

Linkages between SDG and GBEP Sustainability Indicators for Bioenergy



The UN SE4ALL Global Tracking Framework - Input for the GBEP Indicator Work?

Renewable Energy Indicators

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Goals

SE4ALL

“Double the proportion of renewable energy in the energy mix by 2030”

18%  36%

SDG

“By 2030 increase substantially the share of renewable energy in the global energy mix”

SE4All Renewable Energy – Indicator Choices



- Start date (2010)
- Definition
 - “Renewable energy is energy from natural sources that are replenished at a faster rate than they are consumed, including hydro, bioenergy, geothermal, aerothermal, solar, wind, and ocean.”
- Traditional biomass – in or out?
- Sustainability?
- Data
- TPES of TFEC?

TPES or TFEC?



% renewables in global energy mix	RE CONTRIBUTION TO WORLD PRIMARY ENERGY SUPPLY						RE CONTRIBUTION TO TOTAL WORLD FINAL ENERGY CONSUMPTION	
	Physical content method		Direct equivalent method		Substitution method		EJ	%
	EJ	%	EJ	%	EJ	%		
2010	69	13	68	13	91	17	60	18

	PRIMARY ENERGY SUPPLY	FINAL ENERGY CONSUMPTION
Advantages	<ul style="list-style-type: none"> • Widely used. • Based on physical measurement of fuels. 	<ul style="list-style-type: none"> • Heat and electricity in form ready for consumption. • Closer to useful energy output valued by end-users • Better balance for directly produced RE.
Disadvantages	<ul style="list-style-type: none"> • Different conventions for assumptions on efficiencies means that contribution of RE depends on calculation procedure. • Underrepresents directly produced RE. 	<ul style="list-style-type: none"> • Losses need to be allocated.

TFEC chosen!

“Traditional Use of Biomass”

- Definitional issues
 - “The use of biomass in the residential sector in non-OECD countries”
 - But:
 - traditional use in OECD
 - Inefficient industry use
- Measurement difficulties and data quality

The Results!

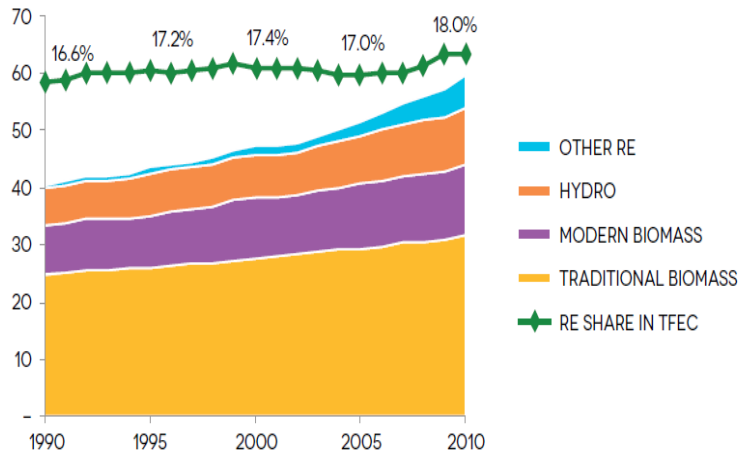
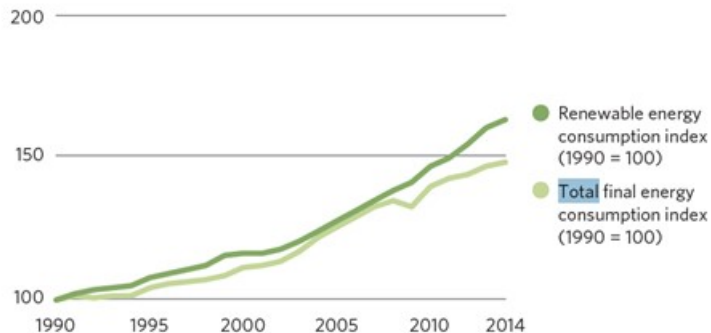
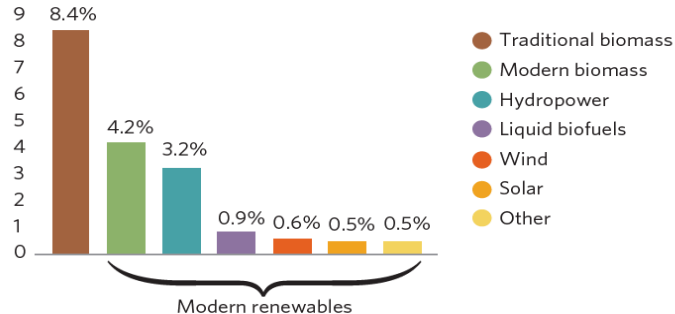


FIGURE 25 Relative growth of renewable and total energy consumption, 1990-2014



Renewable share of total final energy consumption (%)



Supplementary Indicators

- Geographical diversity
- Policy targets for renewable energy and adoption of relevant policy measures;
- Technology costs for each of the renewable energy technologies
- Total investment in renewable energy

Proposed Deployment Indicators for IEA Bio Roadmap

Indicator	Unit
Modern Bioenergy	EJ and % of TFECE
Trad Biomass	EJ
Electricity Generation	TWh
Modern Heat	
Industry	EJ
Buildings	EJ
Bio Transport Fuels	
Total	EJ
Novel biofuels	EJ