

The Role of Public Policy in Renewable Energy Development: the Case of the United States and China

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Belfort

INTRODUCTION : THE BIG PICTURE – 1

PUBLIC POLICY AS AN INDICATOR:

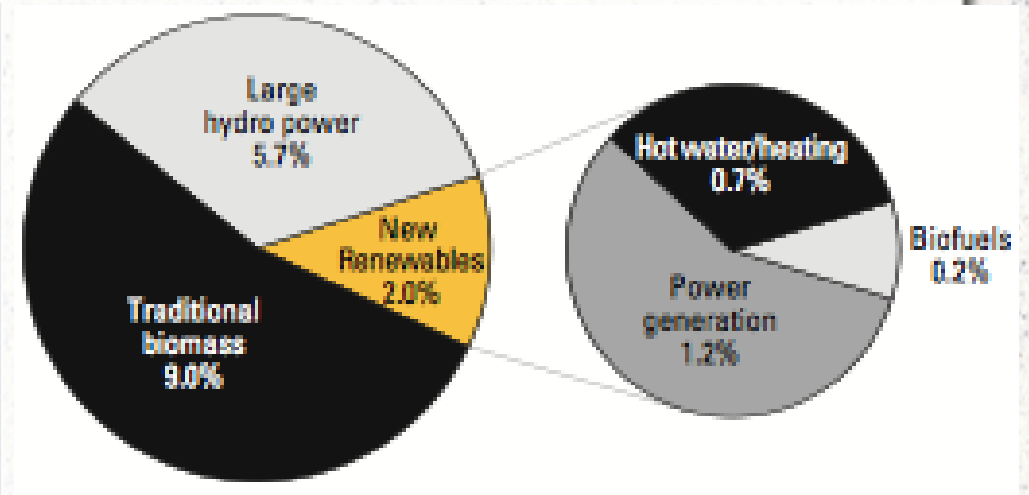
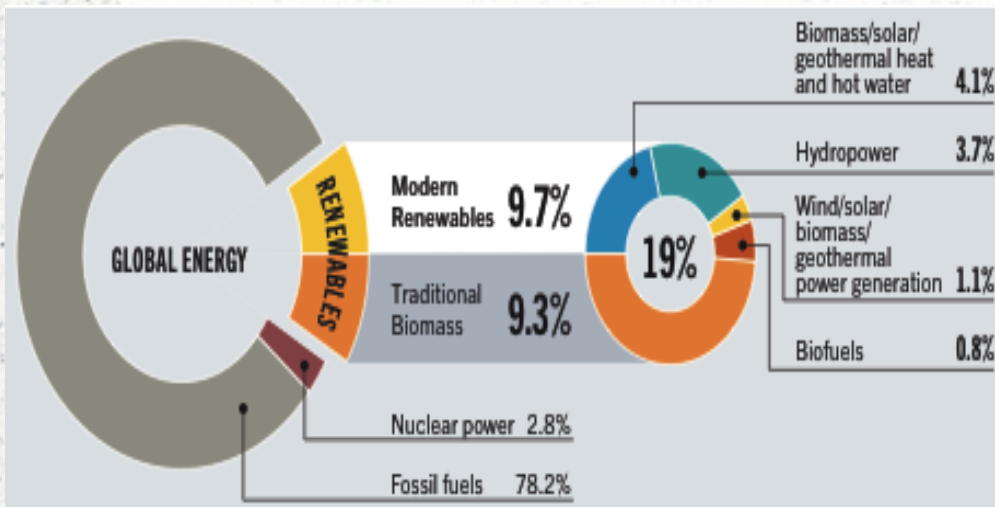
Renewable energy targets were identified in at least 138 countries by the end of 2012 (up from 45 in 2005)
Renewables 2005 & 2013 Global Status Report
(REN21, 2005 ; REN21, 2013).

Renewable energy support policies were identified in 127 countries as of early 2013 (up from 48 in 2005).
(REN21, 2013)

INTRODUCTION : THE BIG PICTURE – 2

ESTIMATED RENEWABLE ENERGY SHARE OF GLOBAL FINAL ENERGY CONSUMPTION, 2011

RENEWABLE ENERGY CONTRIBUTION TO GLOBAL PRIMARY ENERGY, 2004

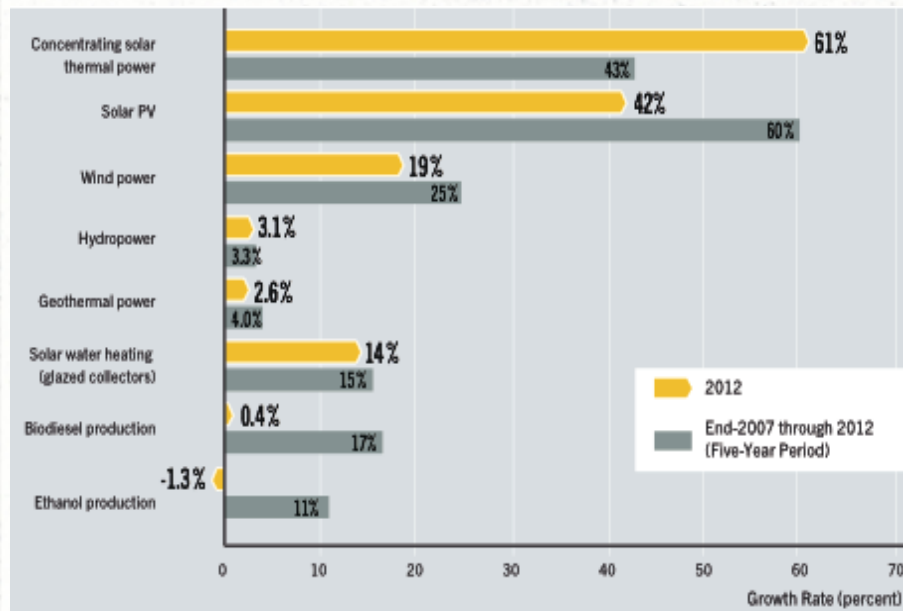


Source : *Renewables 2013 Global Status Report* (REN21, 2013)

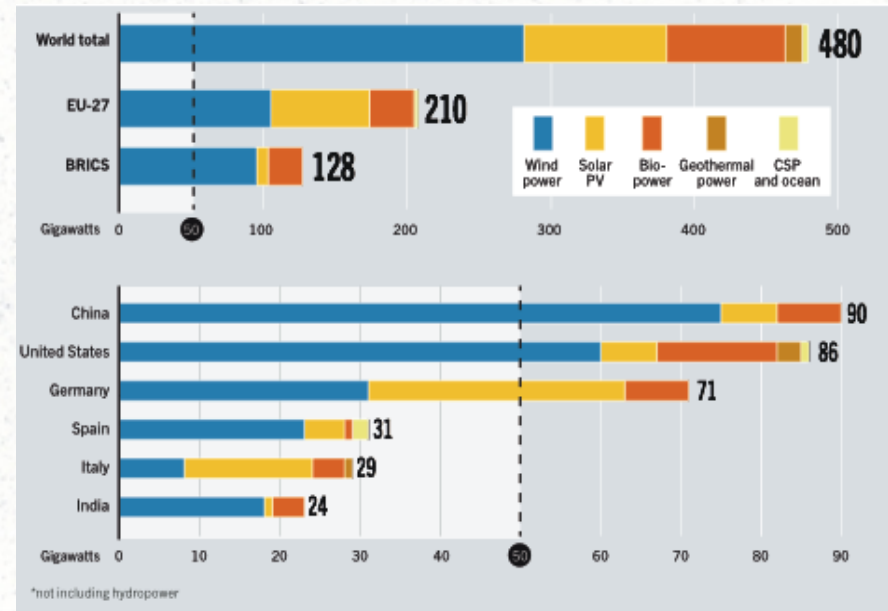
Source : *Renewables 2005 Global Status Report* (REN21, 2005)

INTRODUCTION : THE BIG PICTURE – 3

AVERAGE ANNUAL GROWTH RATES OF RENEWABLE ENERGY CAPACITY AND BIOFUELS PRODUCTION, END-2007–2012



RENEWABLE POWER CAPACITIES* IN WORLD, EU-27, BRICS, AND TOP SIX COUNTRIES, 2012



Source : *Renewables 2013 Global Status Report* (REN21, 2013)

THEORETICAL APPROACHE TO RENEWABLE ENERGY DEVELOPPMENT

TECHNOLOGICAL PERSPECTIVE

Technological innovation
Industry emergence and clusters

Technology-push

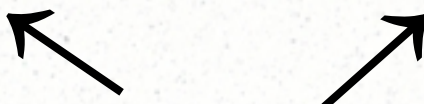
Innovation Policies
R&D

MARKET PERSPECTIVE

Emergence of new markets thanks to
government incentives that frame the
competitive environment or to cost
reductions due to technology
maturation

Market-pull

FIT, RPS, etc.



Public Policy
supply / demand side
price / capacity – driven

RENEWABLE ENERGY POLICIES IN THE U.S. AND IN CHINA : A COMPARISON

Renewable Energy Policies in the U.S. And in China				
Policy type	U.S. (1974-2009)		China (1996-2012)	
Economic Instruments	47	47,5%	25	59,5%
Information and Education	28	28,3%	1	2,4%
Policy Support	20	20,2%	18	42,9%
Regulatory Instruments	26	26,3%	5	11,9%
Research, Development and Deployment (RD&D)	25	25,3%	5	11,9%

Source : prepared according to the IEA / IRENA Global Renewable Energy Policies and Measures Database

RENEWABLE ENERGY POLICIES IN THE U.S. AND 3 PHASES OF DEVELOPMENT

PURPA Era : 1978-1990

(Public Utility Regulatory Policies Act)

Stagnation Era : 1990-1997

Maturation Era : 1999-2012

SEVERAL RENEWABLE ENERGY POLICIES AS « MILESTONE » IN CHINA

Electricity Law of 1995

New and Renewable Energy Development
Program) (Brightness Program) of 1996

Energy Conservation Law of 1997

Medium and Long- Term Development Plan for
Renewable Energy (MLTPRE) of 2007

The Twelfth Five-Year Plan for Renewable
Energy (2012)

EN GUISE DE CONCLUSION...

Contribute to installed renewable energy capacity but not necessary to final consumption because not all electricity produced by RE is integrated to the grid.

Renewable energy policies should consider at the same time smart-grid technology to increase energy efficiency.

Boom-bust cycles related to changing policies.

Thank you !

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