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Renewable energy monitoring in the EU further to Renewable Energy Directive

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EU Renewable Energy Policy

Renewable Energy Directive (2009/28)-Mandatory 2020 target for EU28

20% share of RES in Gross Final Energy Consumption

- Individual mandatory targets for the Member States
- National Renewable Energy Action Plans
- Fixed trajectory, progress reporting every 2 years

Outline

Data collection

Data analysis

Data visualization

Dissemination

Data collection timeline

Renewable energy directive

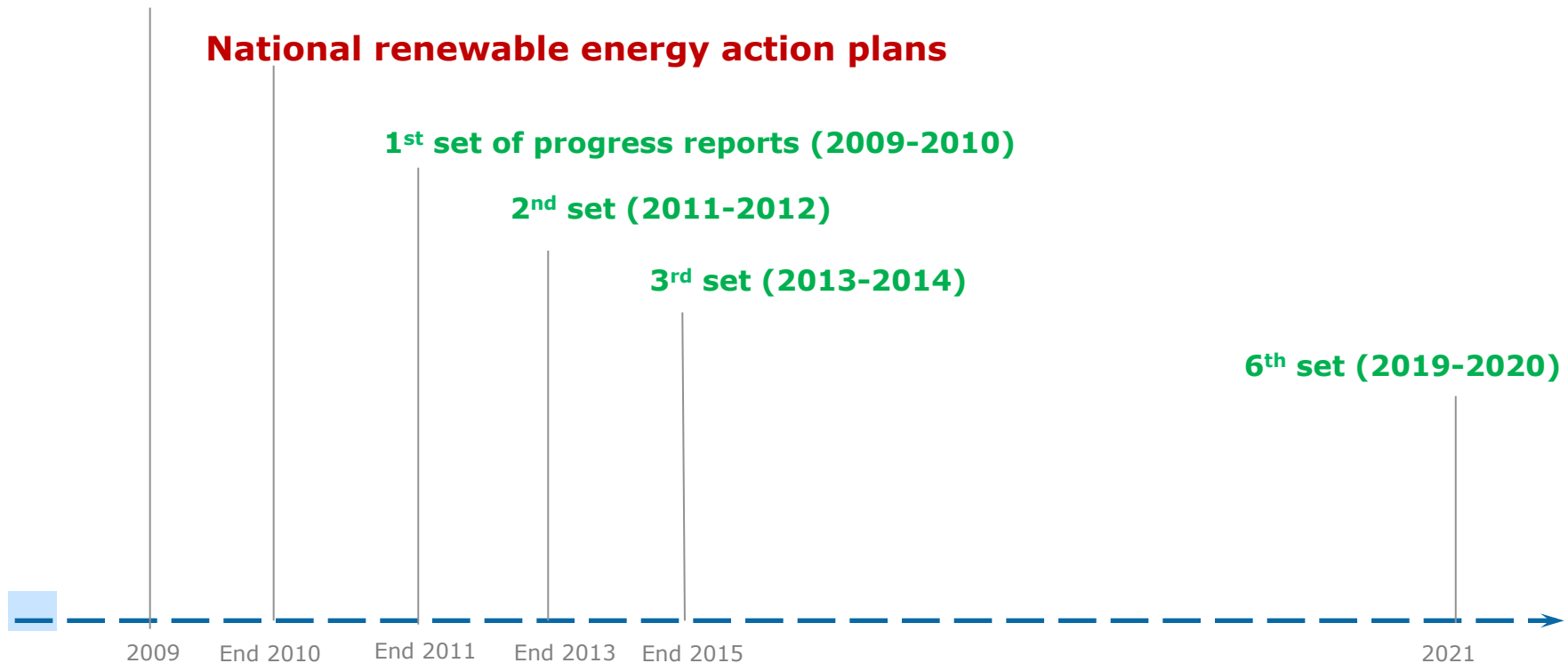
National renewable energy action plans

1st set of progress reports (2009-2010)

2nd set (2011-2012)

3rd set (2013-2014)

6th set (2019-2020)



Data Collection

28 EU Member States

**Extended to non EU Countries
(Energy Community, Norway and Iceland)**

3 Sectors

Electricity Heating/Cooling Transport

Capacity + Consumption/Use + GHG emission savings

Up to 2016

more than **30 000 raw data**

60 indicators /yr/MS

12 yr – NREAPs

6 yr – progress reports



RES Technologies/Sources

Hydropower

Large hydropower

Medium hydropower

Small hydropower

Solar (el + th)

Solar PV

CSP

Geothermal (el + th)

Marine

Heat pumps

Wind

Onshore wind

Offshore wind

Biomass (el + th)

Solid biomass

Biogas

Bioliquids

Biofuels

Bioethanol

Biodiesel

Other biofuels

Analysis

Gross Final Energy Consumption (GFEC)

Final renewable energy consumption

Renewable energy shares in each sector and in final GFEC

Shares of each technology in final RES

Contribution of each EU Member State in final RES and each technology

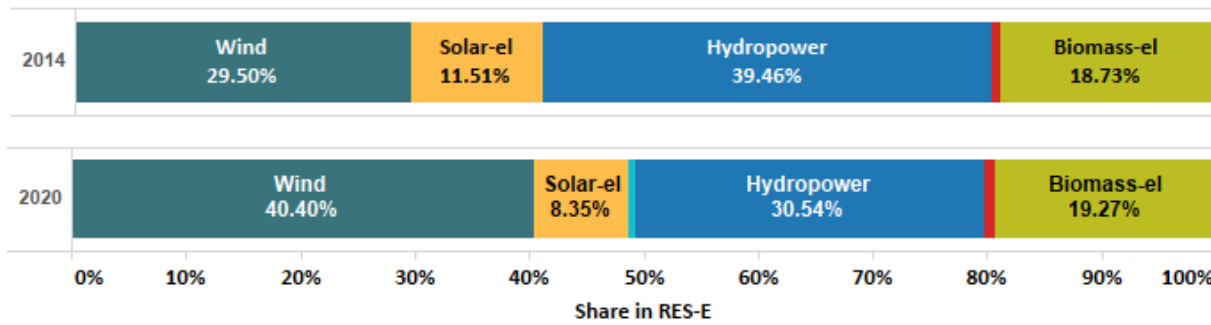
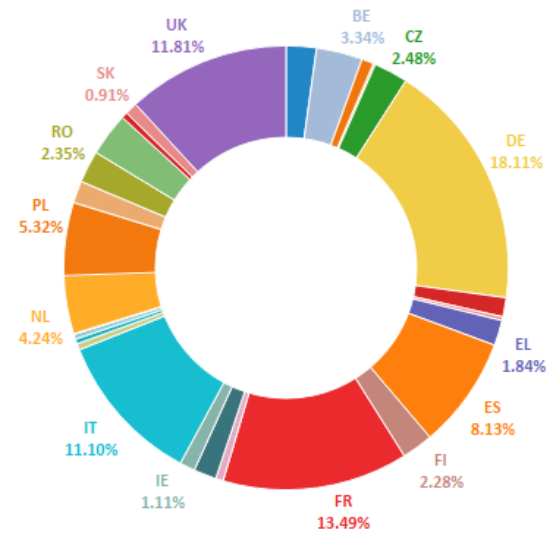
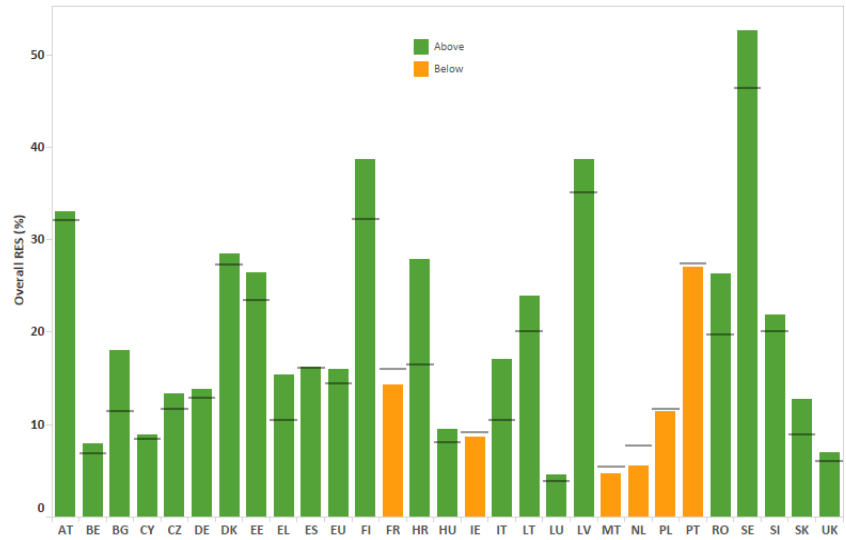
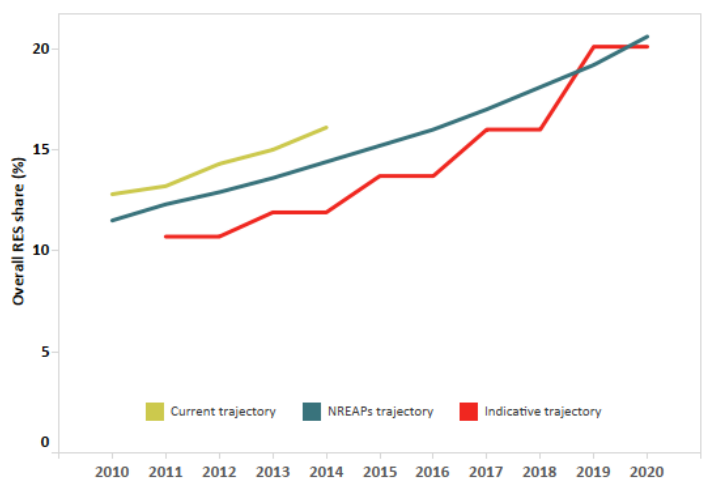
EU Member States plans/targets up to 2020

Current trend of RES development

Deviation from plans/targets

Gaps to plans/targets

Analysis

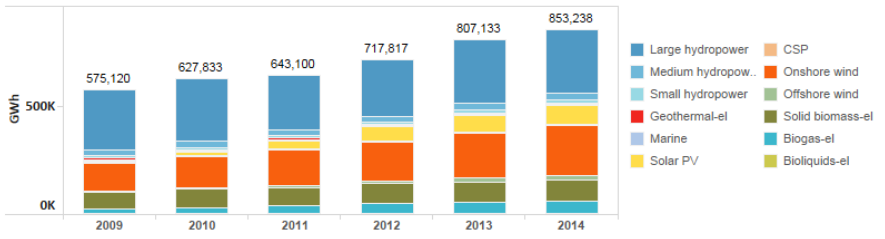
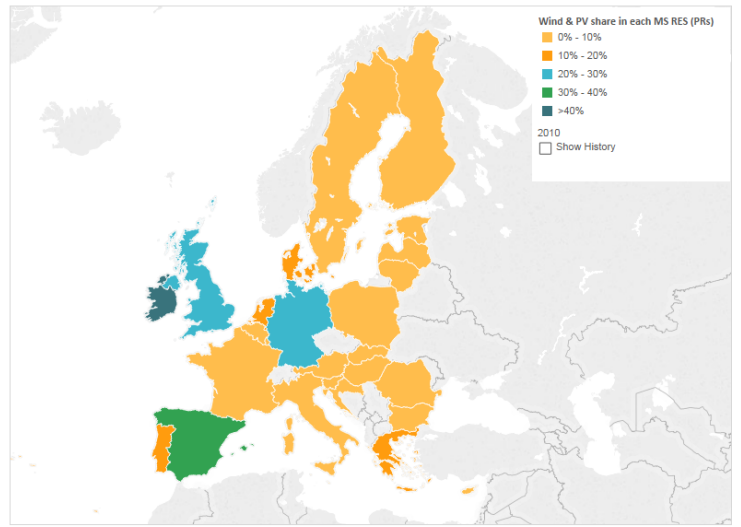


EU MS contribution in GFEC, 2014 (%)

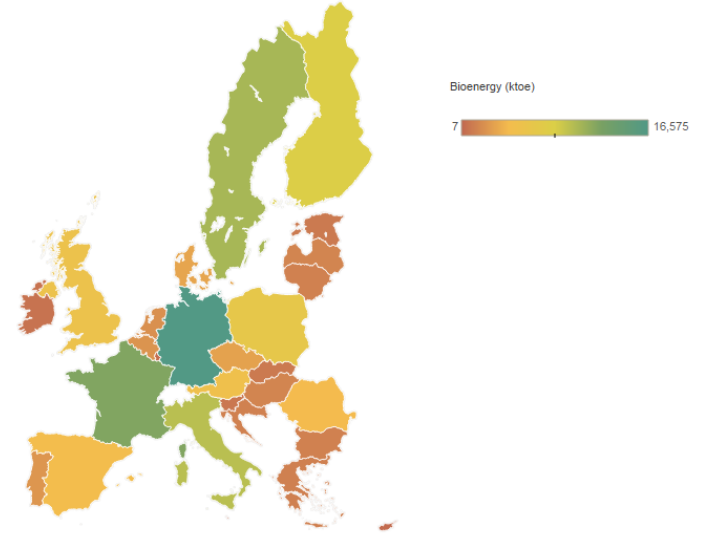
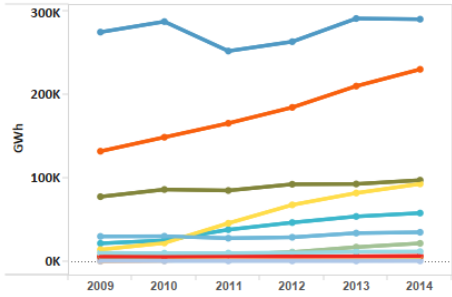
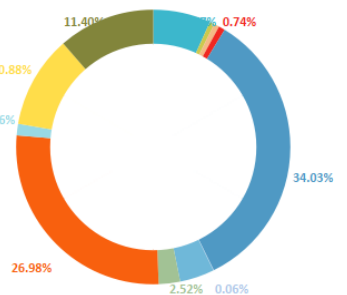
Analysis

RES-E support schemes

AT BE BG CY CZ DE DK EE EL ES FI FR HR HU IE IT LT LU LV MT NL PL PT RO SE SI SK UK



- Large hydropower
- Medium hydropow..
- Small hydropower
- Geothermal-el
- Marine
- Solar PV
- CSP
- Onshore wind
- Offshore wind
- Solid biomass-el
- Biogas-el
- Bioliqids-el



Visualization

Interactive Exploratory

Help to discover significant, meaningful patterns in data

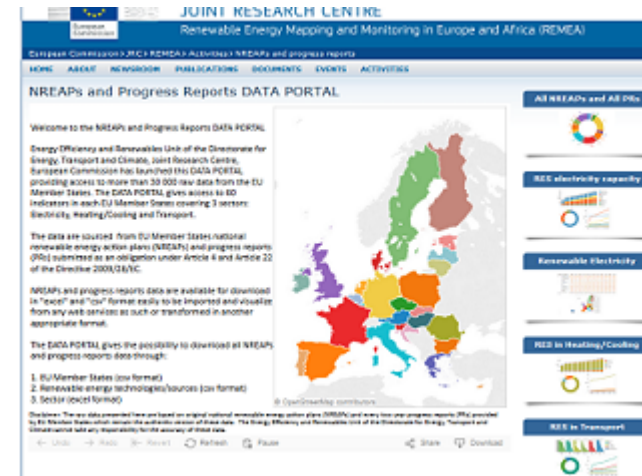
Quickly generate multiple views on the same data set

Create dashboards with parameters filtering across multiple worksheets

Visualization

NREAPs and progress reports DATA PORTAL

Current trend and expected development
Data download (by MS, Technology, Sector)



Country	Sub Technology	2009	2010	2011	2012	2013	2014
EU	Large hydropower	274,882	287,474	252,176	263,381	291,190	290,349
	Medium hydropower	29,833	30,052	27,687	28,791	33,808	34,765
	Small hydropower	10,100	9,712	9,832	10,364	11,494	11,568
	Marine	449	478	478	462	420	483
	Geothermal-el	5,597	5,617	5,940	5,815	6,026	6,302
	Solar PV	13,988	21,923	45,603	67,638	81,858	92,794
	CSP	103	692	1,959	3,775	4,770	5,455
	Onshore wind	131,986	148,751	165,542	184,566	210,085	230,220
	Offshore wind	4,167	5,969	8,053	10,968	16,986	21,506
	Solid biomass-el	77,473	86,070	84,887	92,380	92,720	97,264
	Biogas-el	21,467	25,082	37,889	46,449	53,753	57,806
	Bioliquids-el	5,075	6,013	3,054	3,228	4,023	4,727
Total (GWh)		575,120	627,833	643,100	717,817	807,133	853,238

Visualization

NREAPs and progress reports DATA VIEWER

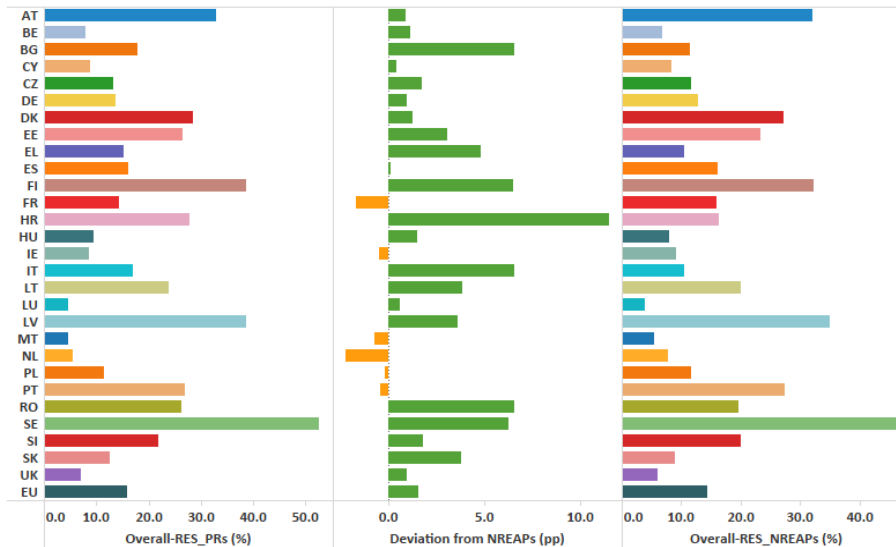
Featured analysis

Deviation from NREAPs

Gap to 2020 plans/targets

Country profiles

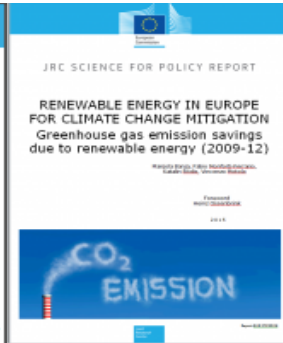
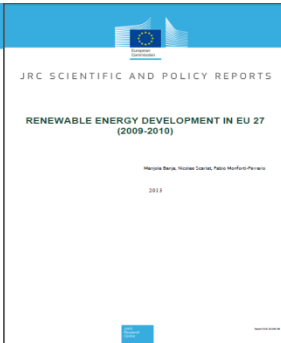
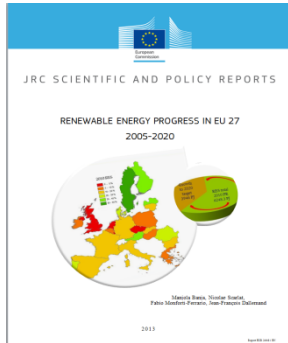
Country RES policy



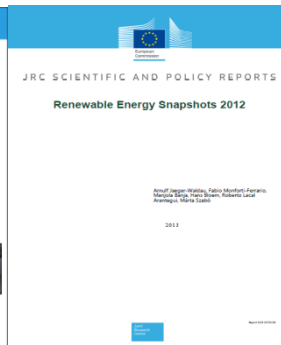
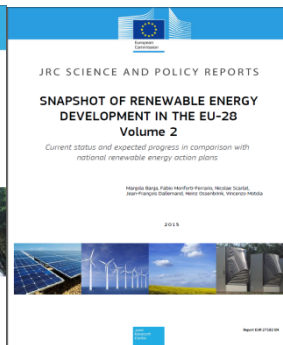
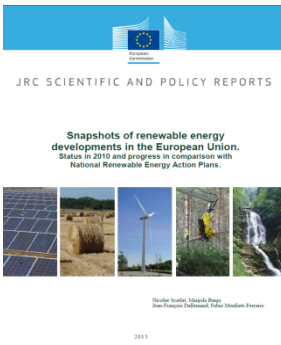
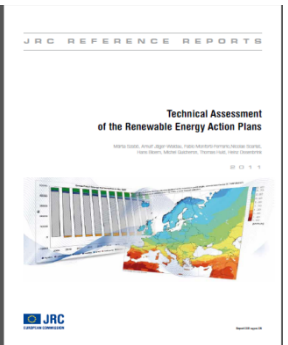


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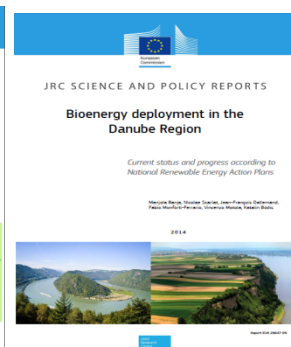
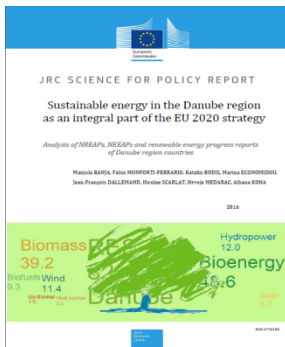
Dissemination – Reports & Articles



Country snapshots



Technology development



Regional analysis

Thank you



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