissions in the atmosphere
Climate change		Energy policy analysis and National policy frameworks	Energy Renewable Energy in DCs
IRENA Energy Data/Statistics and RE in the global energy mix	Bio energy Marine Energy Smart Grids Solar and Wind Hydro	Helping IFIs improve support for RE / Identifying financing mechanisms for RE	Nationally Appropriate Mitigation Actions (NAMA)
Policy Analysis and Cooperation		Access to energy for poverty reduction (rural energy services)	Funding mechanisms for mitigation projects (RE)
RE Technology			

OSCE and IRENA

IRENA Member	IRENA Signatory
Albania	Austria
Armenia	Azerbaijan
Bosnia and Herzegovina	Belarus
Bulgaria	Croatia
Cyprus	Czech Republic
Denmark	Estonia
Georgia	Finland
Germany	France
Iceland	Greece
Latvia	Ireland
Liechtenstein	Italy
Luxembourg	Kazakhstan
Monaco	Kyrgyzstan
Montenegro	Lithuania
Netherlands	Malta
Norway	Portugal
Poland	Spain
Romania	Switzerland
Serbia	Tajikistan
Slovakia	Turkey
Slovenia	United Kingdom
Sweden	United States of America
The former Yugoslav Republic of Macedonia	Uzbekistan

Thank you

Andrea Marroni

www.irena.org