

Joint Research Centre (JRC)



Unit F08 – Renewable Energy

IE - Institute for Energy

Petten - The Netherlands / Ispra - Italy

<http://ie.jrc.ec.europa.eu/>

<http://www.jrc.ec.europa.eu/>

Overview:

Europe's Renewable Energy Policy

Portfolio of the Renewable Energy Unit

A future African policy for 20% Renewable Energy

Europe's Targets:

By 2020 reduce emissions by 20 %

20% Renewable Energy

20% improvement of Energy Efficiency

10% of Transport supply from Renewable Energy

- **Mandatory Memberstate Targets**
- **Burden-share**
- **National Action Plans**
- **Biofuels Sustainability Criteria**

Remark:

Energy Unit used throughout the Presentation:

both for electrical & thermal energy

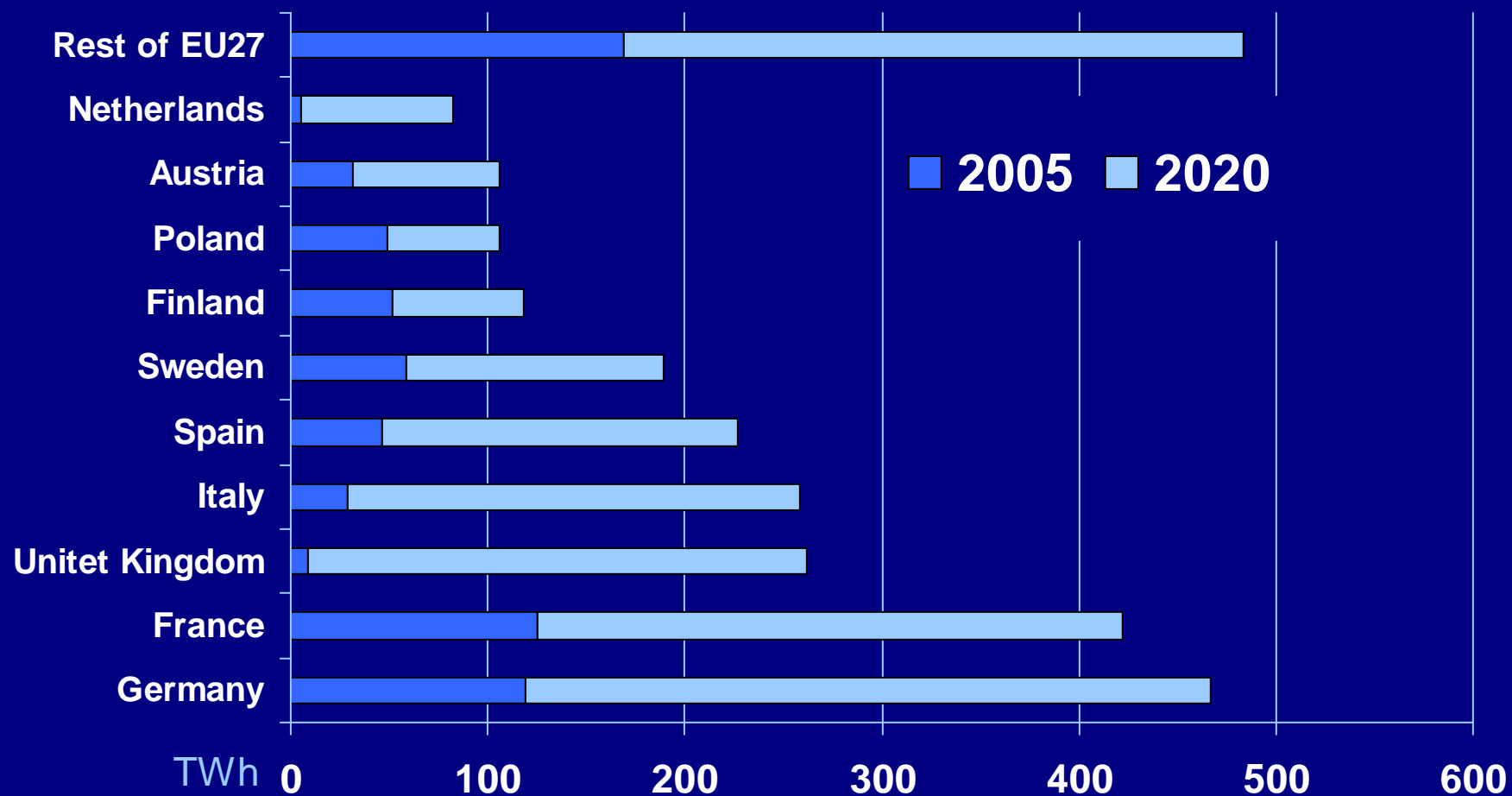
TWh

Divide by 10:

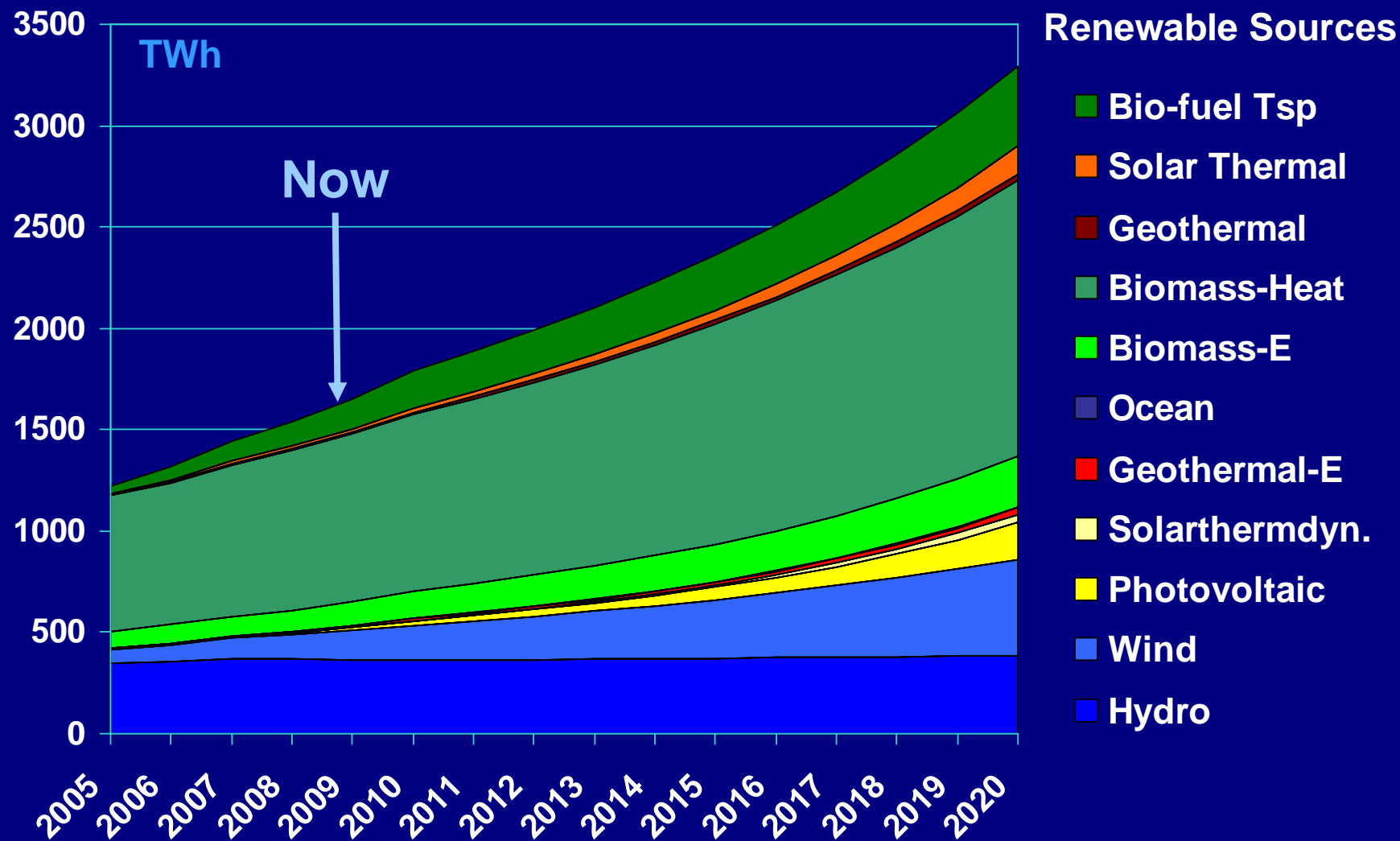
= Number of 1.3 GW Nuclear Reactors

= Bio.€Revenue

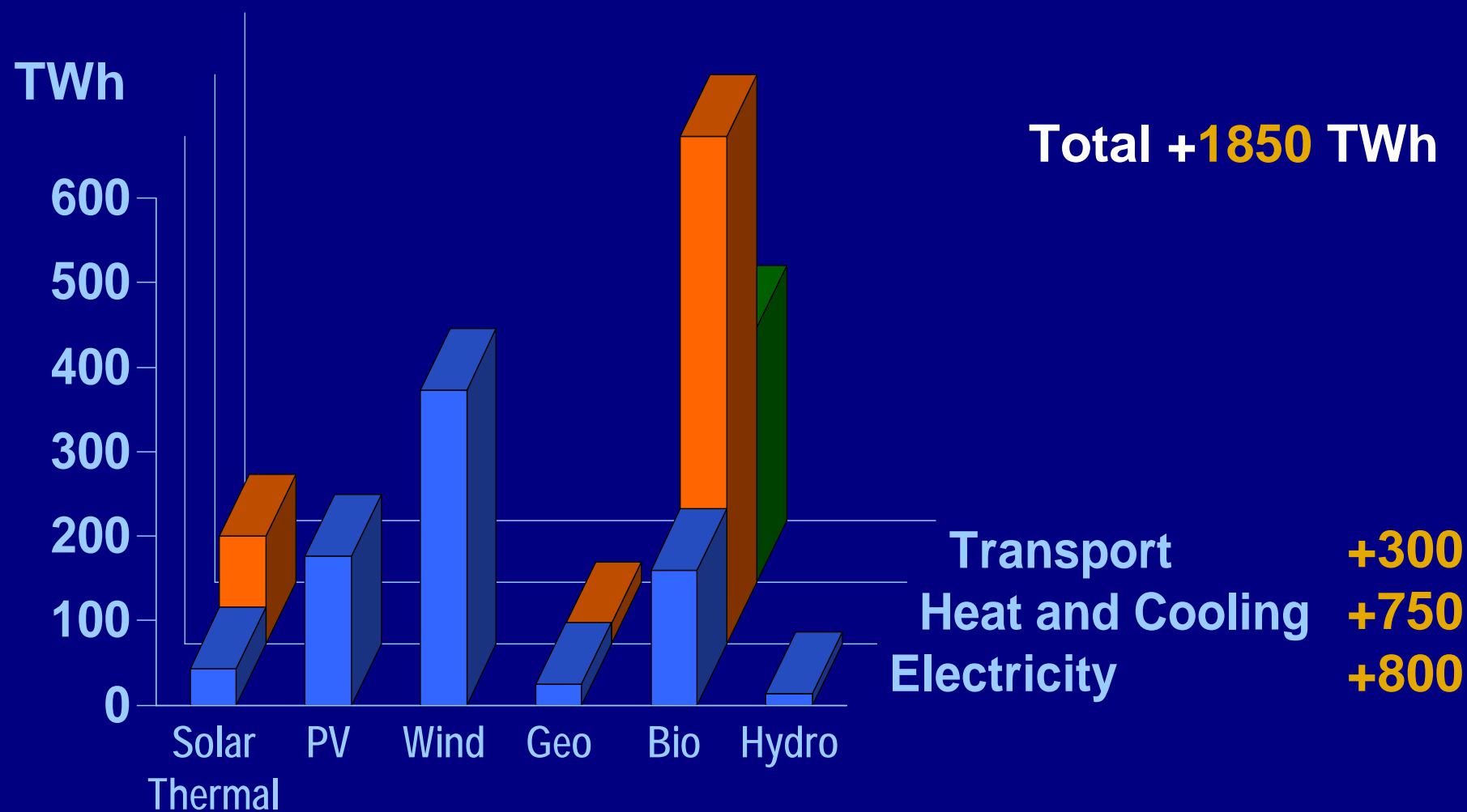
Memberstates Contribution to 20% Renewables Total 3300 TWh

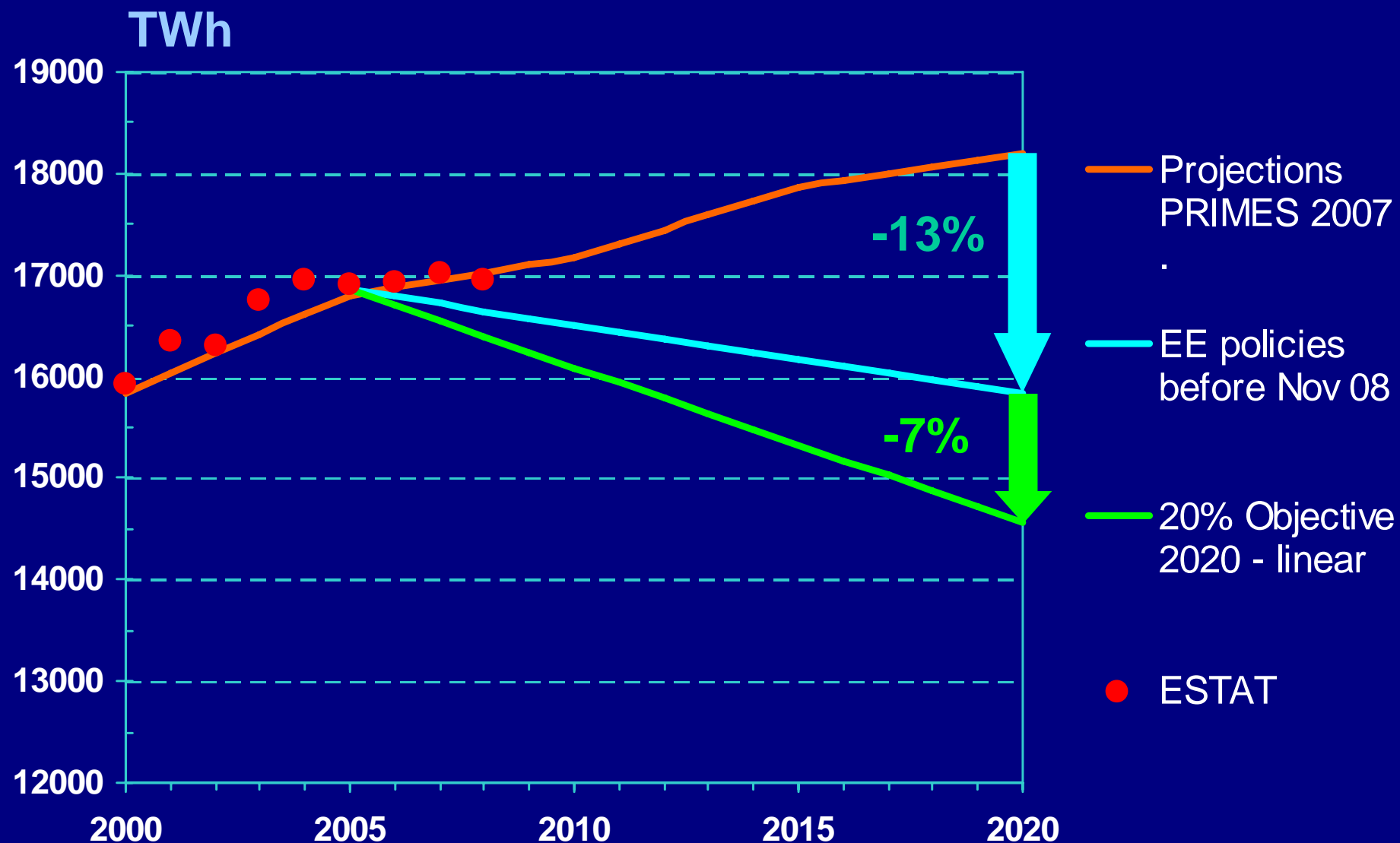


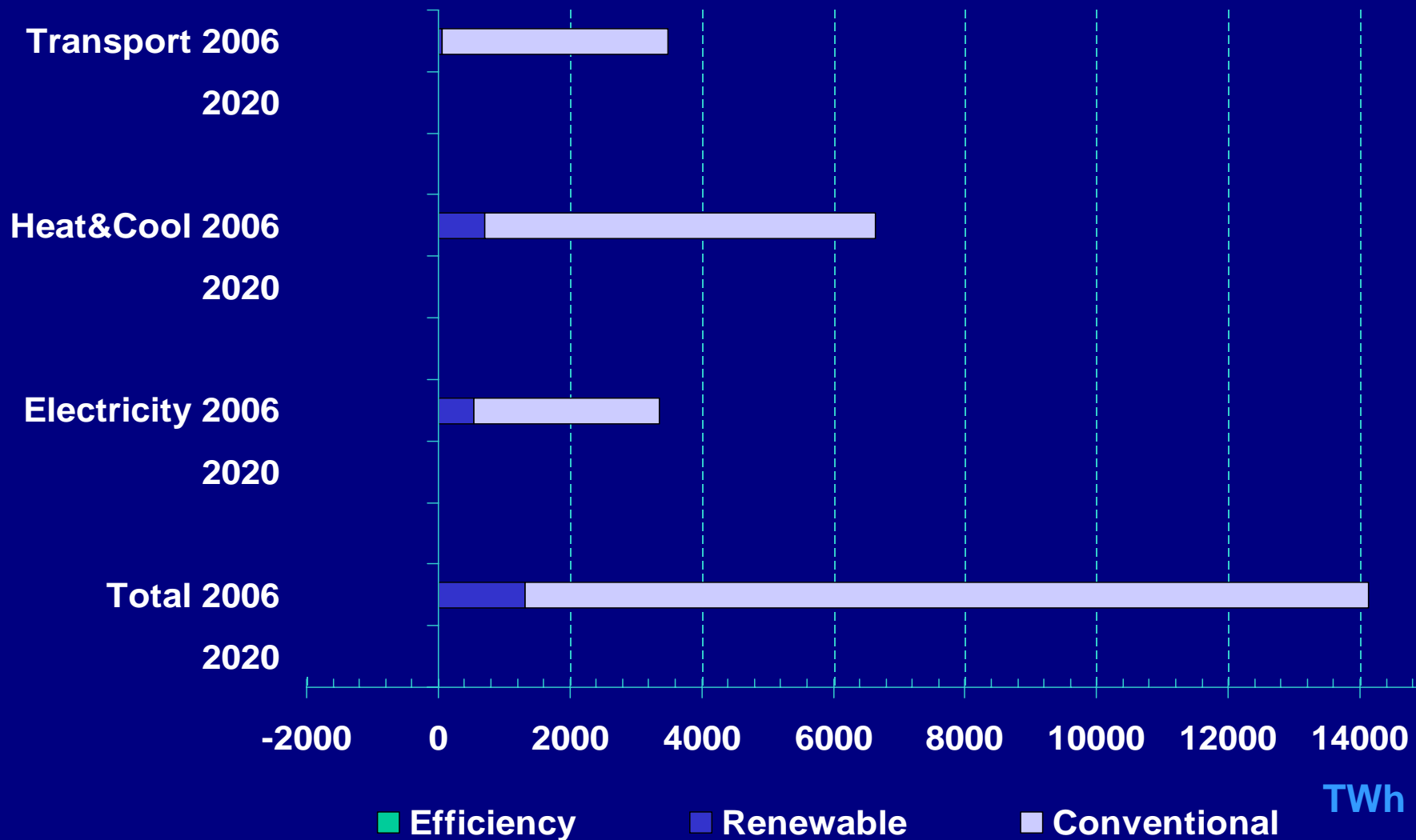
20% Share of Renewable Sources: **3300 TWh**

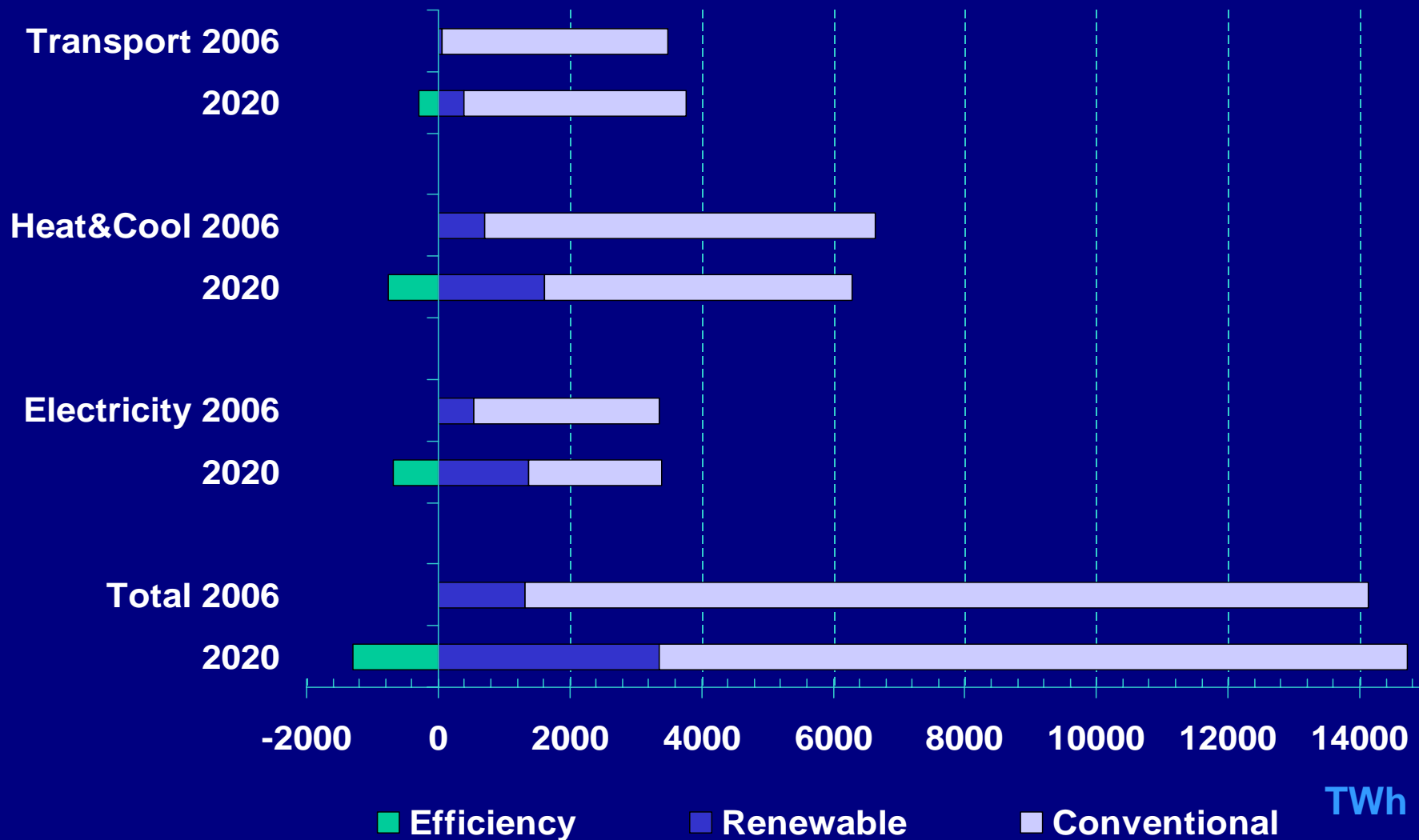


Source based on EREC 2008









SET Plan Renewables

Photovoltaic Solar Energy (5...12% by 2020)

Biofuels (2nd generation?)

Energy Efficiency Policy

National Action Plans + Covenant of Mayors

Electricity Consumption in Households, Industry and Electronics

Building Energy Performance

Renewable Energy Directive

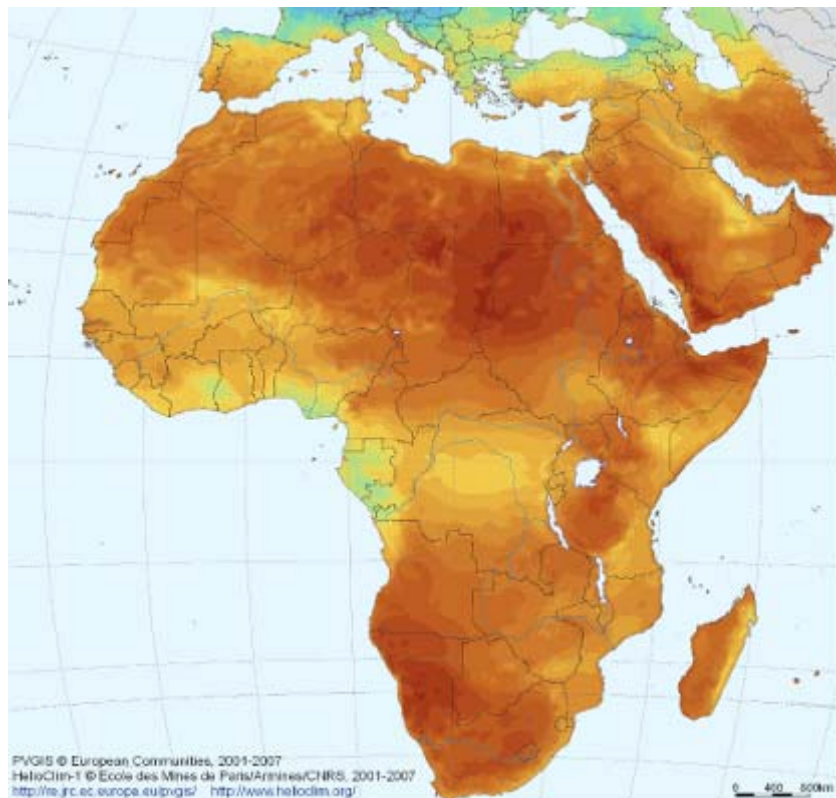
National Renewable Energy Action Plans/ Implementation Progress

Sustainability of Bio-Energy

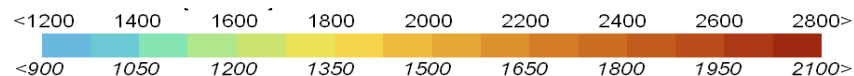
Technology Estimates

EU-Africa Energy Partnership

Enabling Africa for 20% Renewables



Yearly sum of Global Irradiation (kWh/m²)



Yearly sum of Solar Electricity generated by
1kW_psystem (kWh/kW_p)

Wind

Solar Photovoltaics

Biomass

Biofuels

Mini hydro

Available across Continent

Own, indigenous resources

How to realise?

- **Capacity Building**
- **Networks of Stakeholders**
- **Across-Continent Thinking**
- **Knowledge Sharing**
- **Experiences and best practices**
- **Application of International Standards**
- **Intelligent Financing**
- **Renewable's seem to be costly, but they also pay back soon !**

Utilities

Grid-Feeding

Integration into existing Grids

Partial Ownership of Installations

Pan-Regional Networks

Utilities

Financing Institutions

Up-front investment

Ownership of Installations

Local Entrepreneurships

Micro-financing

Utilities

Financing Institutions

Dissemination

Conferences

Workshops

Web-Sites

Newsletters

Periodicals

High-School events

Utilities

Financing Institutions

Dissemination

Industry

Production

Assembly Lines

Marketing

Periodicals

High-School events

Utilities

Financing Institutions

Dissemination

Industry

Craftsmen & Installers

Electricians

Carpenters

Civil works

Utilities

Financing Institutions

Dissemination

Industry

Craftsmen & Installers

Project Offices

Engineers

Administration

Finance Flows

Permits

Siting

Utilities

Financing Institutions

Dissemination

Industry

Craftsmen & Installers

Project Offices

Public & Private Research

Universities

Master Curriculum for Renewable Energies

Specialised Institutes, Photovoltaics,
Biomass, Wind

Utilities

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