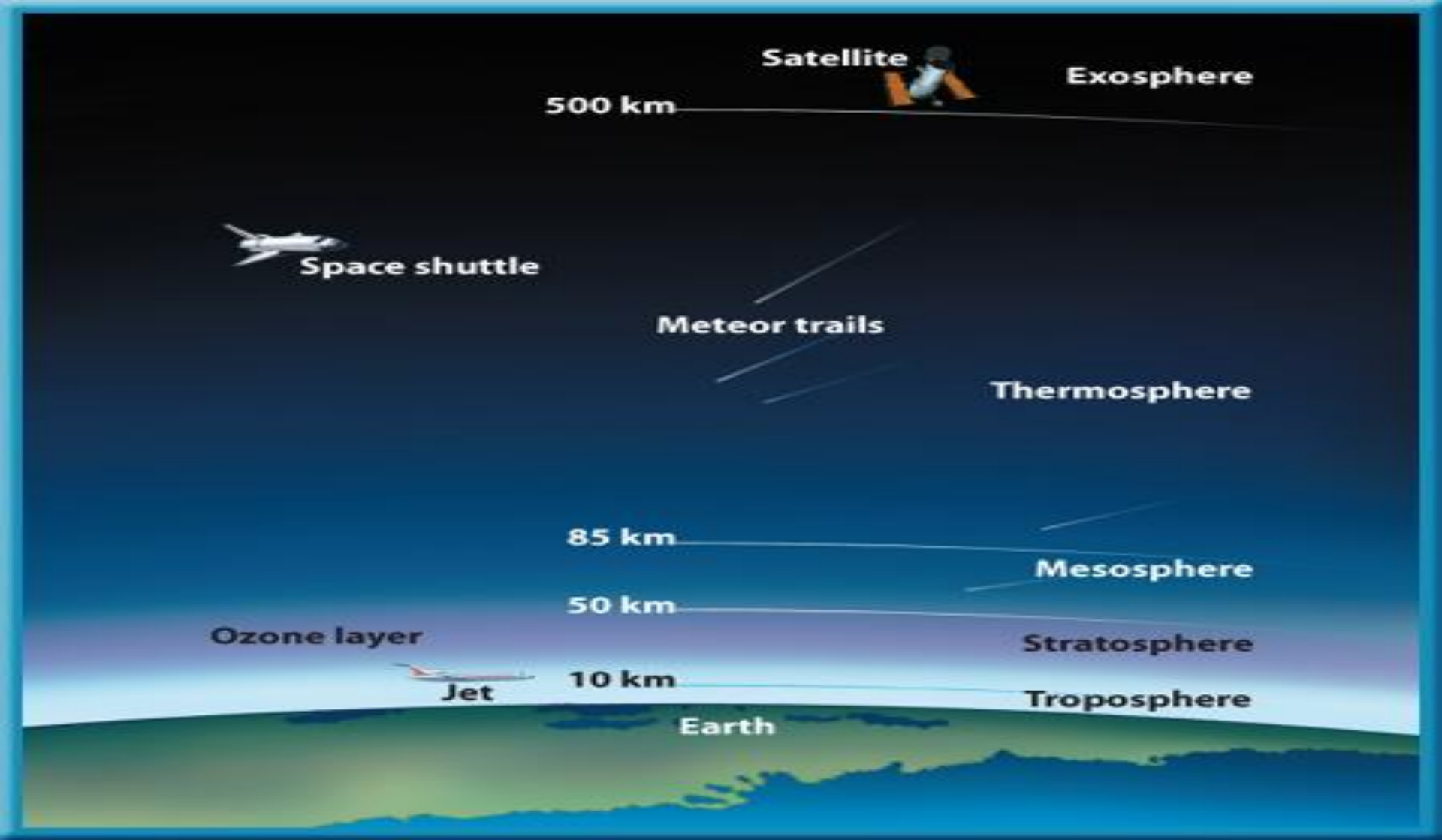
Enerjide Çözüm: Enerjinin Etkin Kullanımı ve %100 Yenilenebilir Enerji

Prof. Dr. Tanay Sıdkı UYAR
Marmara Üniversitesi Enerji Ana Bilim Dalı Başkanı
EUROSOLAR Türkiye Avrupa Yenilenebilir Enerji Birliği Türkiye Bölümü Başkanı

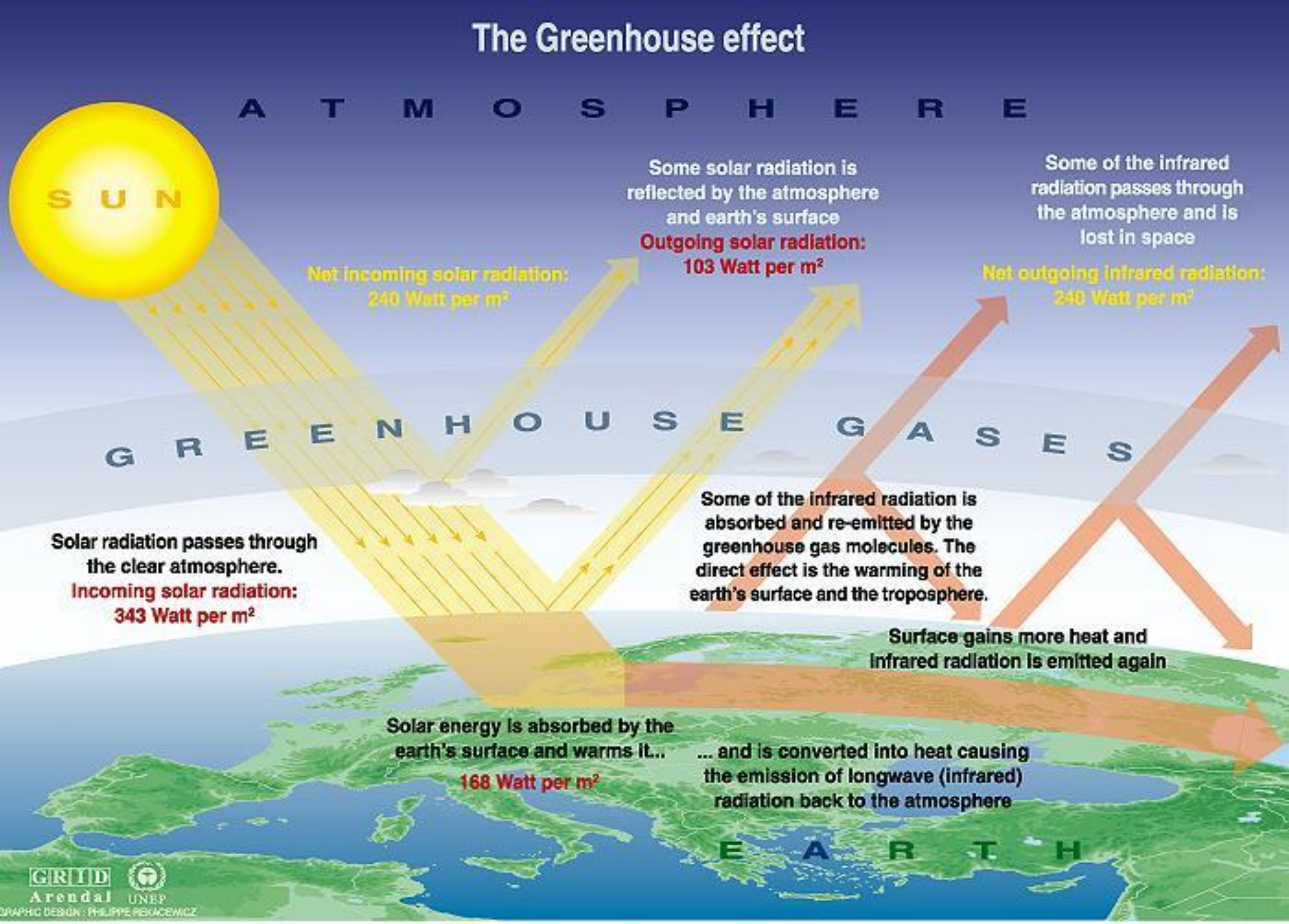
AB Çevre ve Enerji Politikaları ve Türkiye Uyum Süreci Paneli

19 Eylül 2013, Kocaeli Sanayi Odası, Kocaeli



Dünya'nın Atmosferinde her biri kendi özellikleri olan 5 tabaka bulunmaktadır Biz Dünya'nın atmosferik tabakalarının en alçak olanı "Troposphere"de çalışıyoruz, yemek yiyoruz, uyuyoruz ve oynuyoruz.

The Greenhouse effect



Sources: Okanagan university college in Canada, Department of geography, University of Oxford, school of geography; United States Environmental Protection Agency (EPA), Washington; Climate change 1995, The science of climate change, contribution of working group 1 to the second assessment report of the intergovernmental panel on climate change, UNEP and WMO, Cambridge university press, 1996.

The Potential of Renewable Energies Worldwide

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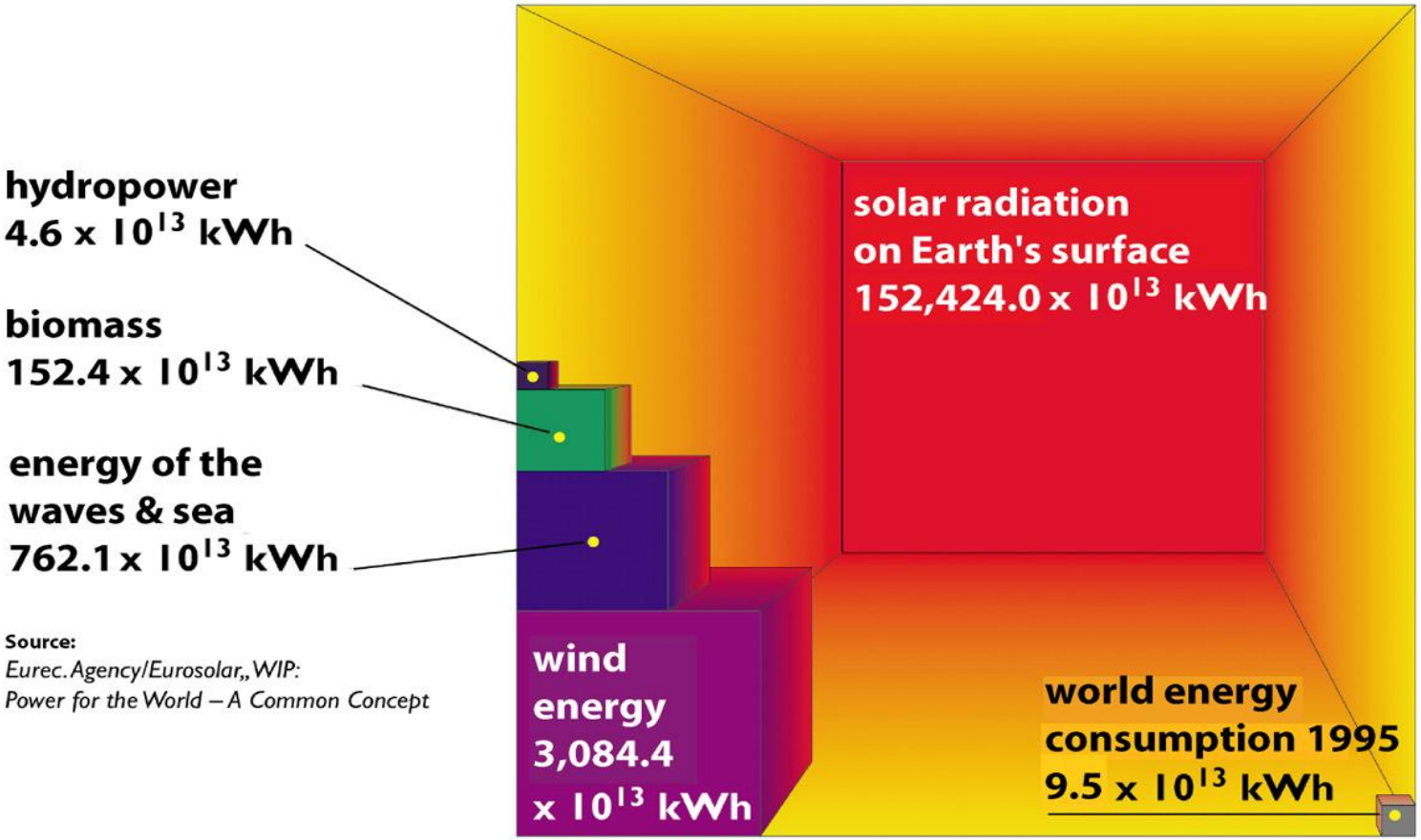
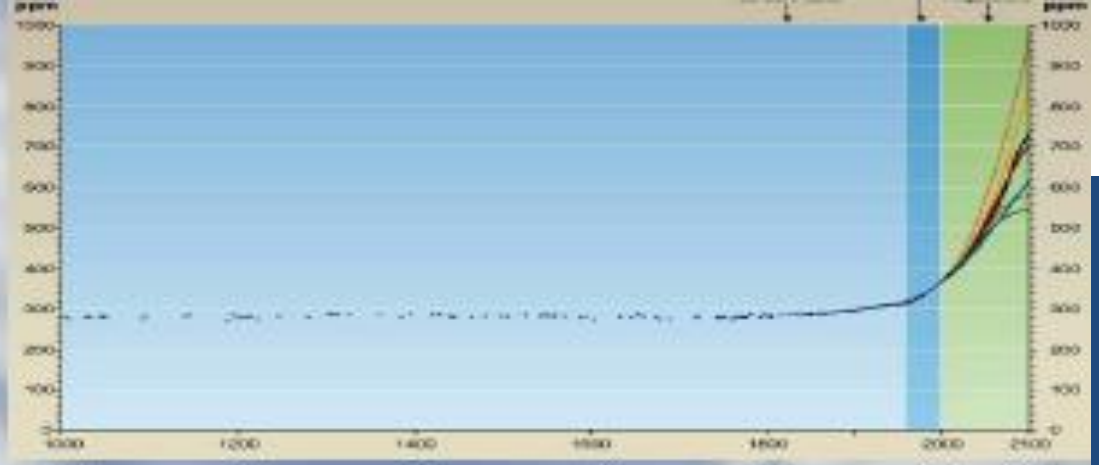


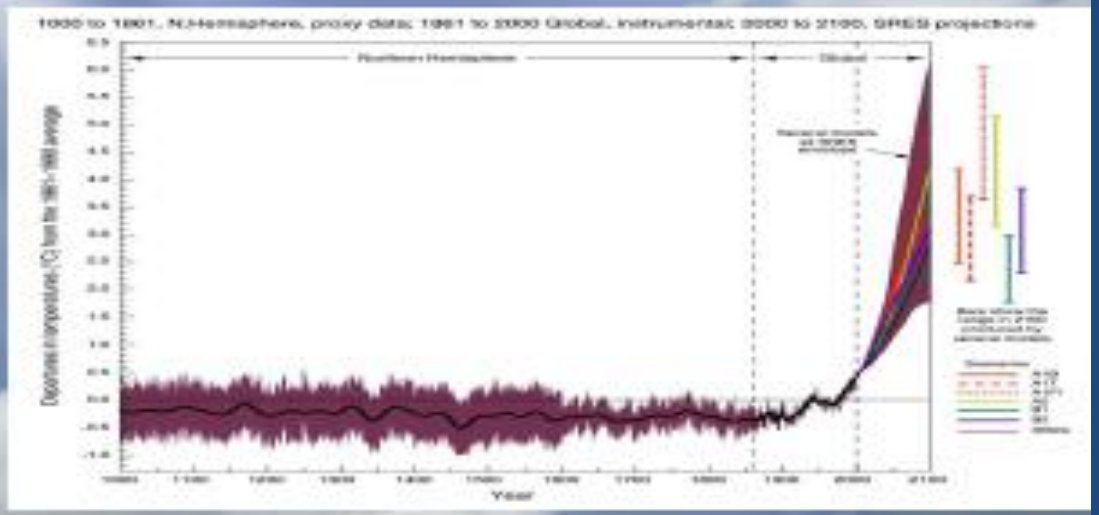
DÜNYA ÇAPINDA YENİLENEBİLİR ENERJİ POTANSİYELİ

CO2 Accumulation in the Atmosphere

and

Global Temperature Changes





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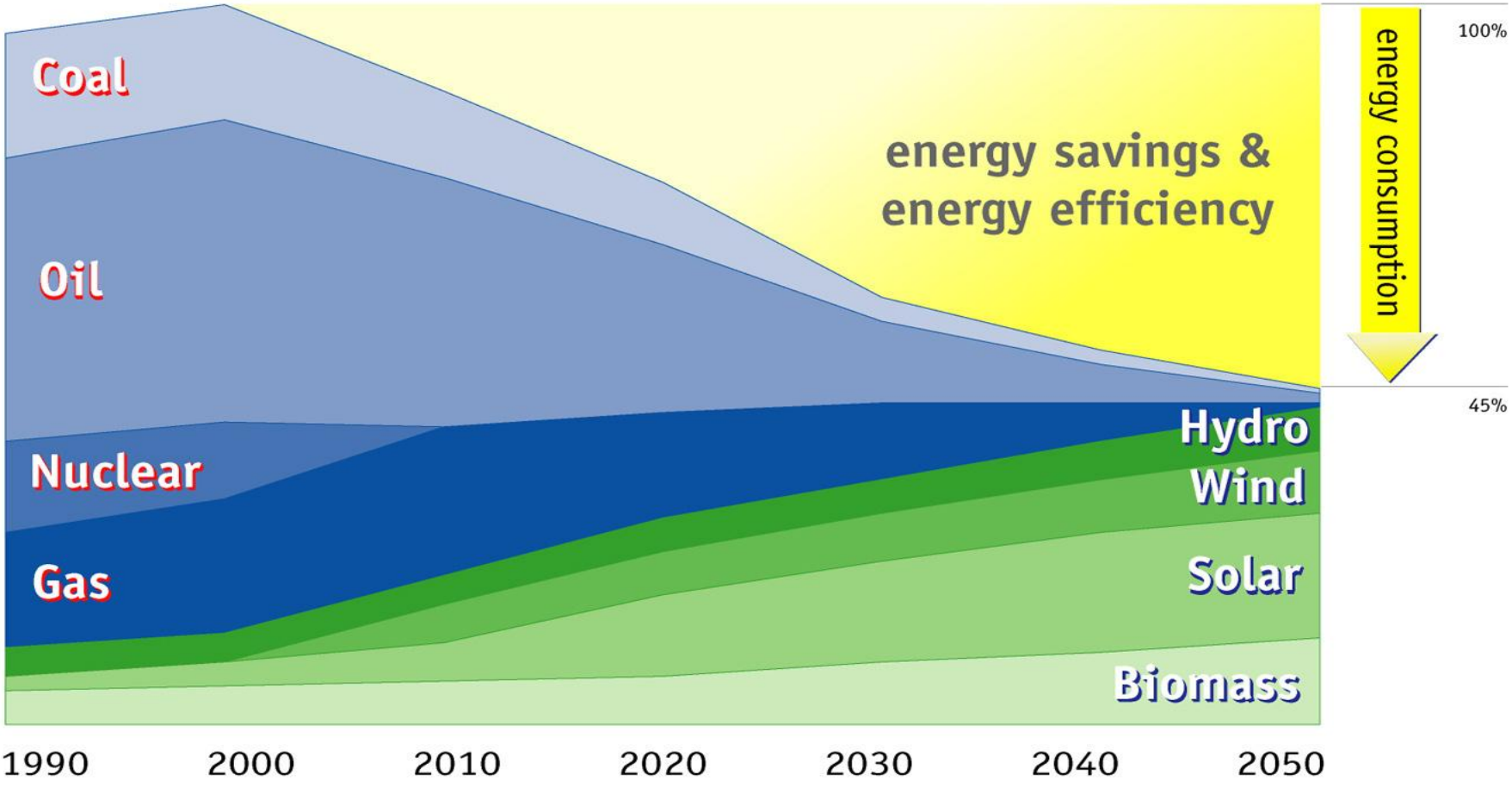
WWEA

ATMOSFERDE KARBONDİOKSİT BİRİKİMİ VE KURESEL SICAKLIK DEĞİŞİMLERİ

Energy Scenario 2050
Primary Energy Consumption Covered

© Bundesverband WindEnergie e.V.

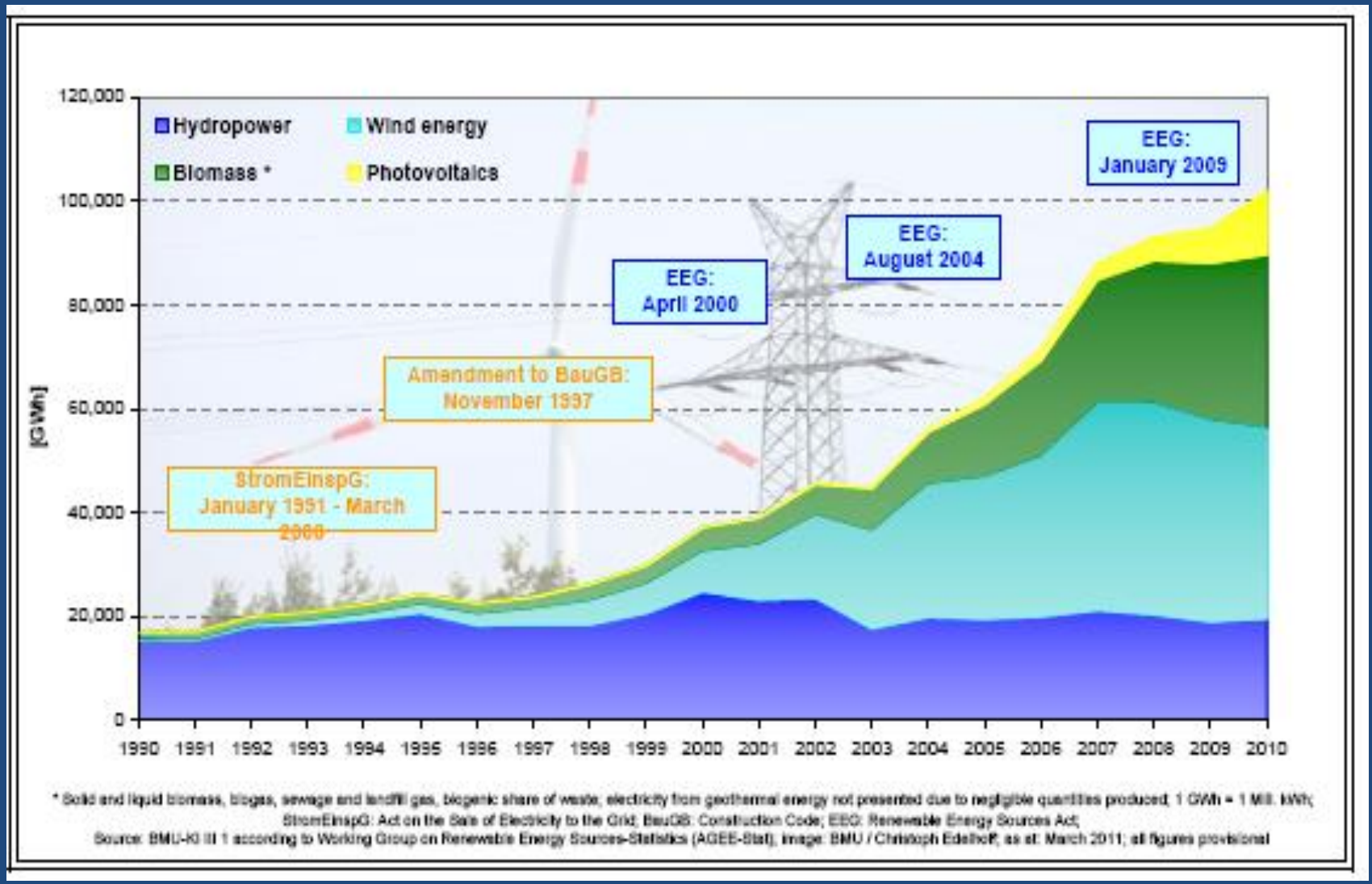
Source:
H. Lehmann, Wuppertal Institute for climate, environment and energy



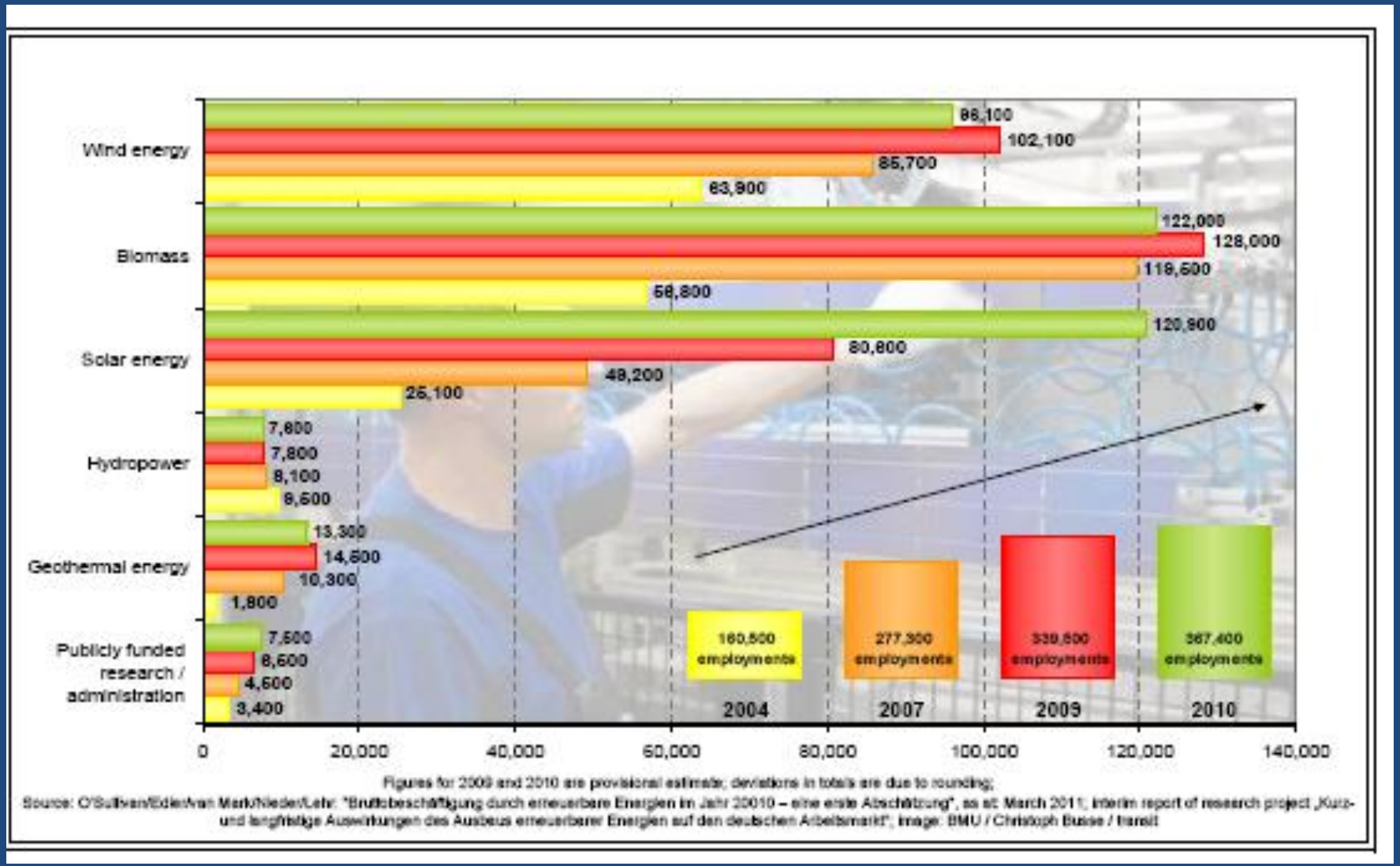
2050 YILI ENERJİ SENARYOSU BİRİNCİL ENERJİ TÜKETİMİNİN TAMAMINI KARŞILIYOR

Elektrik Üretimine YEK Katkısı

Environmental Policy Research Centre, Lutz Mez



Yenilenebilir Enerji Sektöründe Yaratılan İş



Development of Technology
500-fold Increase in Yield since 1980

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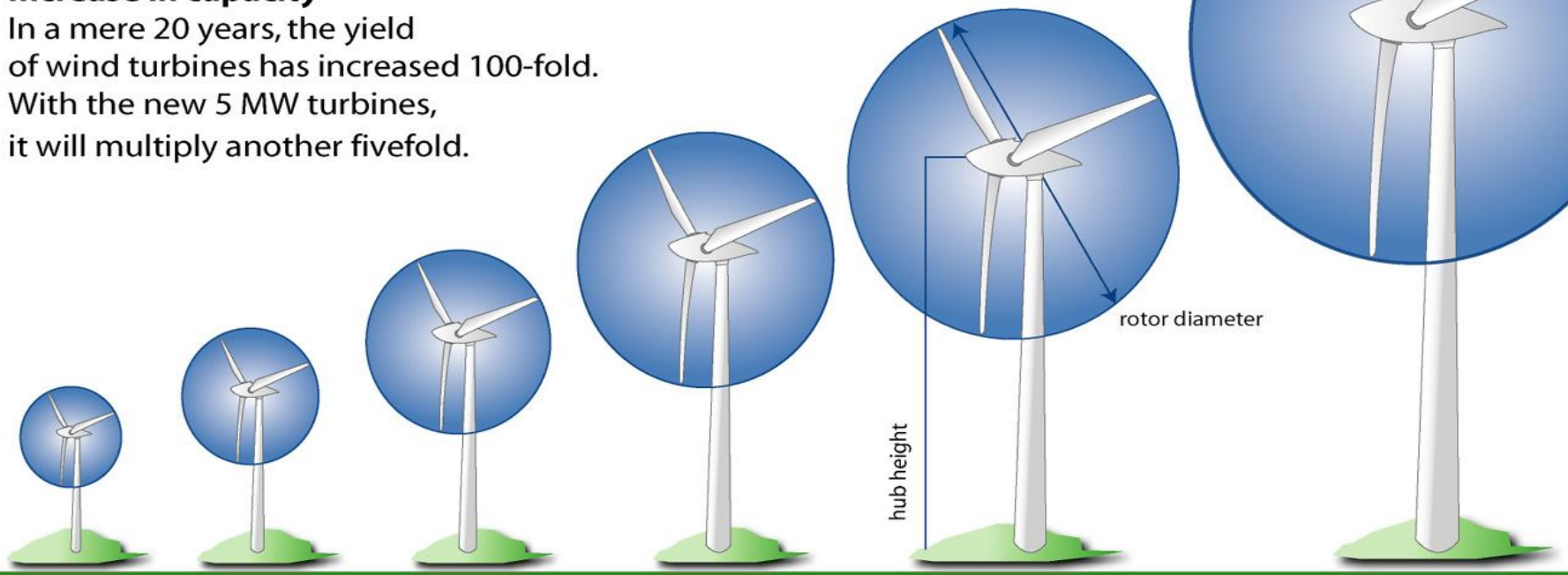
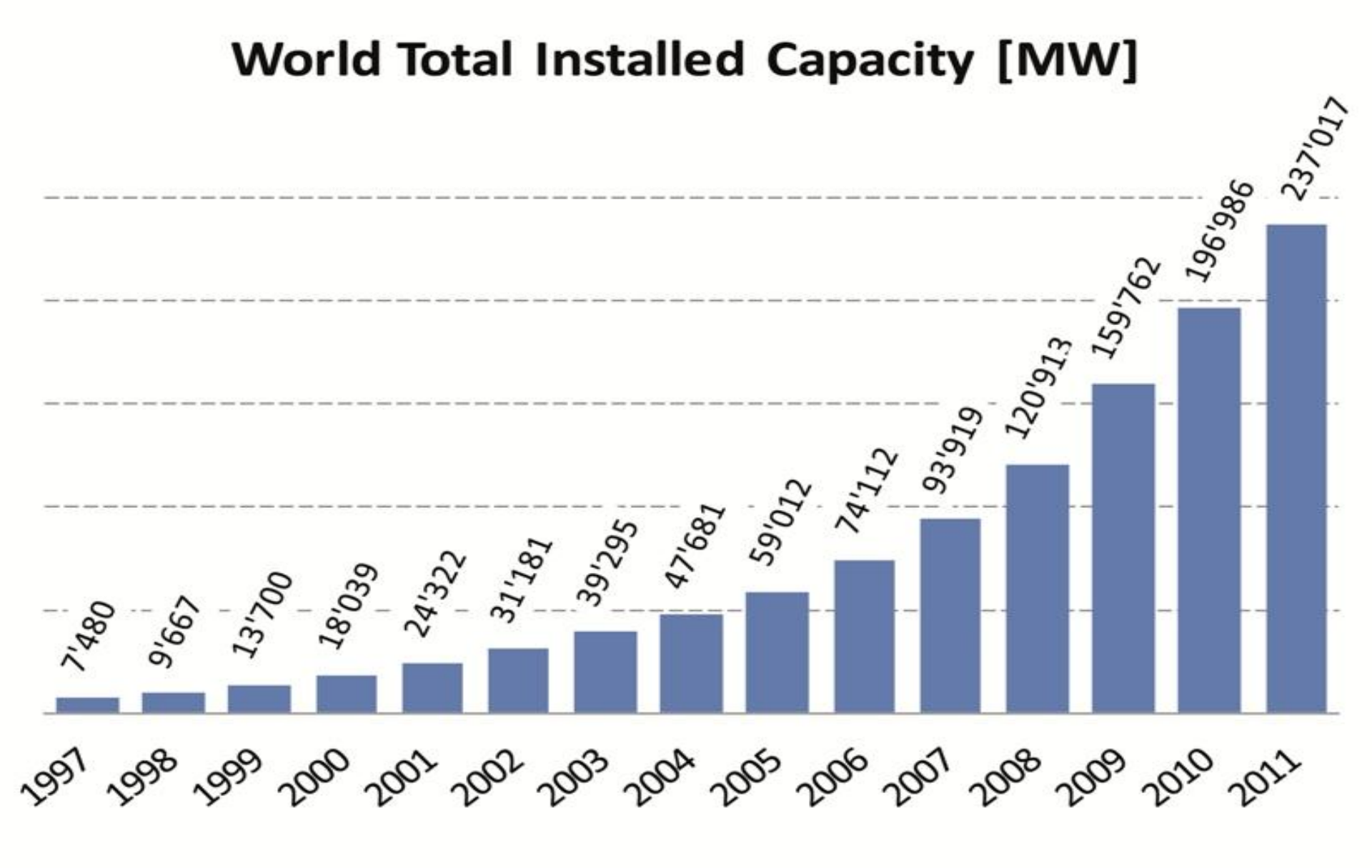
Increase in capacity
In a mere 20 years, the yield of wind turbines has increased 100-fold. With the new 5 MW turbines, it will multiply another fivefold.

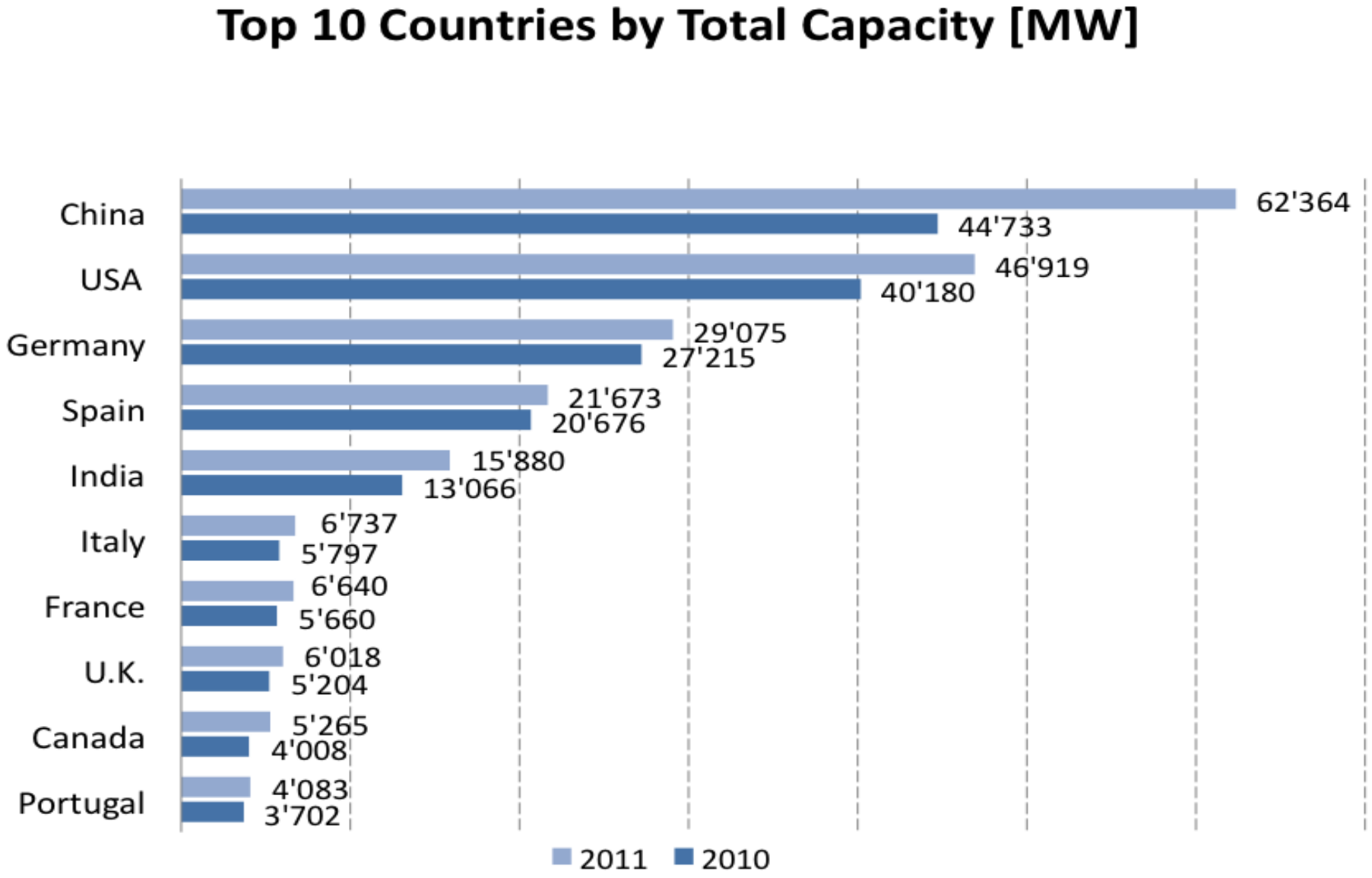


	1980	1985	1990	1995	2000	2005
rated power :	30 kW	80 kW	250 kW	600 kW	1,500 kW	5,000 kW
rotor diameter :	15 m	20 m	30 m	46 m	70 m	115 m
hub height :	30 m	40 m	50 m	78 m	100 m	120 m
annual energy yield :	35,000 kWh	95,000 kWh	400,000 kWh	1,250,000 kWh	3,500,000 kWh	appr. 17,000,000 kWh

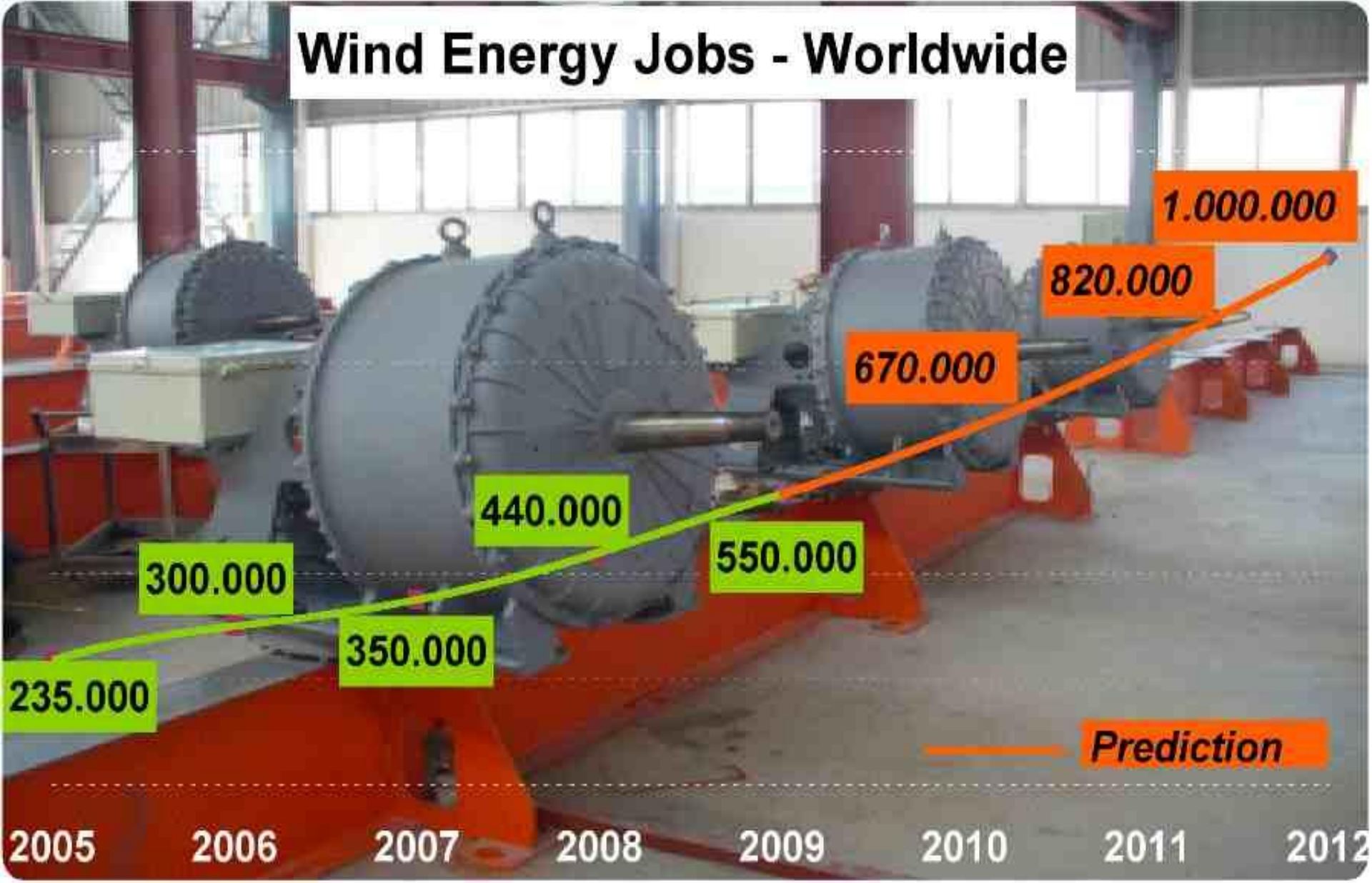
TEKNOLOJİ GELİŞİMİ:
VERİMDE 1980'den BERİ 500 MİSLİ ARTIŞ



2001-2011 YILLARI Toplam Rüzgar Türbin Kurulu Güç (MW)



İLK 10 ÜLKENİN TOPLAM KAPASİTELERİ (MW)


Wind Energy Jobs - Worldwide
235.000
300.000
350.000
440.000
550.000
670.000
820.000
1.000.000
Prediction
2005
2006
2007
2008
2009
2010
2011
2012

EU Key Climate and Energy Objectives for 2020

By 2020 -20% EU GHG

By 2020 +20% ENERGY SAVING

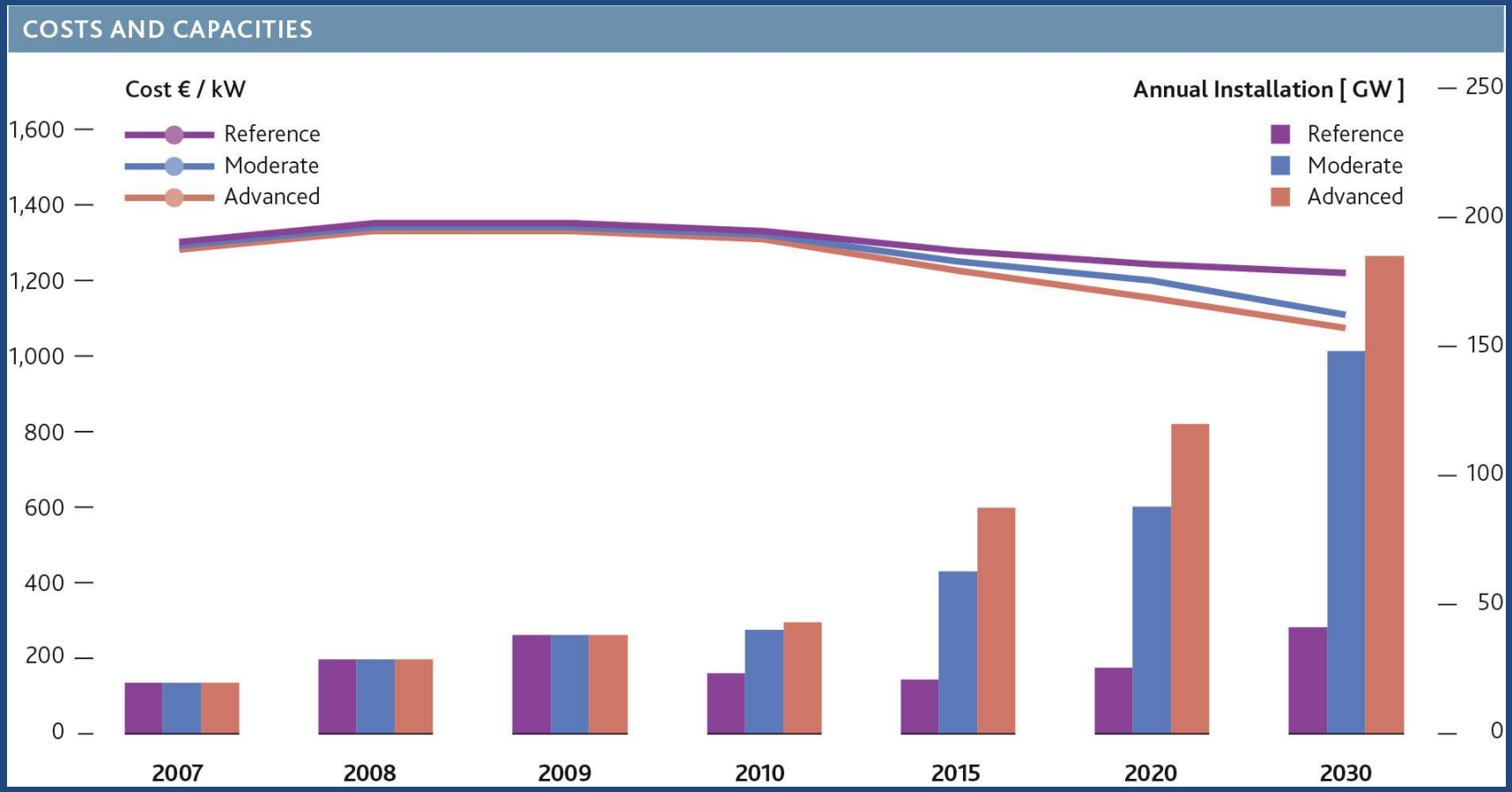
By 2020 binding 20% RENEWABLES in final energy consumption at EU level

RES in transport
Min 10% binding

ELECTRICITY
MS binding choice

HEATING & COOLING
MS binding choice

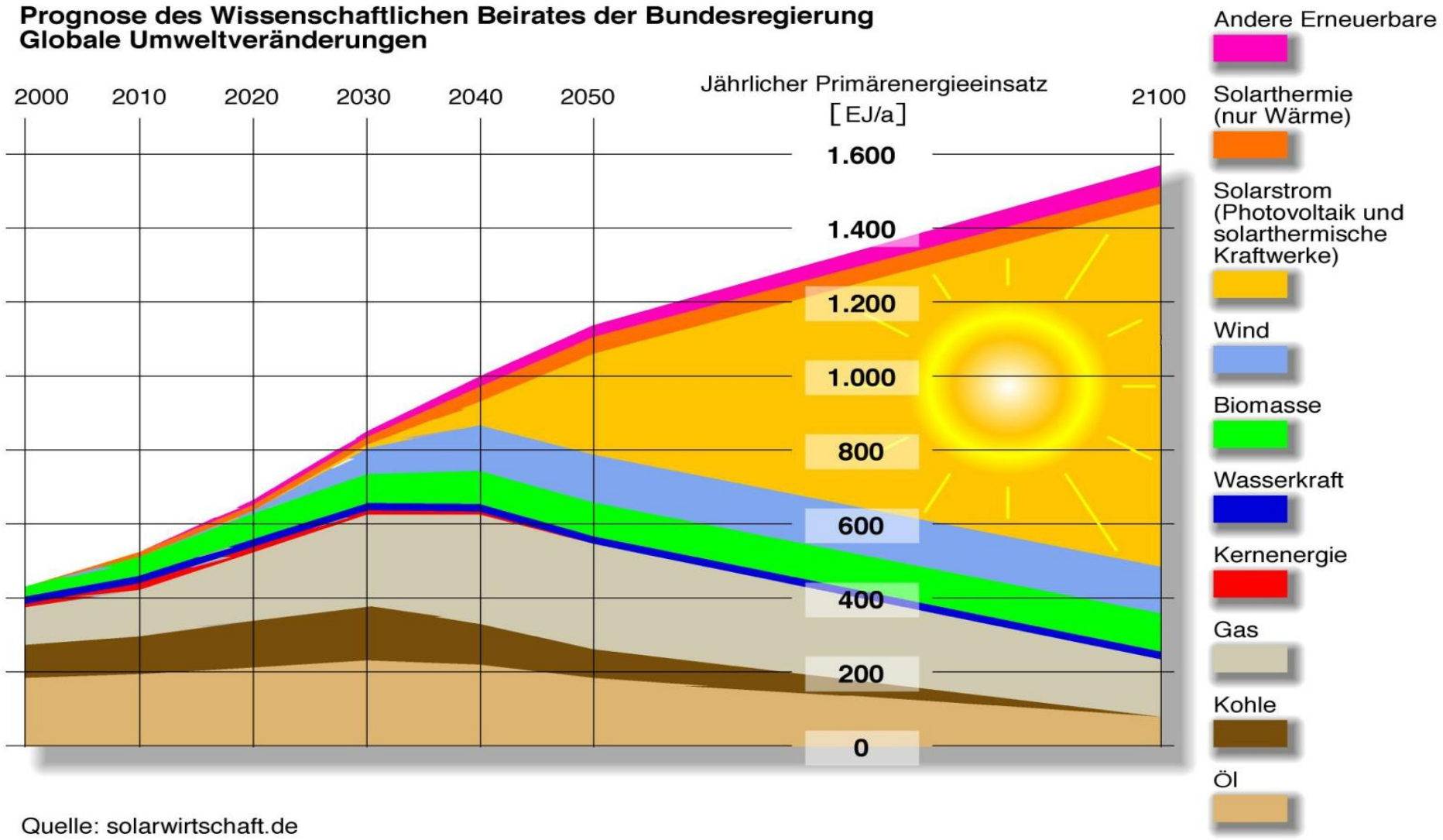
NATIONAL TARGETS & ACTION PLANS



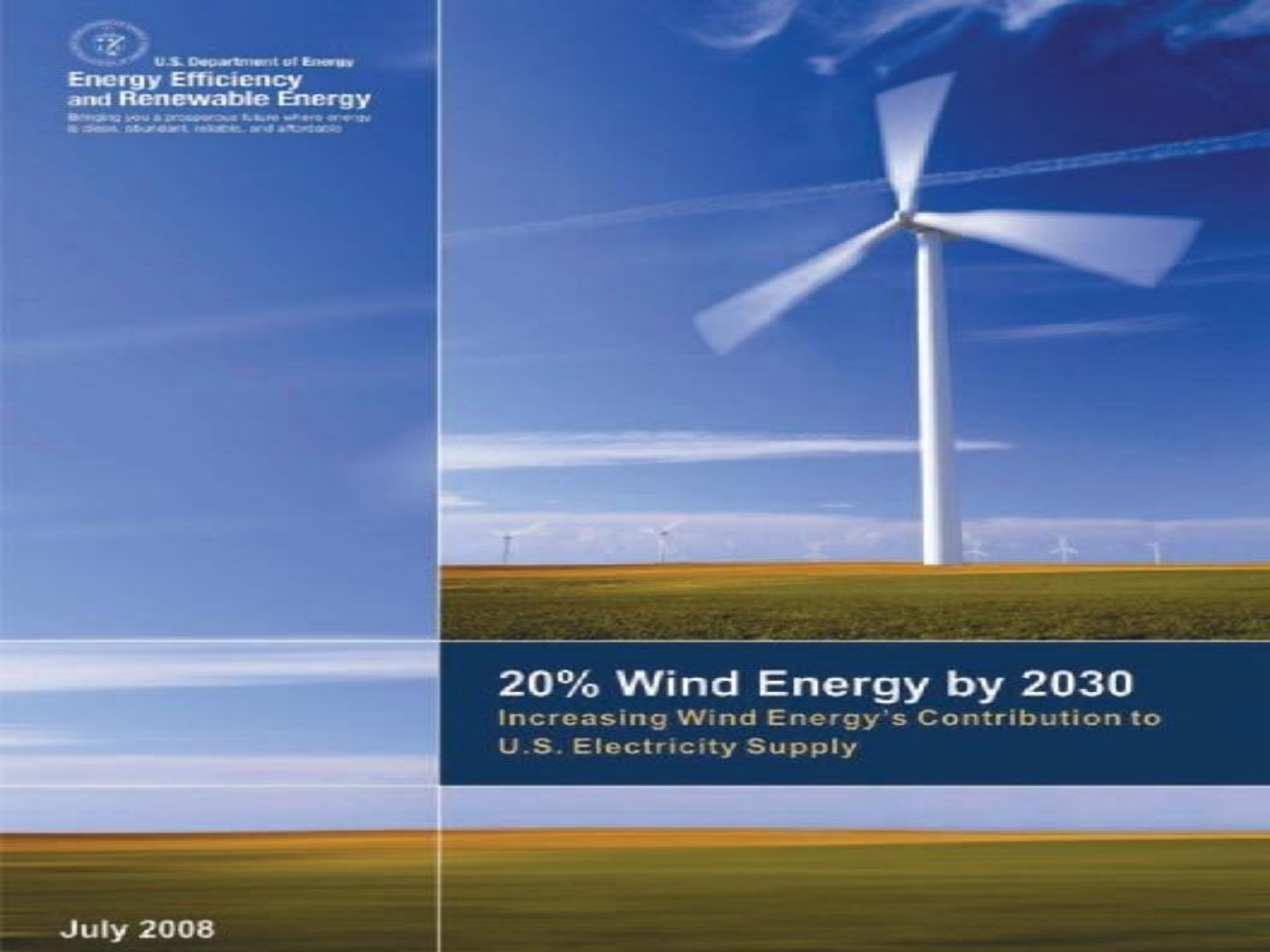
Maliyet ve Kapasiteler

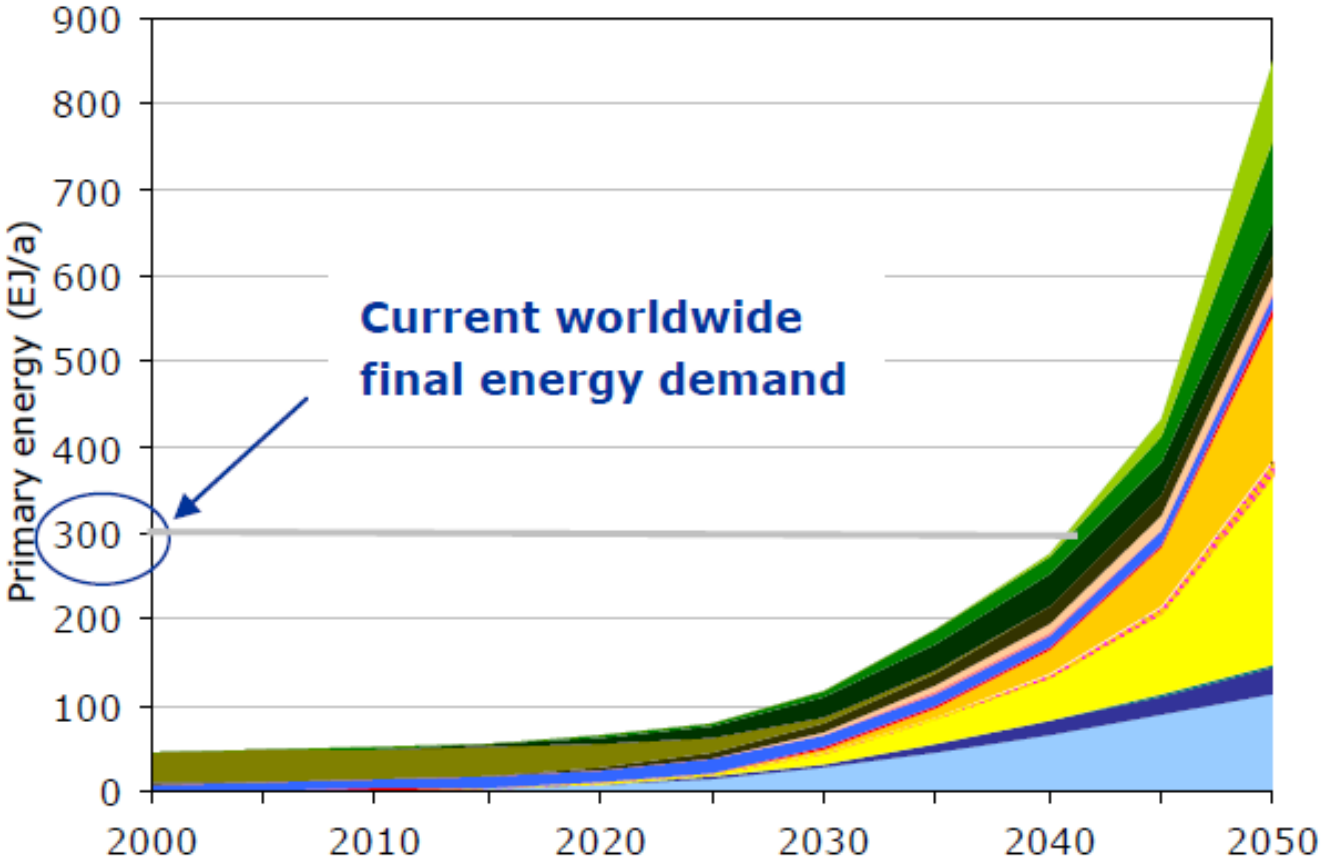
Kaynak: GWEC

Veränderung des weltweiten Energiemixes bis 2100



2100 YILINA KADAR ÖNGÖRÜLEN BİRİNCİL ENERJİ KULLANIMI


U.S. Department of Energy
Energy Efficiency
and Renewable Energy
Bringing you a prosperous future where energy
is clean, abundant, reliable, and affordable
20% Wind Energy by 2030
Increasing Wind Energy's Contribution to
U.S. Electricity Supply
July 2008



Çeşitli yenilenebilir enerji kaynaklarının küresel arz potansiyeli.

Kaynak: GWEC

IRENEC

%100 Yenilenebilir Enerji MÜMKÜN

IRENEC 2013
3. ULUSLARARASI %100 YENİLENEBİLİR ENERJİ KONFERANSI

27-29 Haziran 2013, İstanbul

Avrupa Yenilenebilir Enerji Birliğinin Türkiye Bölümü **EUROSOLAR Türkiye**, Birliğin vizyonu doğrultusunda %100 yenilenebilir enerjilere dönüşümün teknik, ekonomik, siyasi boyutlarının ve sanayide, mimaride, ulaşımda ve eğitimde hayata geçme yollarının tartışılacağı uluslararası bir platform yaratmak için her yıl, **IRENEC Uluslararası %100 Yenilenebilir Enerji Konferansı** düzenlemektedir.

Mevcut enerji ağını gelecekte tümüyle %100 Yenilenebilir Enerjilere dönüştürme küresel hedefi, IRENEC2012 Konferansının sonuçlarının ortaya koyacağı yolları da takip ederek IRENEC 2013'nin konularının da ana teması olacaktır.

İletişim:
info@irenec2013.com
www.irenec2013.com
T. 0 533 395 5839

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www.maltepe.bel.tr

EUROSOLAR Türkiye

IRENEC

100% Renewable Energy is POSSIBLE

27-29 June 2013, İstanbul

IRENEC 2013

INTERNATIONAL 100 % RENEWABLE ENERGY CONFERENCE AND EXHIBITION

EUROSOLAR Turkey, the Turkish Section of European Association for Renewable Energies, in line with the vision of the Association, is organizing every year **IRENEC, International 100% Renewable Energy Conferences,** to set up an international platform to discuss the technical, economic, political aspects of transition to 100% Renewable Energy and build the courses to realize this vision in industry, architecture, transportation, local communities and training.

Following the paths to be set out in the conclusions of IRENEC2012, the global challenge to transform totaly the existing energy network for a 100% renewable energy future shall be the main theme of the topics of IRENEC2013.

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EUROSOLAR Turkey
Turkish Section of European Association for Renewable Energy

TRANSITION TO 100% RENEWABLE ENERGY IS THE ONLY SOLUTION

EUROSOLAR Turkey, the Turkish Section of the European Association for Renewable Energy, once again brings you the annual **International 100% Renewable Energy Conference (IRENEC 2014)**. As per the vision of the Association, **IRENEC** provides an international platform for the sharing of knowledge and ideas regarding the technical, economic, and political aspects of the transition to 100% Renewable Energy and for building the networks to realize this vision through industry, architecture, transportation, local communities and training.

Following on the direction laid out in the conclusions of last year's Conference, the main theme of **IRENEC 2014** is the global challenge of transforming the existing energy network to enable a 100% renewable energy future.

We are looking forward to the pleasure of meeting you at **IRENEC 2014**

26-28 JUNE 2014
TURKEY

EUROSOLAR Turkey
Turkish Section of European Association for Renewable Energy

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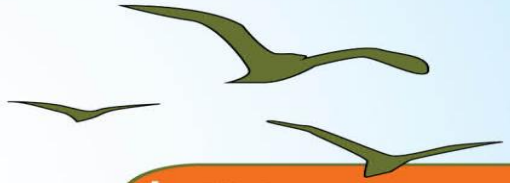
IRENEC

KONFERANS GENEL BAŞLIKLARI

- Enerji-Çevre-Ekonomi
- Entegre Enerji Karar Destek Araçları
- Enerji Son Kullanım Verimliliği
- Yenilenebilir Enerjilerin Depolanması
- Dış Maliyetlerin İçselleştirilmesi
- Rüzgar Türbin Teknolojileri
- Güneş Enerjisinden Proses Isısı Üretimi
- Güneşten Elektrik Üretmek
- Biokütle Enerjileri ve Teknolojileri
- Jeotermal Enerji Uygulamaları
- Sıfır Enerjili Binalar
- %100 Yenilenebilir Enerjiler için Eğitim, Öğrenim ve Araştırma
- Doğa ve İnsan Etkinliklerinin İlişkileri ve Etkileşimleri
- Yenilenebilir Enerjiler için Akıllı Şebeke (Smart Grid) Uygulamaları
- İklim Değişikliği; Sera Gazı Emisyonlarının Azaltılması ve Adaptasyon
- Sıfır Karbonlu Kentler
- Yenilenebilir Enerjilerin Finansmanı



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