

## Post 2015 Energy Goals

- An effective tool for global governance? -

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## Sustainable Development Goals (SDGs)

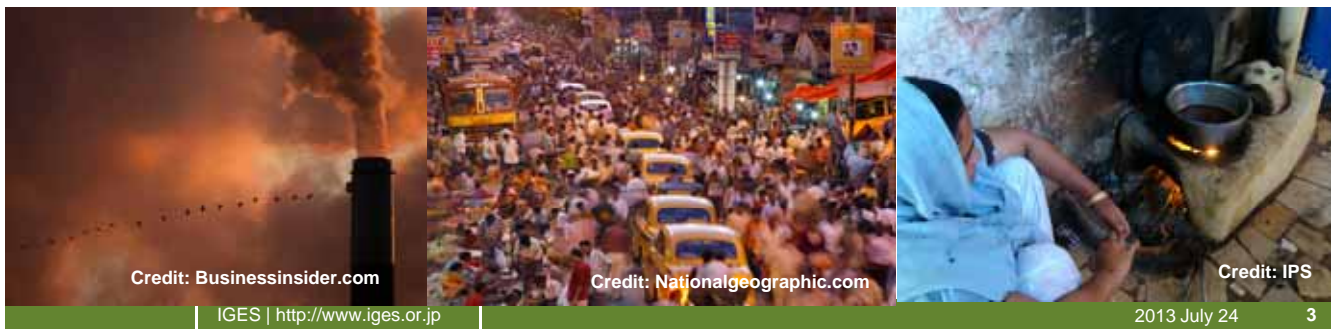
Voluntary goals which are not legally binding

How could they exert positive influence  
and transform 'business as usual'

Mobilizing multi-stakeholders around the world → the coalition of the willing (governments, companies, NGOs, citizens)

- Simple, easy and universal to be an effective awareness raising tool
- Reasonably stretching and good reference for countries
- Present the most pressing global issues in a balanced manner (human well-being and the sustainability of Earth systems) based on science and evidence
- Based on inter-generational equity and long-term perspectives
- Take into account the perspectives of interlink-ages (energy, health, climate change, water etc.)
- Positive, action oriented, and aspirational (e.g. goals on renewable energy and forestry rather than goals on reduction in GHG emissions)
- Needs to be measurable with a solid set of indicators

- Global issue with strong linkages with poverty, health, and climate change
- Could offer multiple benefits for improving human well-being, local environment and climate change mitigation
- Not covered by MDGs
- Over 3 billion people rely on traditional biomass for cooking and heating
- 1.5 billion people have no access to electricity
- Indispensable for poverty eradication
- The largest share of GHG emissions (41%)
- Global energy demand estimated to increase 33% from 2010 to 2035



**ELECTRICITY ACCESS DEFICIT (MILLIONS OF PEOPLE)**

Country	Deficit (Millions of People)
INDIA	60.2
CHINA	40.8
INDONESIA	36.8
ETHIOPIA	36.8
CONGO DR	31.9
SAUDIA	26.8
KENYA	21.9
SUDAN	20.9
UGANDA	20.8
MYANMAR	20.8
AFGHANISTAN	19.9
KOREA CR	18.8
MADAGASCAR	17.8
PHILIPPINES	16.8
PAKISTAN	16.8
BURUNDI	16.8
RUSSIA	16.8
INDONESIA	16.8
HAITI	16.8

**NON-SOLID FUEL ACCESS DEFICIT (MILLIONS OF PEOPLE)**

Country	Deficit (Millions of People)
INDIA	208
CHINA	40.8
INDONESIA	36.8
ETHIOPIA	36.8
CONGO DR	31.9
SAUDIA	26.8
KENYA	21.9
SUDAN	20.9
UGANDA	20.8
MYANMAR	20.8
AFGHANISTAN	19.9
KOREA CR	18.8
MADAGASCAR	17.8
PHILIPPINES	16.8
PAKISTAN	16.8
BURUNDI	16.8
RUSSIA	16.8
INDONESIA	16.8
HAITI	16.8

**PRIMARY ENERGY DEMAND (EXAJOULES)**

Country	Demand (Exajoules)
CHINA	607
USA	40.8
RUSSIA	24.8
INDIA	104
JAPAN	20.8
GERMANY	19.8
BRASIL	11.8
FRANCE	11.8
CANADA	10.8
S. KOREA	10.8
ITALY	9.8
INDONESIA	8.8
MEXICO	7.8
UK	6.8
AFGHANISTAN	5.8
HAITI	4.8
PAKISTAN	3.8
BURUNDI	2.8
RUSSIA	1.8
INDONESIA	1.8
HAITI	1.8

The chart displays the generation mix in TWh for three fiscal years. The Y-axis represents TWh, ranging from 0 to 800. The X-axis shows the fiscal years FY2009, FY2010, and FY2011. The legend identifies the following categories: Others (pink), Renewable Energy (blue), Hydro electric Power (orange), Nuclear Power (red), Coal (purple), Gas (green), Electricity (grey), and Thermal Power (dark blue). The total generation capacity increases from approximately 250 TWh in FY2009 to 700 TWh in FY2011. The data for FY2011 is explicitly labeled as 711.46 TWh.

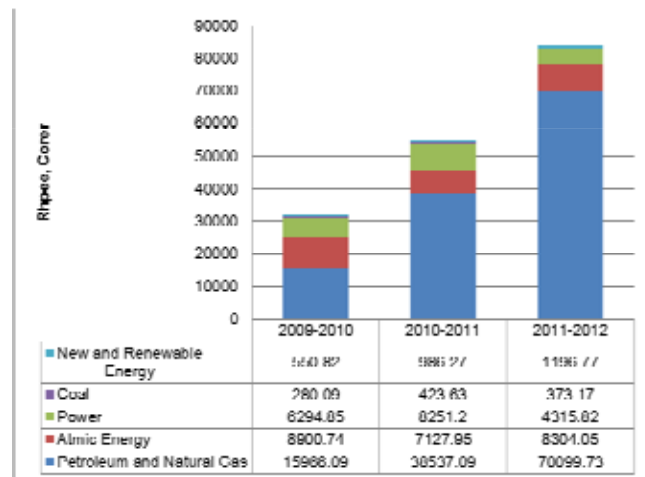
Category	FY2009 (TWh)	FY2010 (TWh)	FY2011 (TWh)
Others	~10	~20	~50
Renewable Energy	~10	~20	~50
Hydro electric Power	~10	~20	~20
Nuclear Power	~10	~20	~20
Coal	~50	~100	~250
Gas	~10	~20	~100
Electricity	~150	~250	~220
Thermal Power	~10	~20	~20
<b>Total</b>	<b>~250</b>	<b>~450</b>	<b>711.46</b>

- Should donors provide funding for the construction of coal fired power plants to improve energy access?
- Can donors insist on renewables for developing countries when EU has only 13% renewable share of final energy?

## Trend of actual expenditure on energy in India

- India is one of the high impact countries which performance is key to sustainable development worldwide
- Energy access still priority with significant expenditure on natural gas and petroleum
- The budget allocated for renewable energy far below than fossil fuel based and nuclear energy
- Donors need to further increase financial assistance to promote renewable energy

Energy expenditure of India



## Coalition of the Willing Sustainable Energy for All (SE4ALL)



THE SECRETARY-GENERAL'S  
HIGH-LEVEL GROUP ON  
SUSTAINABLE ENERGY FOR ALL

1. Ensure universal access to modern energy services
2. Doubling the global rate of improvement in energy efficiency
3. Doubling the share of renewable energy in the global energy mix

- More than one hundred commitments made by governments, private sector companies and civil society organizations
- Businesses and investors committed more than US\$ 50 billion
- Additional billions committed by other key stakeholders – governments, multilateral development banks, and international institutions
- Existing proposed goals suggested by the UN High Level Panel and Prof. Jeffrey Sachs based on these three goals
- Stock-taking/gap analysis completed in over 40 countries.
- Groundwork done - a set of indicators suggested by the World Bank and IEA

## Are The SE4ALL objectives ambitious enough?

- Progress in energy efficiency and renewable energy can be offset by growth in energy demand
- Even if the energy efficiency and renewable energy goals achieved by 2030, not certain to achieve 2 climate change goal ( the probability of 66 – 90% by IIASA )
- Goal on reduction in per capita energy consumption necessary esp. for the advanced countries?
- Scenario studies lacking to suggest the level of ambition of these goals

	OBJECTIVE 1	OBJECTIVE 2	OBJECTIVE 3
	Universal access to modern energy services	Doubling global rate of improvement of energy efficiency	Doubling share of renewable energy in global energy mix
Proxy indicator	Percentage of population with electricity access	Percentage of population with primary reliance on non-solid fuels	Rate of improvement in energy intensity*
Historic reference 1990	76	47	16.6
Starting point 2010	83	59	18.0
Objective for 2030	100	100	-2.6

Source: World Bank

Country	Share (2011)	Target	Country	Share (2011)	Target
EU-27	20.4%		Luxembourg	11.6%	11.8% by 2020
Algeria	2.2%	5% by 2017	Madagascar	5.7%	70% by 2020
Anguilla and Barbuda	0.0%	100% by 2010	Malaysia	0.0%	10% by 2015
Argentina	31%	8% by 2016	Marshall Islands	5.8%	25% by 2020
Australia	13%	20% by 2020	Mauritius	0.0%	30% by 2020
Bahamas, The	0.0%	100% by 2010	Mexico	16%	38% by 2020
Bangladesh	4.4%	15% by 2015	Mongolia	0.0%	25-28% by 2020
Barbados	0.0%	100% by 2010	Morocco	0.0%	42% by 2020
Belgium	10.8%	20.1% by 2020	New Zealand	70%	90% by 2020
Belize	0.0%	100% by 2010	Nigeria	0.0%	5% by 2015
Bermuda	0.0%	100% by 2010	Romania	28.2%	40% by 2020
Bhutan	0.0%	100% by 2010	Russia	0.0%	10% by 2020
Bolivia	0.0%	100% by 2010	Saudi Arabia	0.0%	10% by 2020
Bosnia and Herzegovina	0.0%	100% by 2010	Senegal	0.0%	10% by 2020
Brazil	0.0%	100% by 2010	Sierra Leone	0.0%	10% by 2020
Bulgaria	0.0%	100% by 2010	Singapore	0.0%	100% by 2010
Burkina Faso	0.0%	100% by 2010	South Africa	0.0%	100% by 2010
Burundi	0.0%	100% by 2010	Spain	0.0%	100% by 2010
Cambodia	0.0%	100% by 2010	Sri Lanka	0.0%	10% by 2015
Cameroon	0.0%	100% by 2010	St. Kitts and Nevis	0.0%	100% by 2010
Canada	0.0%	100% by 2010	St. Lucia	0.0%	100% by 2010
Cape Verde	0.0%	100% by 2010	St. Vincent and the Grenadines	0.0%	100% by 2010
Chad	0.0%	100% by 2010	Sweden	0.0%	100% by 2010
Chile	0.0%	100% by 2010	Switzerland	0.0%	100% by 2010
China	0.0%	100% by 2010	Taiwan	0.0%	100% by 2010
Colombia	0.0%	100% by 2010	Tanzania	0.0%	100% by 2010
Costa Rica	0.0%	100% by 2010	Togo	0.0%	100% by 2010
Cote d'Ivoire	0.0%	100% by 2010	Tunisia	0.0%	100% by 2010
Croatia	0.0%	100% by 2010	Turkey	0.0%	100% by 2010
Cuba	0.0%	100% by 2010	Uganda	0.0%	100% by 2010
Cyprus	0.0%	100% by 2010	United Kingdom	0.0%	100% by 2010
Czechia	0.0%	100% by 2010	Uruguay	0.0%	100% by 2010
Dominican Republic	0.0%	100% by 2010	Venezuela	0.0%	100% by 2010
Dominica	0.0%	100% by 2010	Vietnam	0.0%	100% by 2010
Dominican Republic	0.0%	100% by 2010	Yemen	0.0%	100% by 2010
Dominica	0.0%	100% by 2010	Zambia	0.0%	100% by 2010
Dominican Republic	0.0%	100% by 2010	Zimbabwe	0.0%	100% by 2010

### How to Link with National Targets e.g. National Renewable Energy Targets

- Renewable energy targets need to be set at national level as each country has varying potentials and to secure ownership, motivation and implementation
- Targets for renewable energy now exist in at least 138 countries, most of which are developing countries.
- The way countries establish renewable energy targets is currently not consistent and can be aligned with the global goals (based on final energy consumption and the same target year etc.)

Source: REN21

## Good implementation ultimately depends upon national governance

### Success factors for renewable energy deployment at national level

Solid policy and legal framework	Strong political will	Multi-stakeholder acceptance	Finance	Technical and human capacity	Transparency
<b>Legislations:</b> Renewable energy related law, strategy paper, road map, national development plans  <b>Institutions:</b> Energy regulatory commissions	Support by Members of Parliament, Leadership by the head of state	Acceptance by project developers, consumer organizations, investors	Mobilization of domestic resources (green tax), ODA, other financial assistance from multilateral development banks	Grid capacity, trained personnel	Transparent bidding processes, procurement processes
					Source: Author



- The role of national government to set solid policy and legal framework is still crucial
- The policy should be developed in consultation with relevant stakeholders to increase public acceptance

## Conclusions

- Energy was not covered by MDGs but is a global issue with strong link with development and climate change thus setting global energy goals may provide multiple benefits in health, poverty reduction, and climate change
- SE4ALL is a good example of the coalition of the willing initiated at the highest level and it is expected for smaller bottom-up coalitions to follow suite
- The objectives of SE4ALL could be adopted with some fine tuning as an SDG. It is worth including a goal on reduction in per capita energy consumption as just achieving SE4ALL may not be enough
- People act according to their self-interest. How can we create a set of goals which take into account the self interests of major stakeholders and spur action for sustainable development
- The role of government is still predominantly important to set solid policy and legal framework in the area of energy (e.g. feed in tariffs, subsidies, tax breaks)

***Thank you!***



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