



Group of Experts on Renewable Energy



UNECE Group of Experts on Renewable Energy (GERE)

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Secretary of GERE, UNECE**

**26th session of the Committee on Sustainable Energy, 26-28 September 2017 and
Regional Workshop on Development of National Energy Policies, 29 September 2017**



GERE is a platform to boost changes

The Group was launched in 2014 as subsidiary body of the Committee on Sustainable Energy and aims to:

- Help the understanding of RE status and tracking its progress in the UNECE region
- Facilitate the exchange of best practices
- Consider the role of renewable energy within the context of future energy systems
- Promote instruments for assessing the potential of renewable energy resources and supporting possible synergies between renewable energy and fossil fuels in the energy production
- Identify needs, key bottlenecks and opportunities for market conditions and possible investment promotion

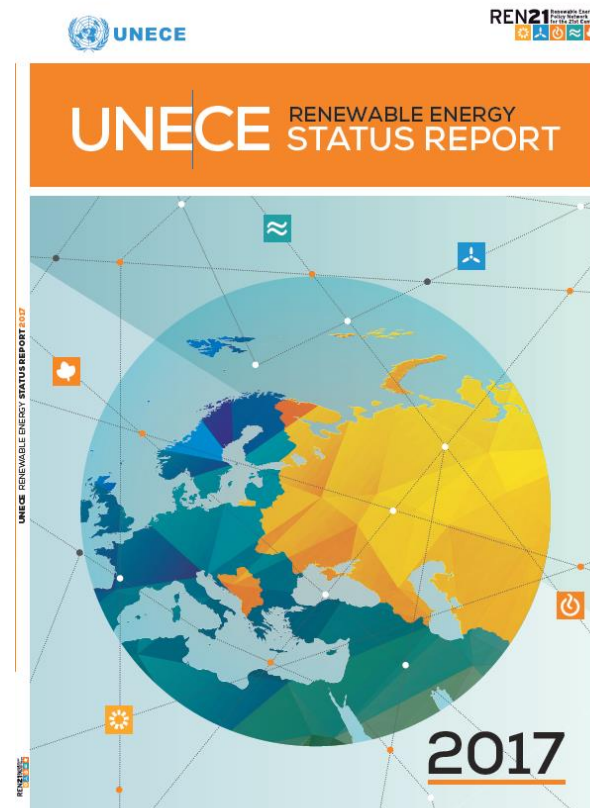
Key partners:

- REN21: UNECE RE Status Report/ Hard Talk (MoU in 2014), support to GERE (MoU in 2014) including with a Vice-Chair of its Bureau
- IRENA: Potential in SEE; Potential in Central Asia, support to GERE (MoU in 2014) including with a Vice-Chair of its Bureau
- IEA: Data and contribution to the UNECE RE Status Report; support to GERE (Cooperation agreement 2015) including with a Vice-Chair of its Bureau
- Other UN Agencies, UN RCs, WB, EU
- Bilateral donors, in particular Germany (GERE tracking/ best practices) & Italy (Nexus)

Key outputs:

- REN21 UNECE Renewable Energy Status Report (2015 & 2017)
- Best Practices and Lessons Learned
- Hard Talks (Georgia and Ukraine, December 2016)
- Matchmaking in Baku (2016) and Astana (2017) – 7th and 8th International Forum on Energy for Sustainable Development

The UNECE REN21 Renewable Energy Status Report 2017





The UNECE REN21 Renewable Energy Status Report 2017

- Detailed look at the status of renewable energy in select 17 countries in the UNECE region
- Part of the initiatives of the UNECE Group of Experts on Renewable Energy (GERE) – building on existing process with GERE
- Utilisation of the established REN21 global data collection process from formal and informal sources
- Objective to obtain a reliable data baseline for increased investment activity
- Strong Involvement of governments, international organisations (IEA, EBRD, European Commission, World Bank, UNDP, etc.) and civil society during data collection and review
- Key finding: decline of RE investments: Why? What to do?

ENERGY



- Covered countries very diverse in terms of territory, economic, social and political characteristics
- Overall population of over 300 Million
- Density ranges from 6,4 persons/km to 123,9 persons/km
- Three countries amongst coldest globally in terms of heating degree days
- Countries partake in different forms of regional energy cooperation



ENERGY

Energy overview

	Energy imports, net (% of energy use) 2011	Energy Subsidies as % of GDP 2015	Energy use per capita (MJ/capita) 2011	Electrification rate (% of population) 2012
Albania	34%	1,9%	32 253	100%
Armenia	67%	4,3%	38 362	100%
Azerbaijan	-377%	6,3%	57 332	100%
Belarus	86%	7,0%	129 695	100%
Bosnia and Herzegovina	35%	37,0%	77 268	100%
Georgia	68%	5,2%	33 099	100%
Kazakhstan	-107%	11,0%	195 565	100%
Kyrgyzstan	51%	26,4%	25 133	100%
Macedonia (FYR)	44%	18,7%	61 833	100%
Moldova	96%	5,6%	39 088	100%
Montenegro	36%	16,7%	76 013	100%
Russian Federation	-78%	16,0%	216 281	100%
Serbia	31%	34,7%	93 674	100%
Tajikistan	30%	7,1%	11 691	100%
Turkmenistan	-164%	23,2%	202 591	100%
Ukraine	32%	60,7%	115 929	100%
Uzbekistan	-21%	26,3%	67 389	100%


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Renewable energy share of total primary energy supply (TPES), 2014

Country	Total Energy TPES	Non-Renewable Energy TPES	Renewable Energy TPES	Share of Renewable Energy TPES
	ktoe	ktoe	ktoe	%
Albania	2,336	1,698	637	27%
Armenia	2,959	2,753	206	7%
Azerbaijan	14,322	14,088	234	2%
Belarus	27,746	26,302	1,444	5%
Bosnia and Herzegovina	7,824	5,821	2,003	26%
Georgia	4,390	3,191	1,199	27%
Kazakhstan	76,667	75,934	734	1%
Kyrgyzstan	3,795	2,649	1,147	30%
Macedonia (FYR)	2,623	2,334	289	11%
Moldova	3,302	2,991	311	9%


ENERGY

Renewable energy share of total primary energy supply (TPES), 2014

Country	Total Energy TPES	Non-Renewable Energy TPES	Renewable Energy TPES	Share of Renewable Energy TPES
	ktoe	ktoe	ktoe	%
Montenegro	957	640	316	33%
Russian Federation	710,883	692,912	17,970	3%
Serbia	13,259	11,256	2,003	15%
Tajikistan	2,805	1,429	1,376	49%
Turkmenistan	26,749	26,742	7	0%
Ukraine	105,683	102,887	2,797	3%
Uzbekistan	43,677	42,655	1,021	2%

RE share of TPES in UNECE region: 9%

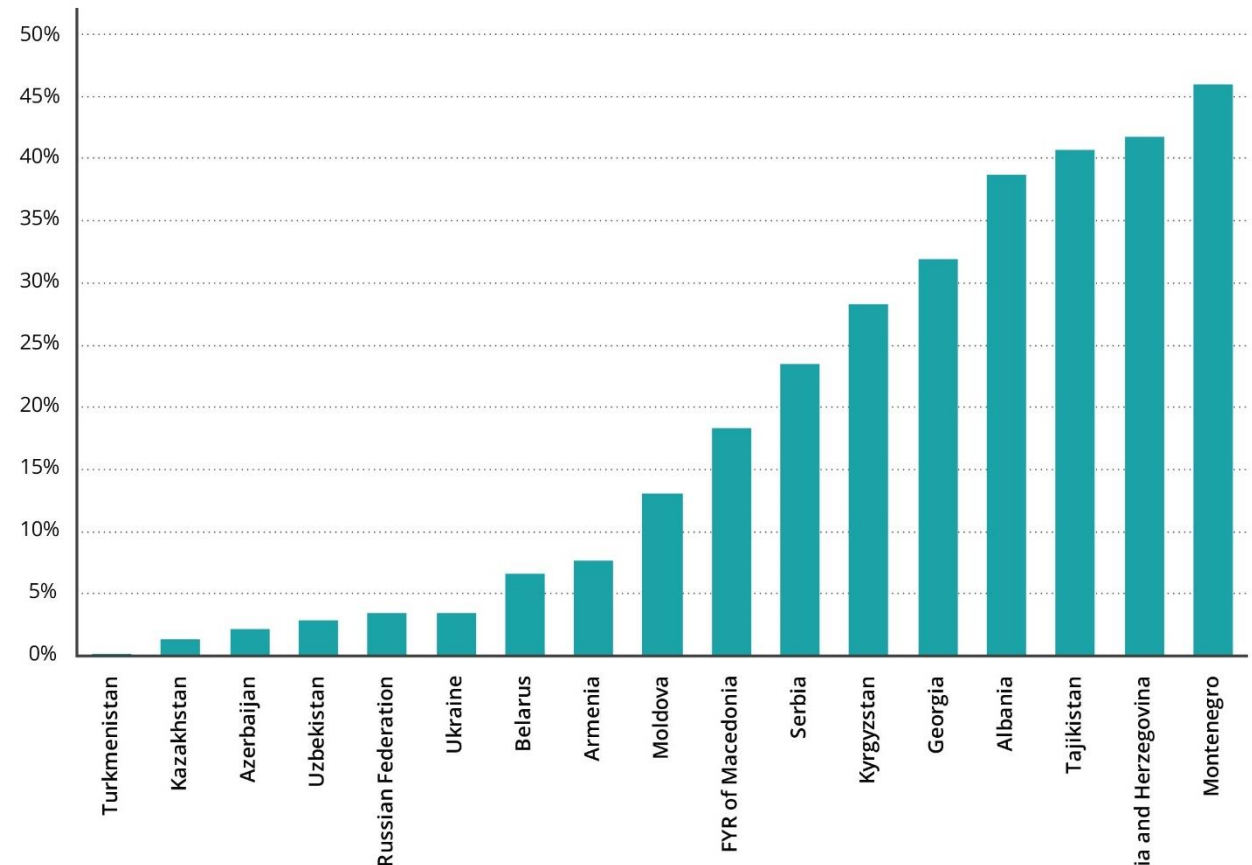
RE share of TPES in 17 UNECE countries: 3%



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Share of Renewable Energy in Total Final Energy Consumption, 2014

- Often numbers still driven by traditional use of biomass and high shares of hydro
- Energy consumption stemming from modern renewables negligible – even when looking at preliminary 2016 data.

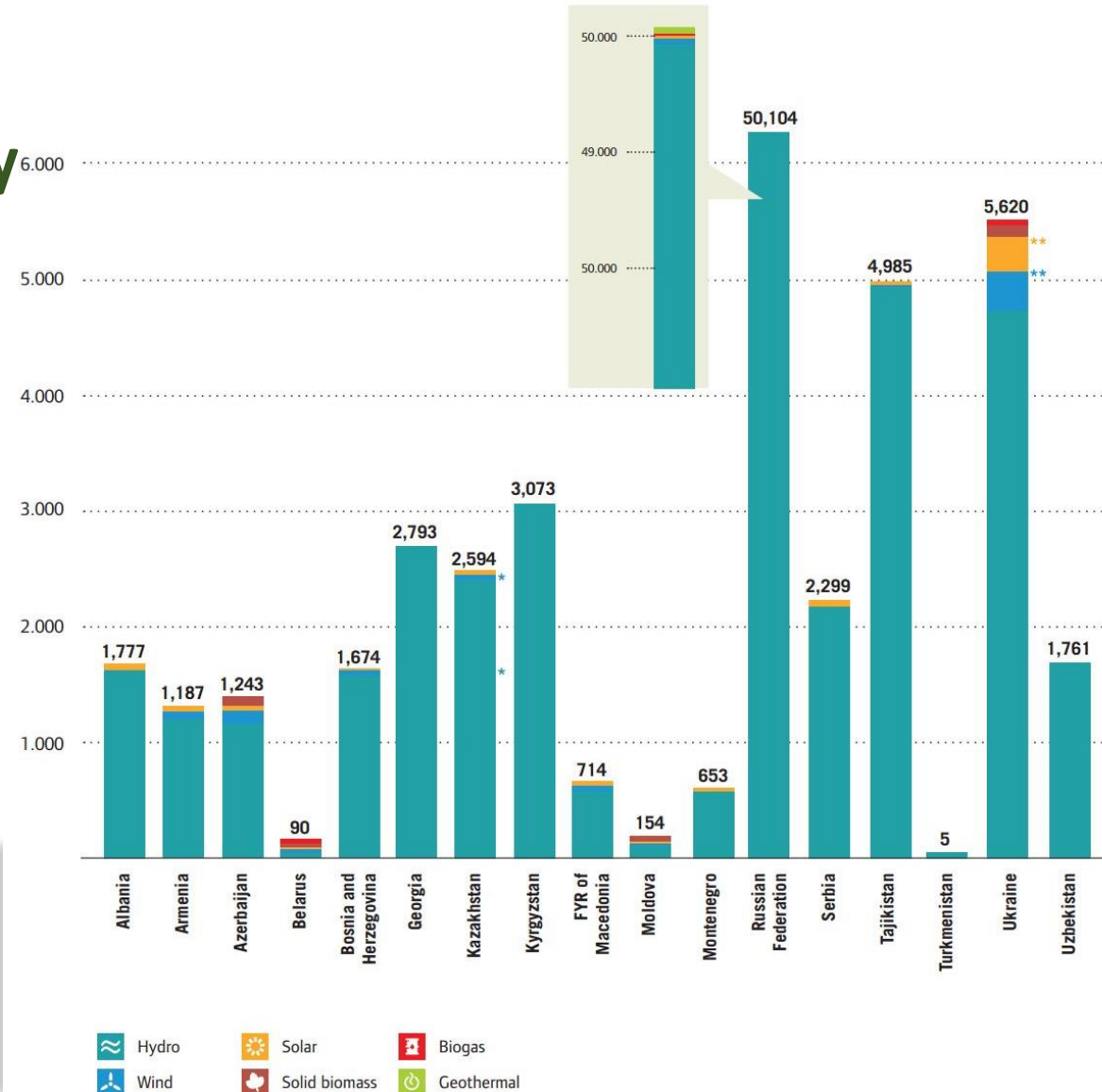




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Renewable Energy for Power, Installed Capacity in MW, 2014

- Big variations from country to country
- Hydropower is backbone
- Other renewable energy technologies are nascent, with few regional exceptions
- Smaller developments are beginning to pick up



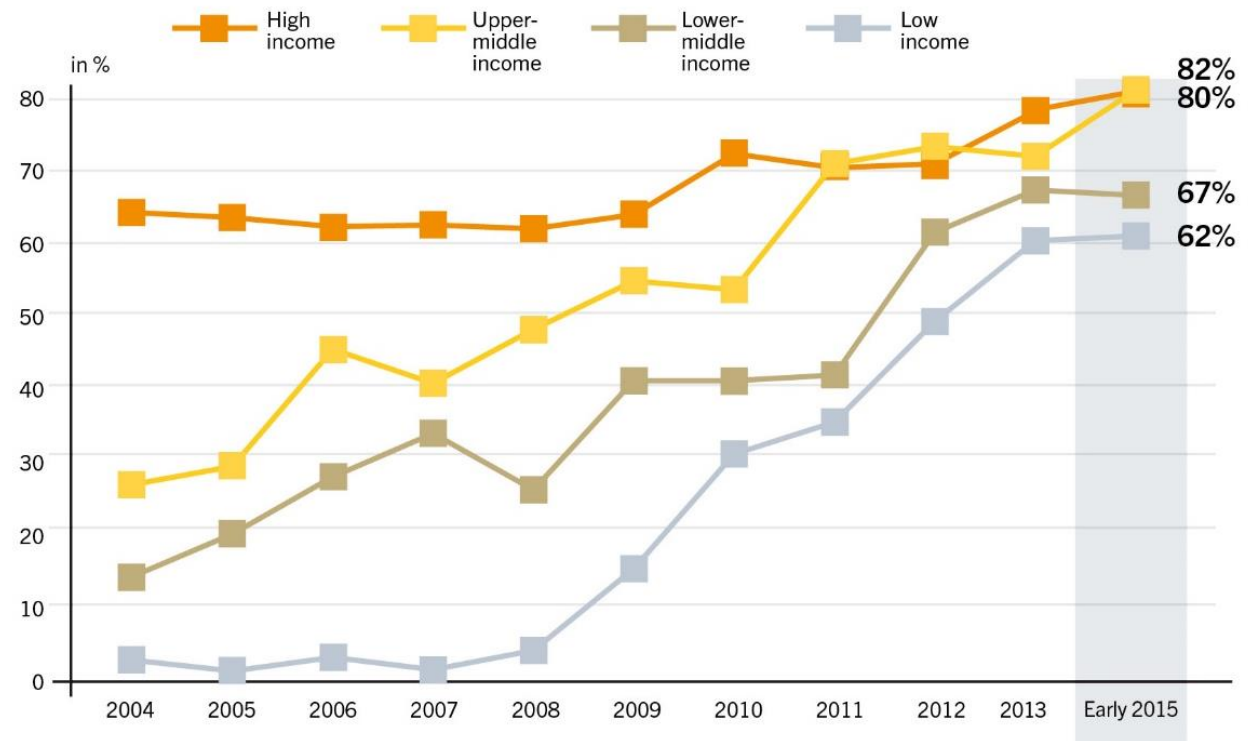
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Evolution of Renewable Energy Policy Over Time (2004 – 2014)

- At least **164** countries had renewable energy targets.
- At least **145** countries had renewable energy support policies in place.
- Low-income, lower-middle income as well as upper-middle income countries feature fastest policy uptake during the last decade.

Share of Countries with Renewable Energy Policies, by Income Group, 2004–Early 2015



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RE Policy and Target Landscape - I

- Positive progress has been made
- Targets are widely used and increasingly accompanied by regulatory policies
- Still significant room for improvement
- Only few examples of regional mandatory RE targets
- Still apparent that non-economic barriers hinder unfolding of full policy potential



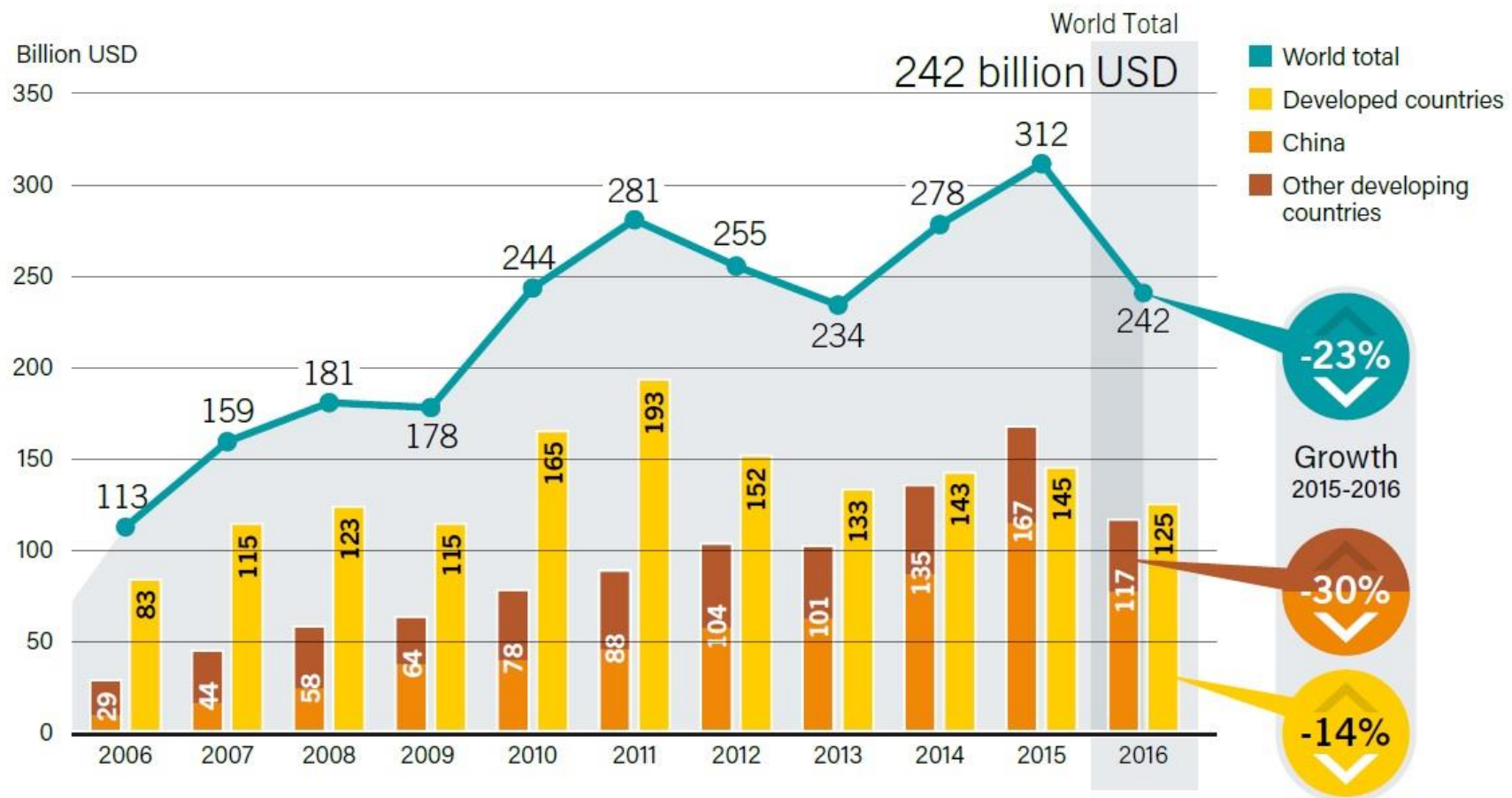
	INDC	Renewable energy target	Regulatory policies							Fiscal incentives and public financing				
			Biofuels obligation / mandate	Electric utility quota obligation / RPS	Feed-in tariff / premium payment	Heat obligation / mandate	Net metering	Tendering	Tradable REC	Capital subsidy / rebate	Energy production payment	Investment or production tax credits	Public Investment, loans or grants	Reduction in sales, energy, CO ₂ , VAT or other taxes
Albania	x	✓	✓	✓	✓	x	x	✓	✓	x	✓	x	x	x
Armenia	x	✓	x	x	✓	x	✓	x	x	x	✓	x	✓	x
Azerbaijan	x	✓	x	x	✓	x	x	x	x	x	✓	x	✓	x
Belarus	x	✓	✓	✓	✓	x	✓	x	✓	x	✓	x	x	x
Bosnia and Herzegovina	x	✓	✓	x	✓	x	x	✓	x	✓	x	x	x	x
Georgia	x	x	x	x	✓	x	✓	✓	x	x	✓	x	✓	x
Kazakhstan	x	✓	x	x	✓	x	x	✓	x	x	x	x	✓	x
Kyrgyzstan	x	✓	x	x	✓	x	x	x	✓	x	✓	✓	✓	✓
FYR of Macedonia	x	✓	x	x	✓	x	x	x	x	x	x	x	x	x
Moldova	x	✓	x	x	✓	x	x	x	x	x	x	x	✓	✓
Montenegro	x	✓	x	✓	✓	✓	✓	✓	x	x	✓	x	✓	x
Russian Federation	x	✓	x	✓	x	x	x	✓	✓	✓	✓	x	x	x
Serbia	x	✓	x	x	✓	x	x	x	x	x	x	x	✓	x
Tajikistan	x	✓	x	x	x	x	x	x	✓	x	✓	✓	✓	x
Turkmenistan	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Ukraine	x	✓	x	x	✓	x	✓	x	x	x	✓	✓	x	✓
Uzbekistan	x	✓	x	x	x	x	x	x	x	x	x	x	x	x



ENERGY

Global Investment in Renewable Energy

2006-2016

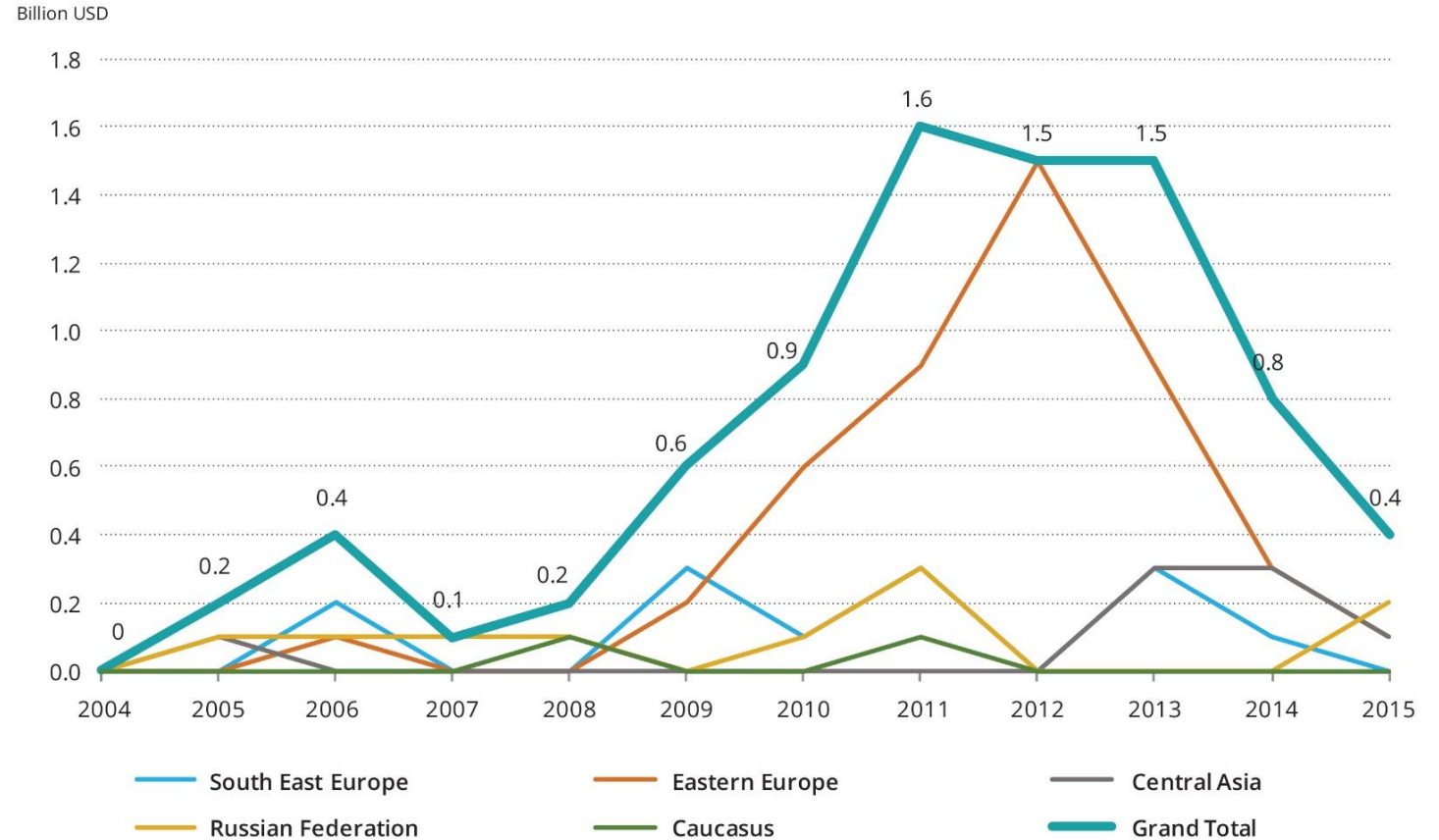


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Renewable Energy Investment Overview, 2004 - 2014

- The covered countries only represent 0.2 % of new RE investment in 2015 worldwide
- Investment attraction remains an issue for RE development in the region



ENERGY



Renewable Energy Investment Overview, 2004 – 2014 – selected countries

- Investment is unevenly distributed (regionally and by sector)
- Funding sources mainly originating in national governments, international donors and multilateral development banks.

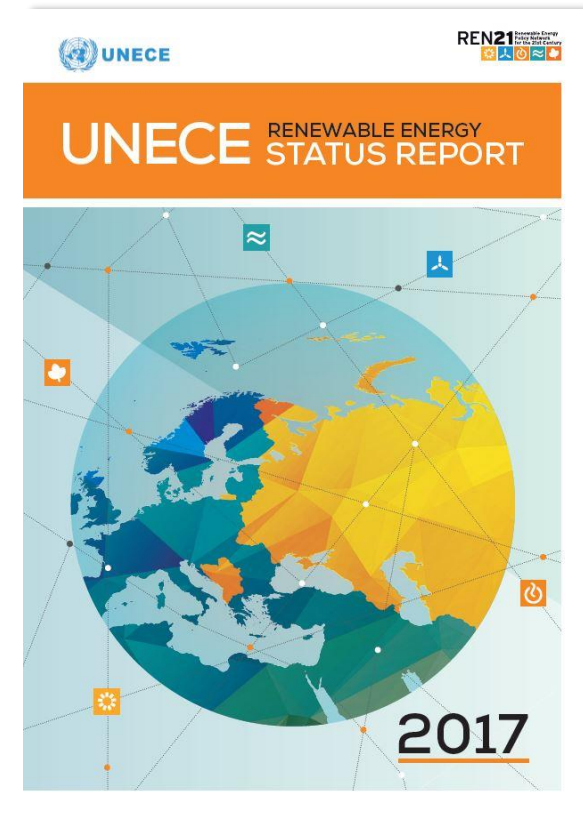




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Conclusion

- South East and Eastern Europe, Caucasus, Central Asia and Russian Federation made strides into the realm of renewable energy and energy efficiency over the past two decades
- Governments advance in developing targets and policies that promote renewable energy sources present abundantly in different forms across the region
- Numerous barriers remain (energy subsidies, legal & administrative complexities, awareness of affordability, etc.) and delay projects implementation
- Viewed from global perspective, capacity and investment in the covered 17 countries remain marginal



Full report is available at:

[https://www.unece.org/energywelcome/areas-of-work/renewable-energy/unece-renewable-energy-status-report.html](https://www.unece.org/energy/welcome/areas-of-work/renewable-energy/unece-renewable-energy-status-report.html)

More on GERE:

<http://www.unece.org/energy/se/gere.html>

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Thank you!

