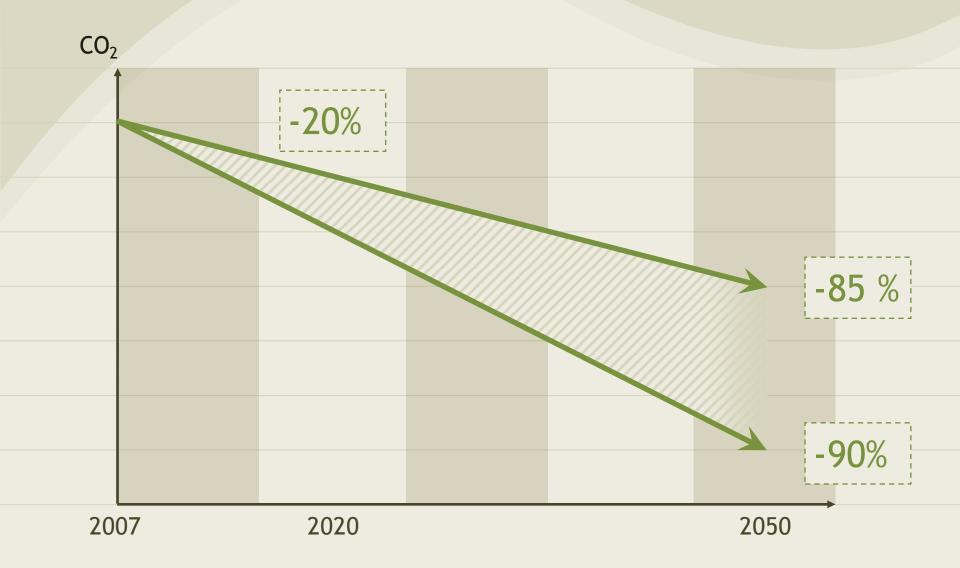


Global CO₂ Emissions From Energy Consumption

Million tonnes CO ₂	1900	1945	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020	2030	2050	
45 000															>	
40 000																
35 000																
30 000												~				
25 000										~						
20 000							-	-								
15 000					-											
10 000			1													
5 000																
0	•															
	IEA: CO ₂ Carbon o USA: uni IEA: Woi	dioxide ii til 1970, rld Energ	nformati growth r y Outloo	on analy: ates use k 2006	s is cente	r, Oak Ri ing with	dge Nati IEA data	onalLabo	oratory,							

European Commission, DG RTD, World Energy Technology Outlook - 2050 (growth rates for extending series to 2050 and for missing years in IEA projections)

CO2 objectives for the EU



World Energy Demand Total

Mtoe	1950	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050	
22 000											>	
20 000												
18 000										/		
16 000										1		
14 000												
12 000												
10 000												
8 000					-							
6 000				~								
4 000			~									
2 000		-										
0												

Total

IEA statistical database 1975 - 2000; World Energy Outlook 2006; IEA World Energy Outlook 2006. BP Statistical Review of World Energy (without uncommercial energies): growth rates used for extending time series backwards for 1965 and 1970 as well as for the 2005 number. WETO- H_2 study (DG RTD): growth rates 2050/2030 used for extending IEA time series to 2050

The engine of energy demand growth moves to South Asia

WORLD ENERGY OUTLOOK 2013

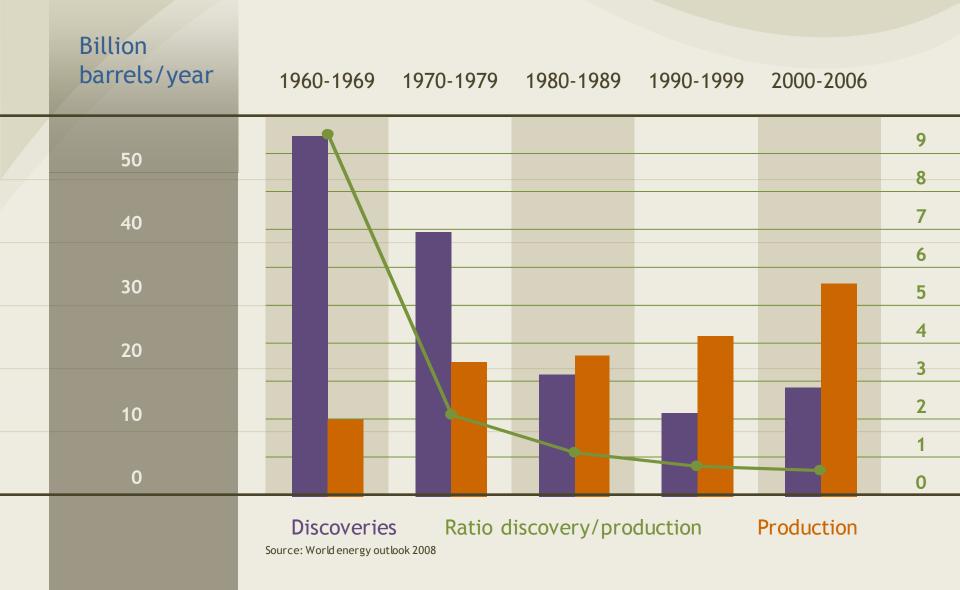
Primary energy demand, 2035 (Mtoe)

Share of global growth 2012-2035



China is the main driver of increasing energy demand in the current decade, but India takes over in the 2020s as the principal source of growth

World oil reserves Oil discoveries and production, 1960-2006



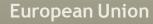
Proven Oil Reserves (end of 2008)

Billion barrels 754.1 **European Union** Asia Pacific North America South & Central America Africa Russia & other Eurasian 127.1 123.2 125.6 countries 70.9 42.0 Middle East 7.6

Source: BP statistical review of world energy full report 2009

Proven Gas Reserves (end of 2008)

Trillion cubic metres



Asia Pacific

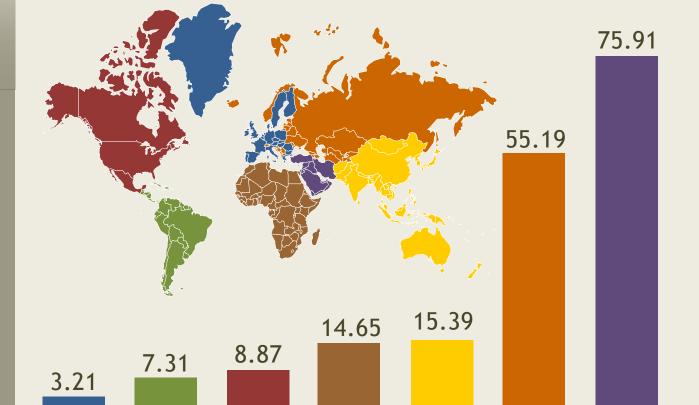
North America

South & Central America

Africa

Russia & other Eurasian countries

Middle East



Source: BP statistical review of world energy full report 2009

EU strongest renewable energy potentials

Wind Energy Onshore

Solar Energy

Wave Energy

\$

Simplified Map

TRANSITION TO A CLEAN ECONOMY

CLEAN ENERGY IS THE GROWTH OF TOMORROW

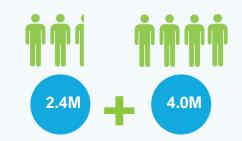


EU's renewable energy sector created in 2014 an annual turnover of around **143.6 billion EUR**



EU companies have a share of **40% of all patents** for renewable technologies

Source: European Parliamentary Research Service



2.4 million Europeans are employed in sectors providing energy efficiency products and services.More than 1 million people work in the renewable energy sector, with potentially 3 million more jobs by 2020

Source: European Commission



Source: EurObserv'ER

Increasing Import Dependency

ATA/A



A low Carbon Future

CHALLENGES AND OPPORTUNITIES



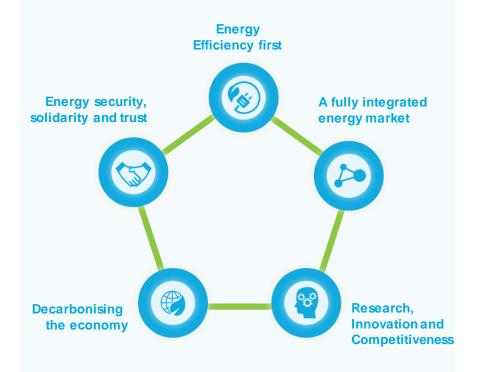
Modernise our economy by bringing down greenhouse gas emissions while creating jobs and growth

The EU as the **world leader on renewable energy and placing energy efficiency first** based on new technologies and industrial leadership



Ensure a socially fair transition where regions, cities and consumers play an active role

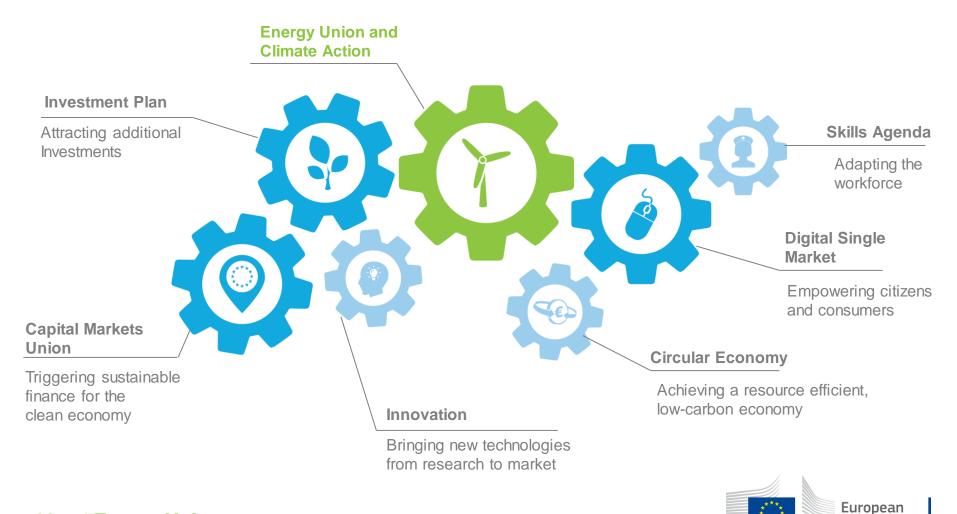
ENERGY UNION STRATEGY





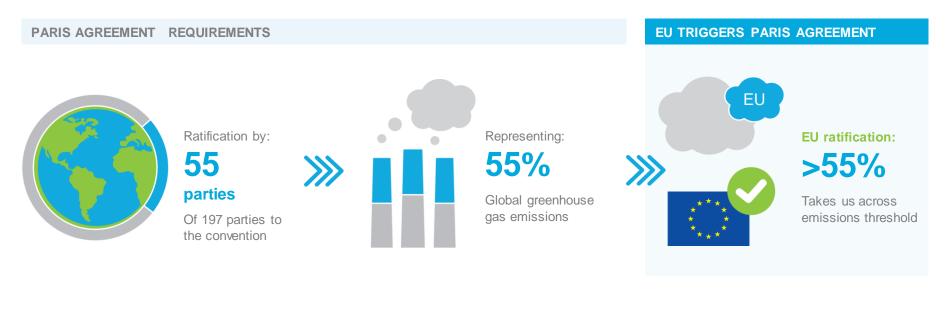
European Commission

MODERNISATION OF THE ECONOMY ROLE OF THE ENERGY UNION AND CLIMATE ACTION



Commission

CLIMATE DELIVERABLES – PARIS AND BEYOND





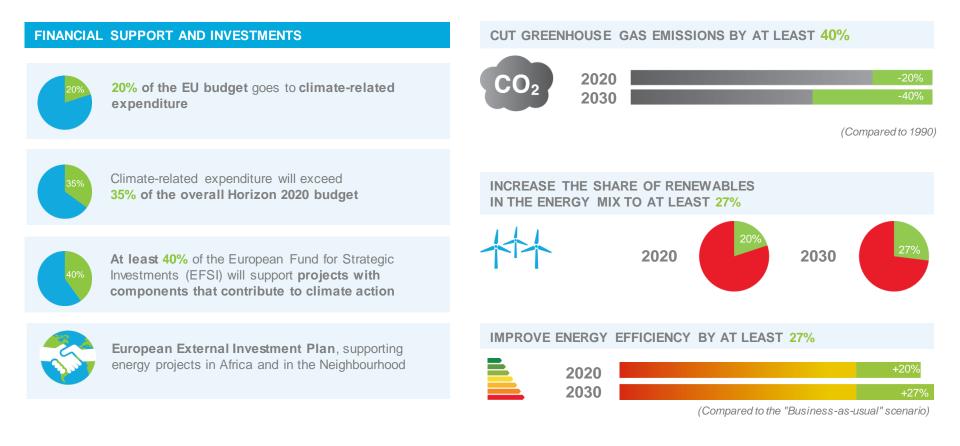
#EnergyUnion

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European Commission

CLIMATE DELIVERABLES





NEXT STEPS





European Commission

