

How to assess countries' renewable policy (Sub-theme 2)

CO22 Side Event on Climate change mitigation Policy Progression Indicator (C-PPI)
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Research subjects

- Study on assessment of countries' renewable policy and on legal aspect of evaluation of progress in mitigation measures.
 - Elaborate indicators to assess actions taken by each country for enhancing introduction of renewable energy (FY2015-17)
 - Consider how these indicators could be used for the implementation of the Paris Agreement and relevant legal issues (FY2016-17)

Method (1)

- Elaborate indicators to assess actions taken by each country for enhancing introduction of renewable energy (FY2015-17)
 - Make research on **current status and progress made in renewable policy of major countries/regions: for FY2015, EU (UK, France, Germany), US, China, Japan.**
 - **Evaluate actions during 2005-2012 (in the past) and actions to be taken during 2012-2025 (in future).**
 - **Select the following 3 items which possibly reflect strength of actions.**
 - (a) Target to be achieved (feature, level...)
 - (b) Measures to promote introduction of renewables, such as FIT, RPS, subsidies etc.
 - (c) Grid policy to make renewables further penetrate in the grid
 - Expansion of grid/ grid operation, etc.

Method (2)

- Consider **how these indicators could be used for the implementation of the Paris Agreement and relevant legal issues (FY2016-17)**
 - As starting point, analyze the Paris Agreement and relevant COP decisions to identify such opportunities.

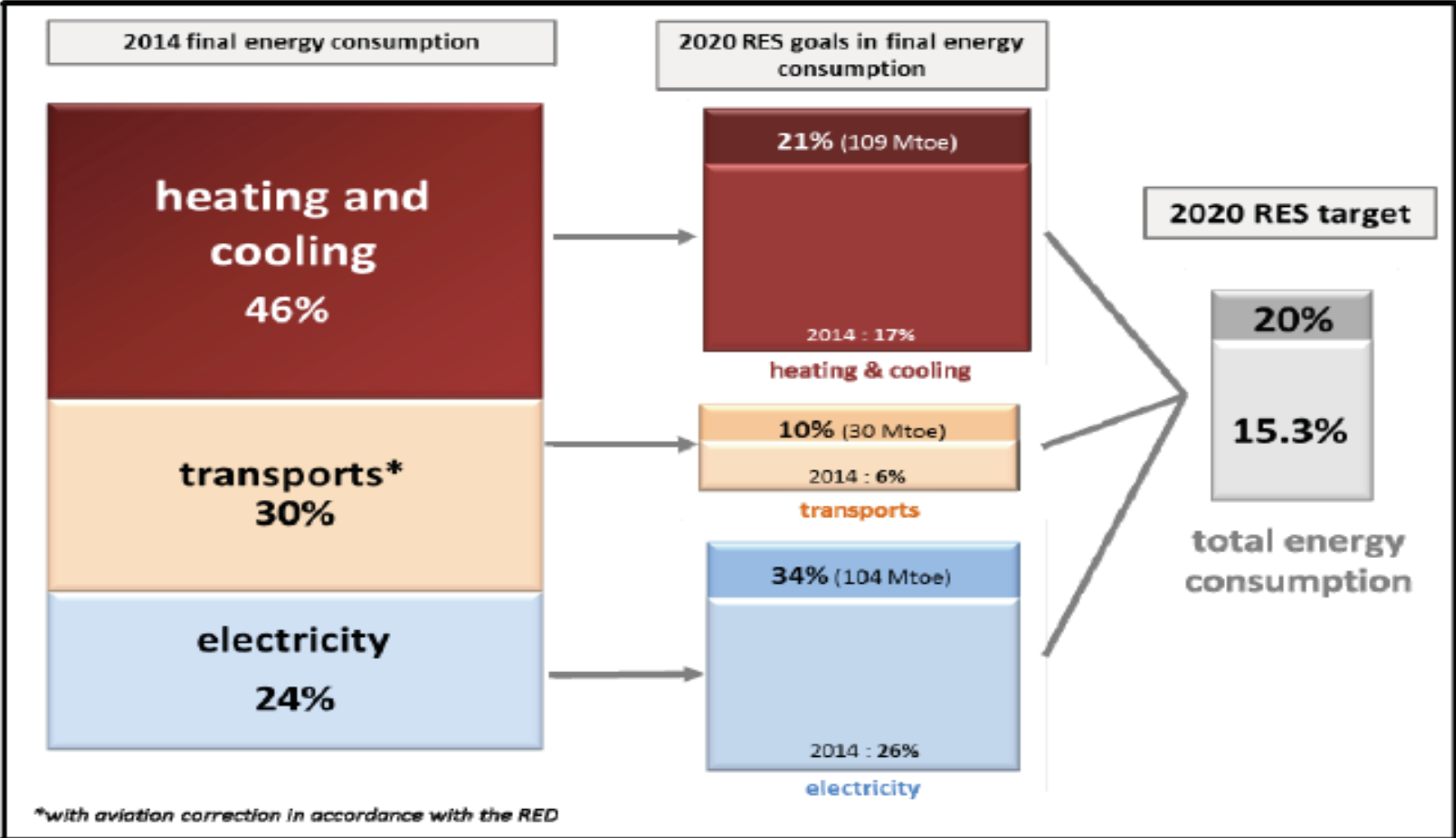
Possible function of indicators

- **Assessing the level of submitted NDC**
 - Cf. Ad Hoc Working Group on the Paris Agreement (APA) to develop further guidance on features of the NDCs (COP21 decision, para. 26)
 - Cf. APA to develop further guidance for the information to be provided (COP21 decision, para. 28)
- **Assessing progress in implementation of NDC**
 - Cf. APA to develop recommendations for modalities, procedures and guidelines for transparency (COP21 decision, para. 91)
- **Assessing potential for subsequent NDC**
 - Cf. Global stocktake (Art. 14 of the Paris Agreement) and 5 year cycle of ratchet up mechanism
- **Action indicator** (to assess the policies and specific measures taken) and **outcome indicator** (to capture the attainment)
 - Cf. Human Rights Indicators

EU : Target

- **2020 Renewable target** (provided for by Renewable energy directive (2009/28/EC))
 - At least 20% in final energy consumption (not only electricity but also heat and transport fuel) by 2020
 - RES E Directive provides for each member state's target.
 - As of 2013, share of renewables reached 15%.
 - Besides, RES E Directive (2009) also provides a target in the field of transport: at least 10% in final consumption.
 - As of 2013, share of renewables reached about 5.4%.
- **2030 renewable target** (2030 Climate and Energy Policy Framework, agreed in the European Council in October 2014)
 - At least 27% in final energy consumption in 2030.
 - Presupposing that strengthening and operation of Grid network at the pan European level.

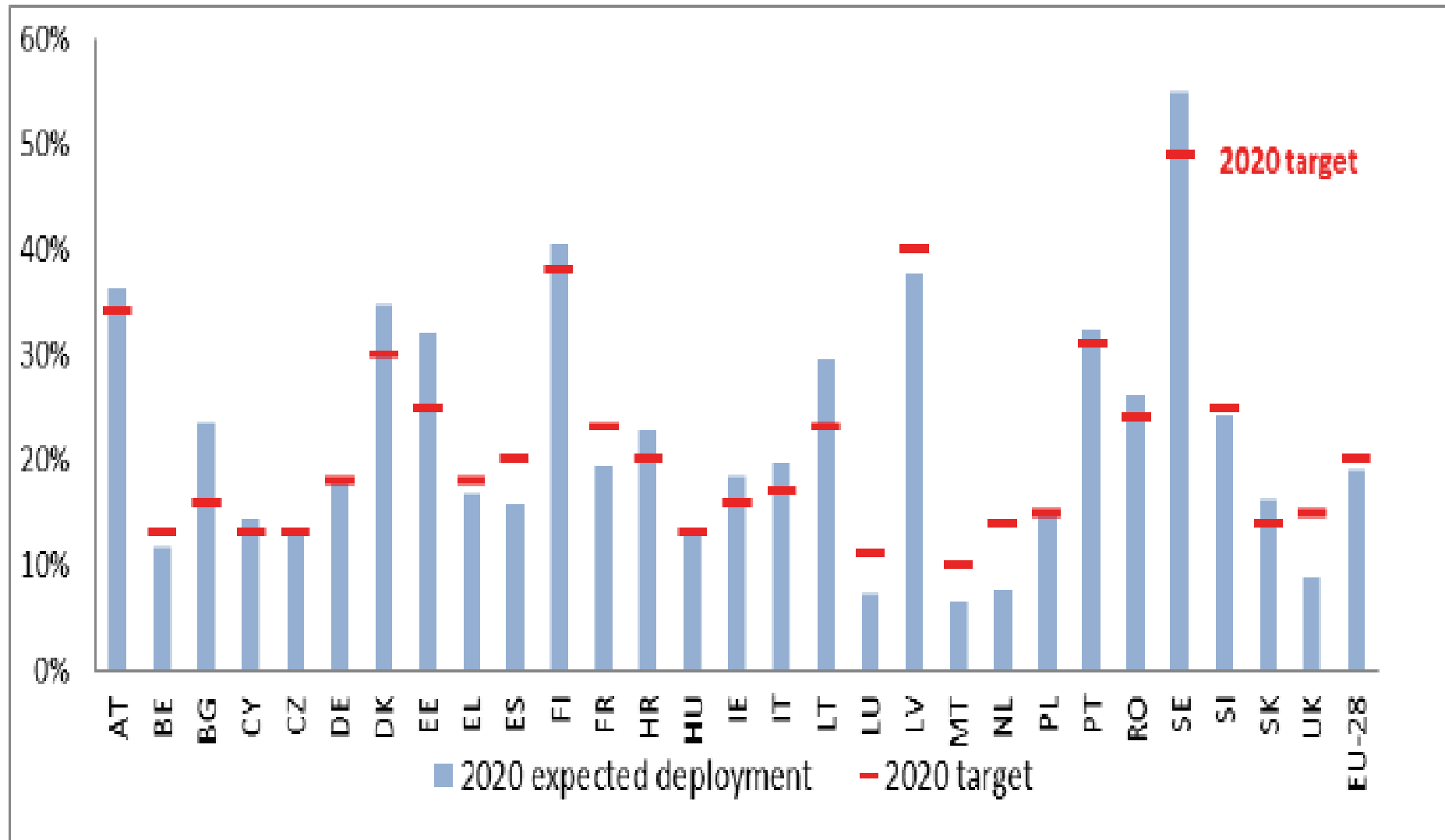
Structure of 2020 EU renewable target



EU Renewable target

	Ratio of renewable energy in final energy consumption in 2005	2020 renewable target	Level achieved in 2013	Renewable target beyond 2020
EU	8.7% (Eurostat)	At least 20%	15%	At least 27% in final energy consumption in 2030 (2030 Climate and Energy Policy Framework)
UK	1.3%	15%	5.1%	30-45% in final energy consumption in 2030 and 40-65% in total power generated in 2030 (Assumption by the Committee on Climate Change, 2016)
France	10.3%	23%	14.1%	32% in final energy consumption and 40% in total power generated in 2030 (Energy Transition Act 2015)
Germany	5.8%	18%	9.5%	60% in final energy consumption and 80% in total power generated in 2050. As indicative target, 40-45% of total power generated in 2025, and 55-60% in 2035 (EEG2014 (German Renewable Energy Act 2014))

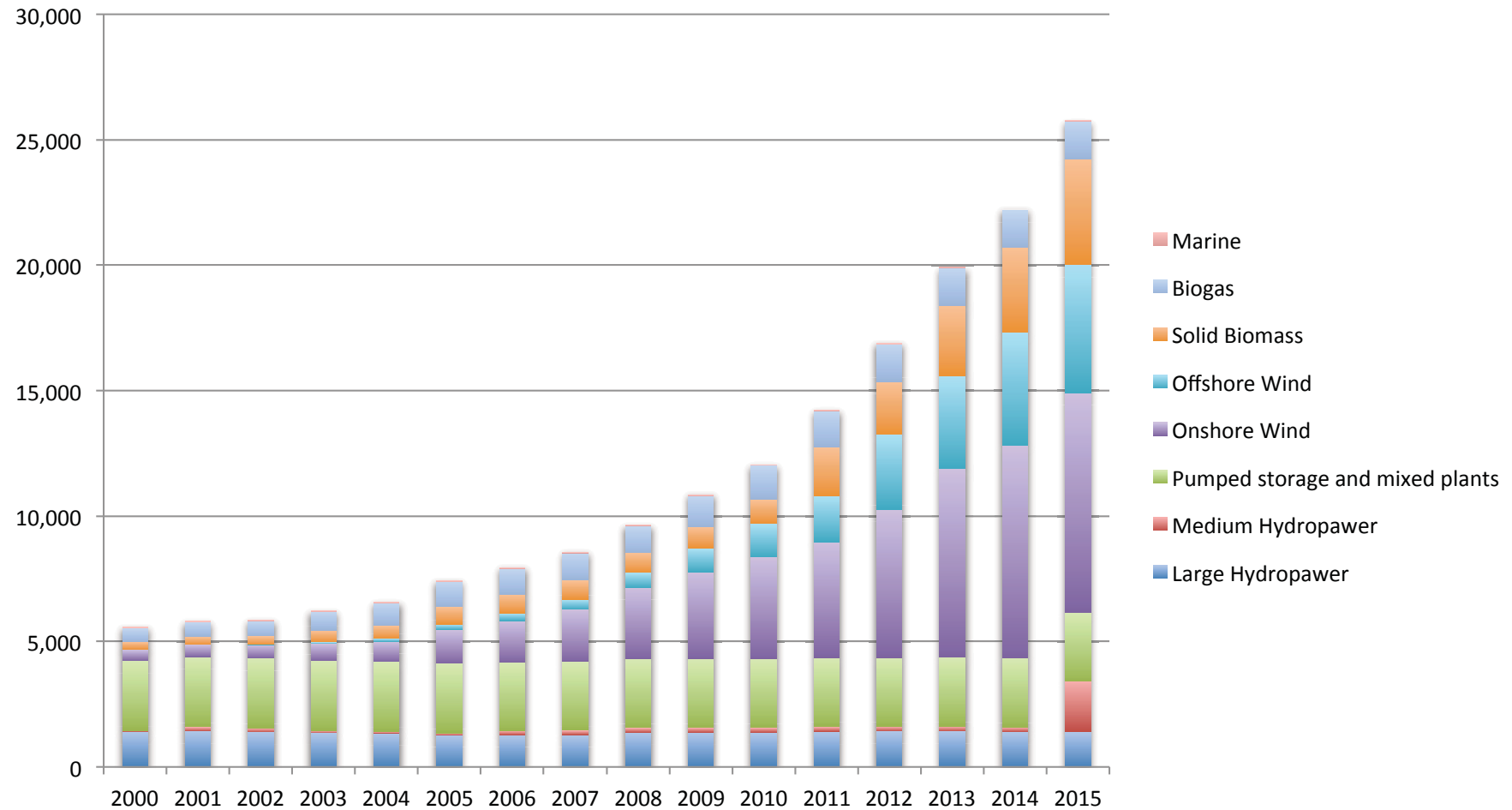
2020 RES target and prospect



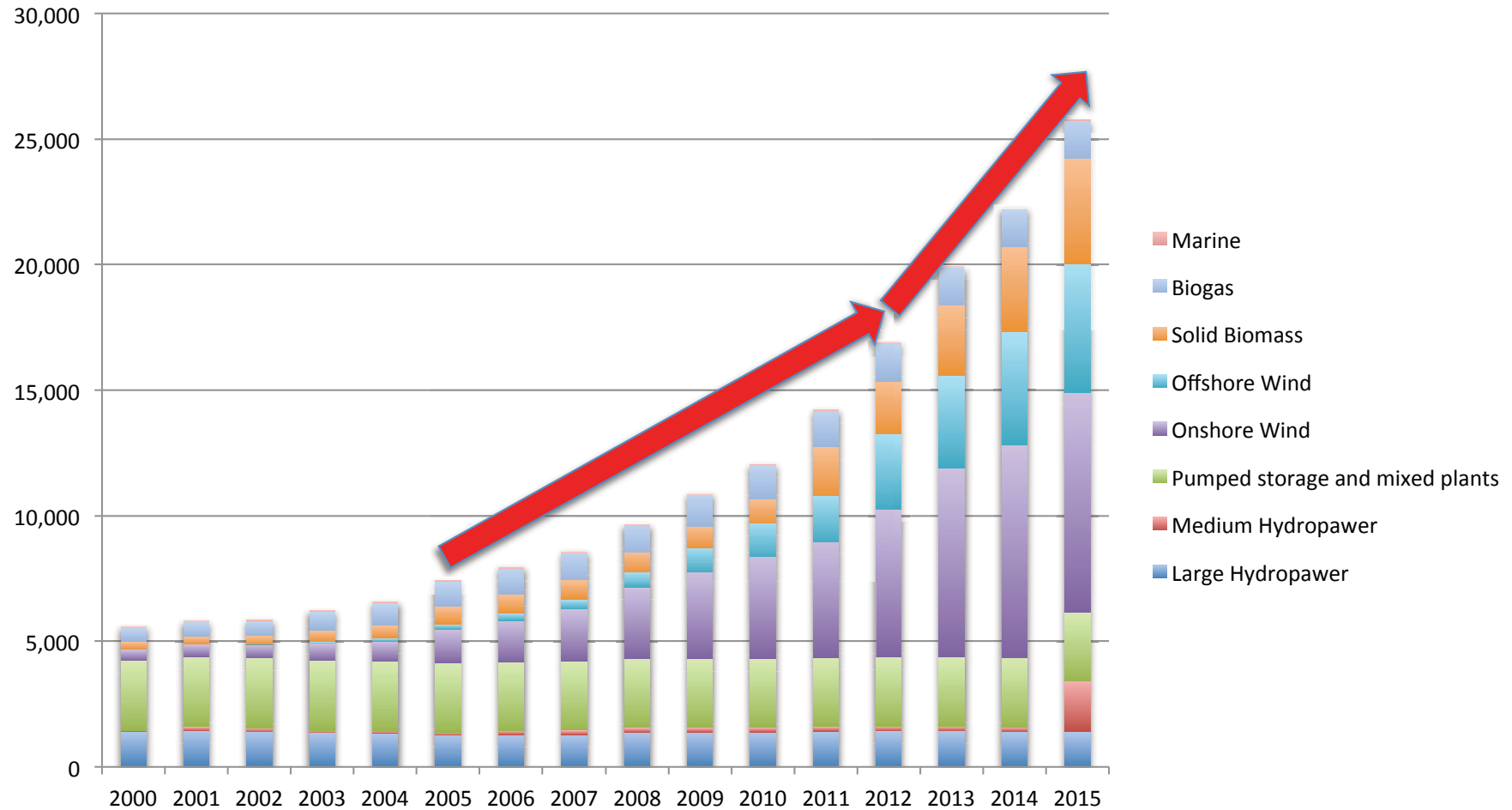
EU measures to promote introduction of renewable energy

- Target set at the EU level, but **measures for achieving its target are left to each member state.**
- Significant number of member states including the UK, France and Germany, have introduced **Feed-in Tariff scheme.**
 - Design of scheme varies from country to country.
 - Towards a more competitive and market based support scheme
 - EU regulation on state subsidies
 - Controlling the level of surcharge and level of penetration of renewables (ex. Germany).
- **Strengthening infrastructure for further introduction of renewables** (2030 Climate and Energy Policy Framework; Conclusions of European Council, 23/24 October 2014)
 - “Achieving a fully functioning and connected internal energy market”
 - Not only for promoting renewables but also for energy security
 - **European Commission will take urgent measures in order to ensure the achievement of a minimum target of 10% of existing electricity interconnections, as a matter of urgency,**
 - **no later than 2020 at least for Member States which have not yet attained a minimum level of integration in the internal energy market, which are the Baltic States, Portugal and Spain**
 - **The Commission will also report regularly to the European Council with the objective of arriving at a 15% target by 2030, as proposed by the Commission.**
 - The EU identified a number of priority corridors under its Trans-European Networks (TEN-E) strategy.

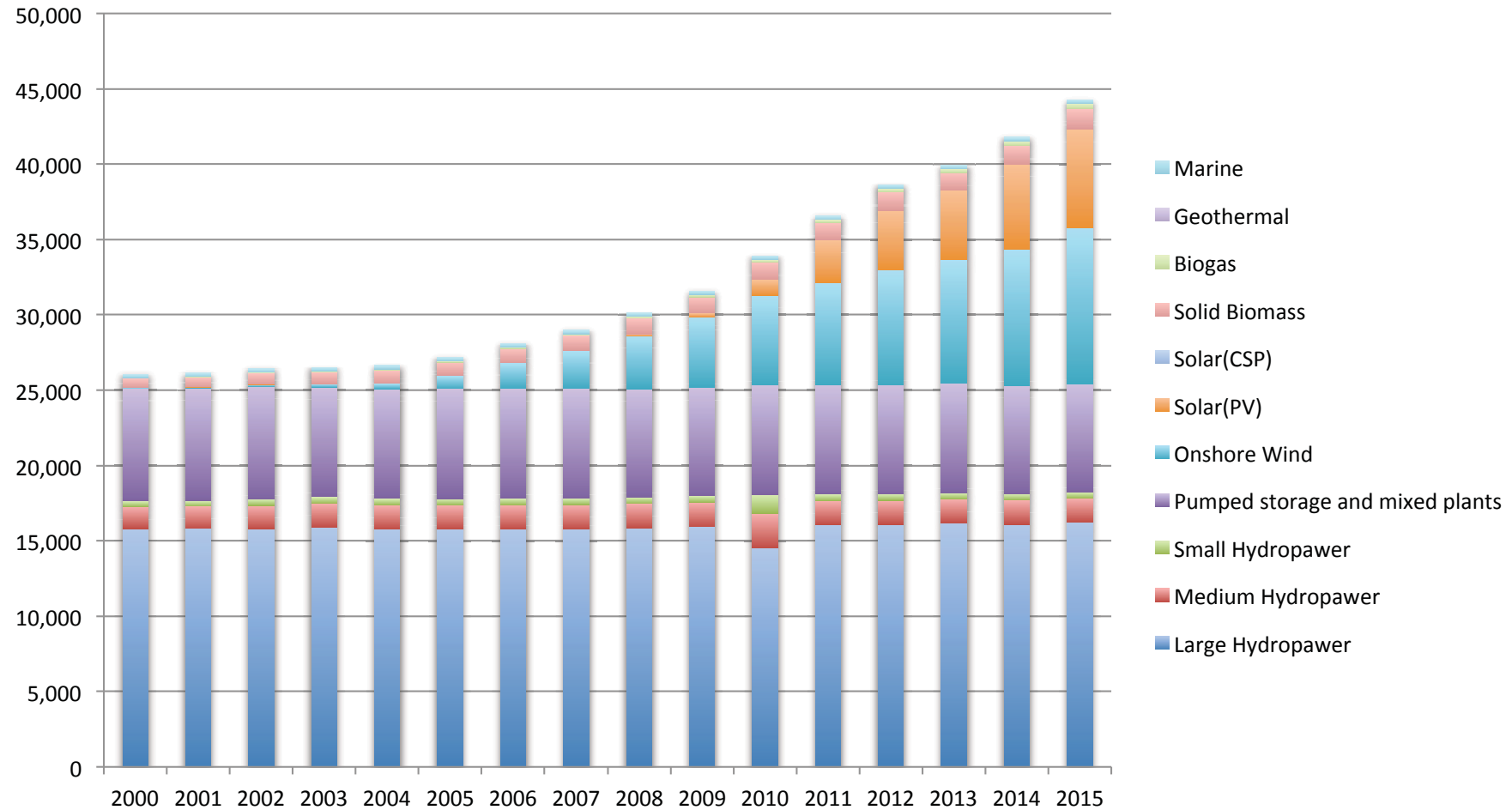
Renewable installation capacity: UK



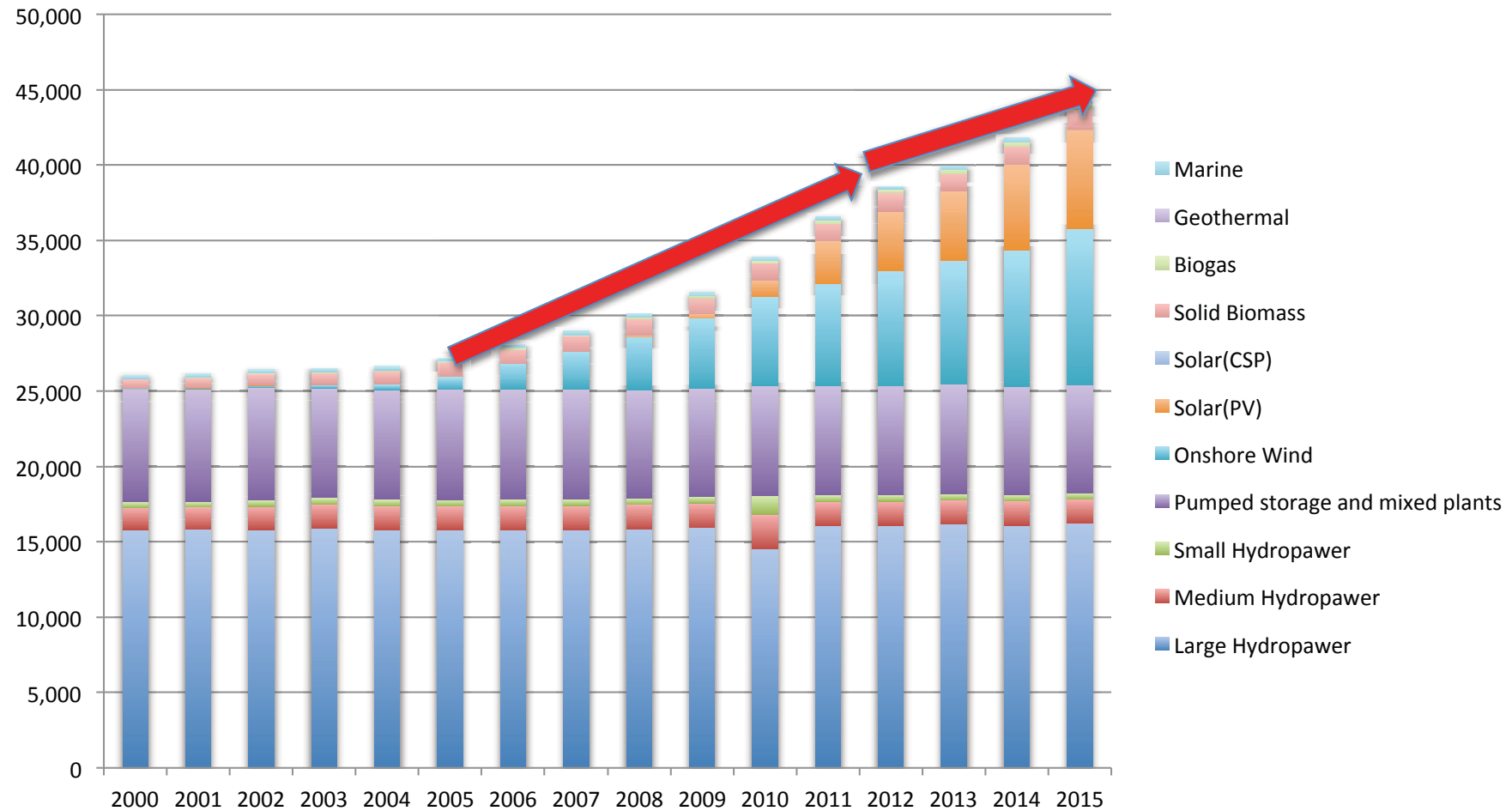
Renewable installation capacity: UK



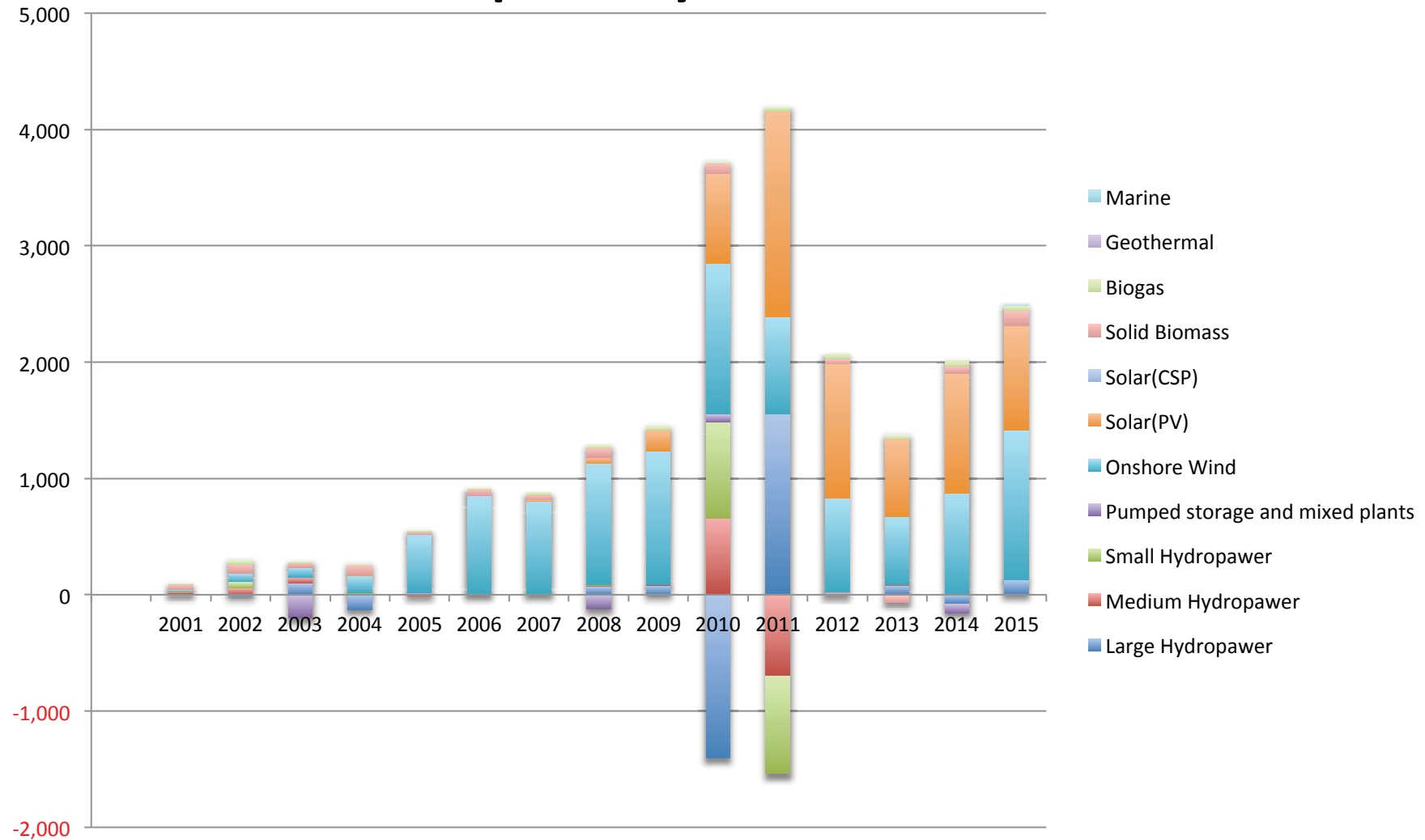
Renewable installation capacity: France



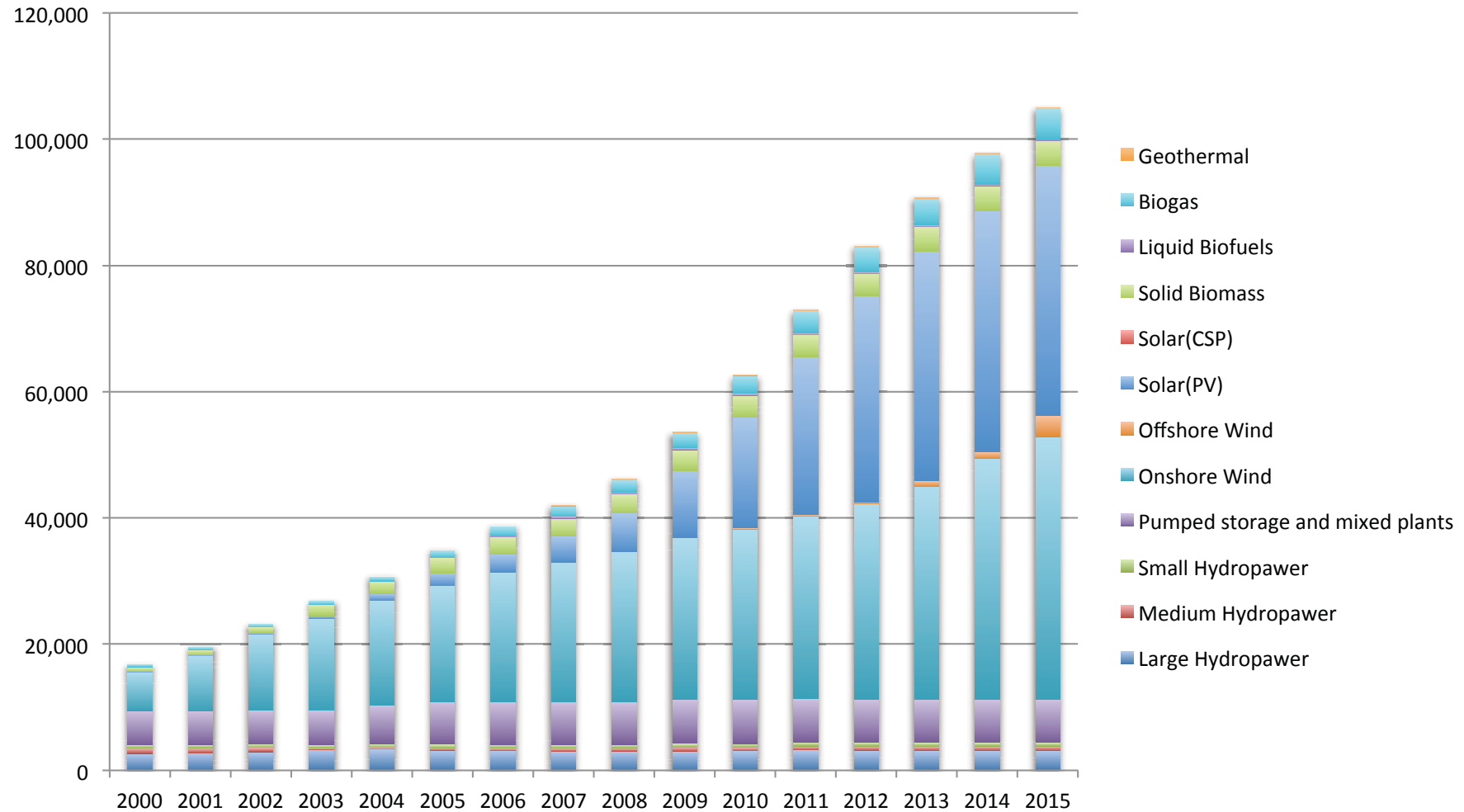
Renewable installation capacity: France



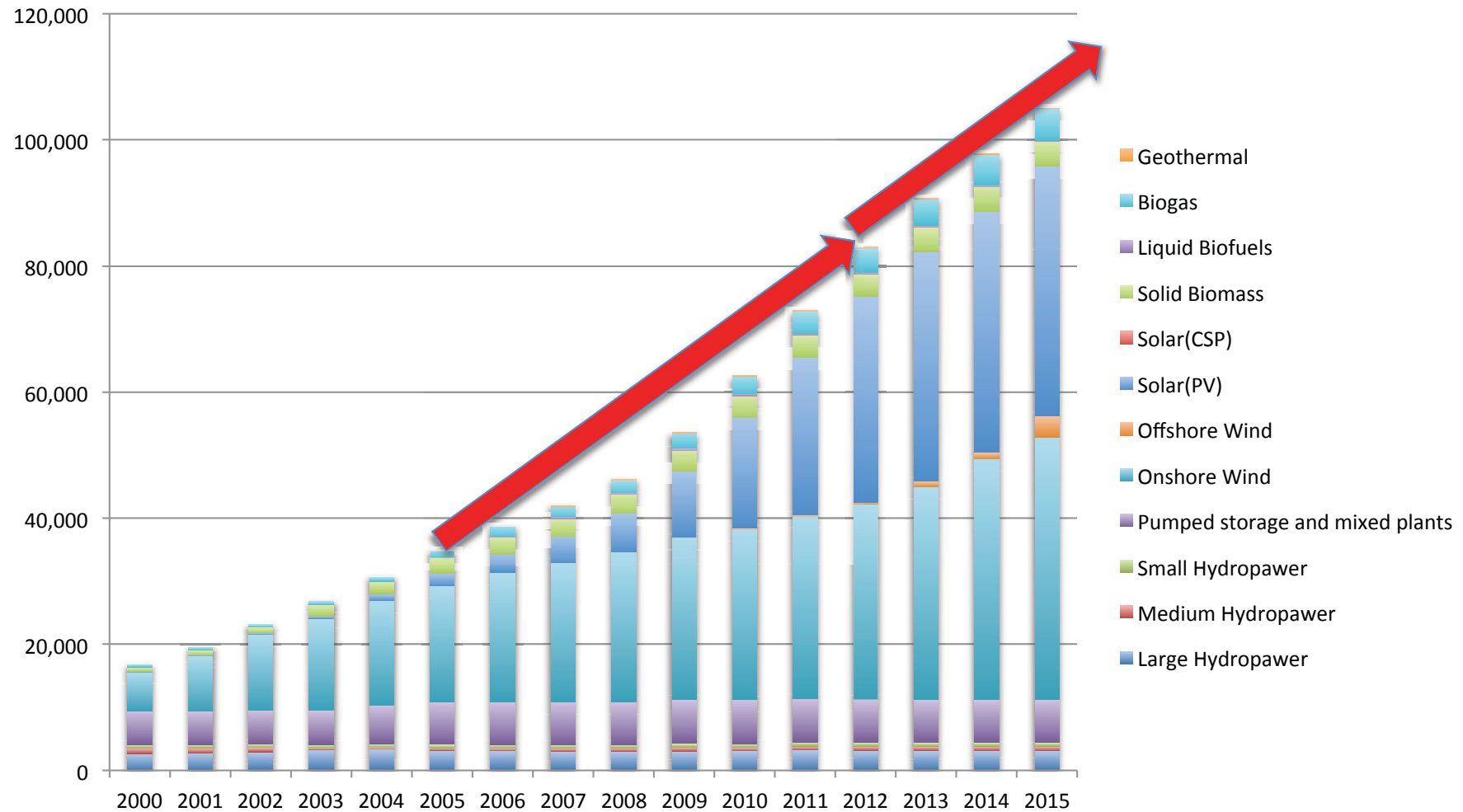
Additions of renewable installation capacity: France



Renewable installation capacity: Germany



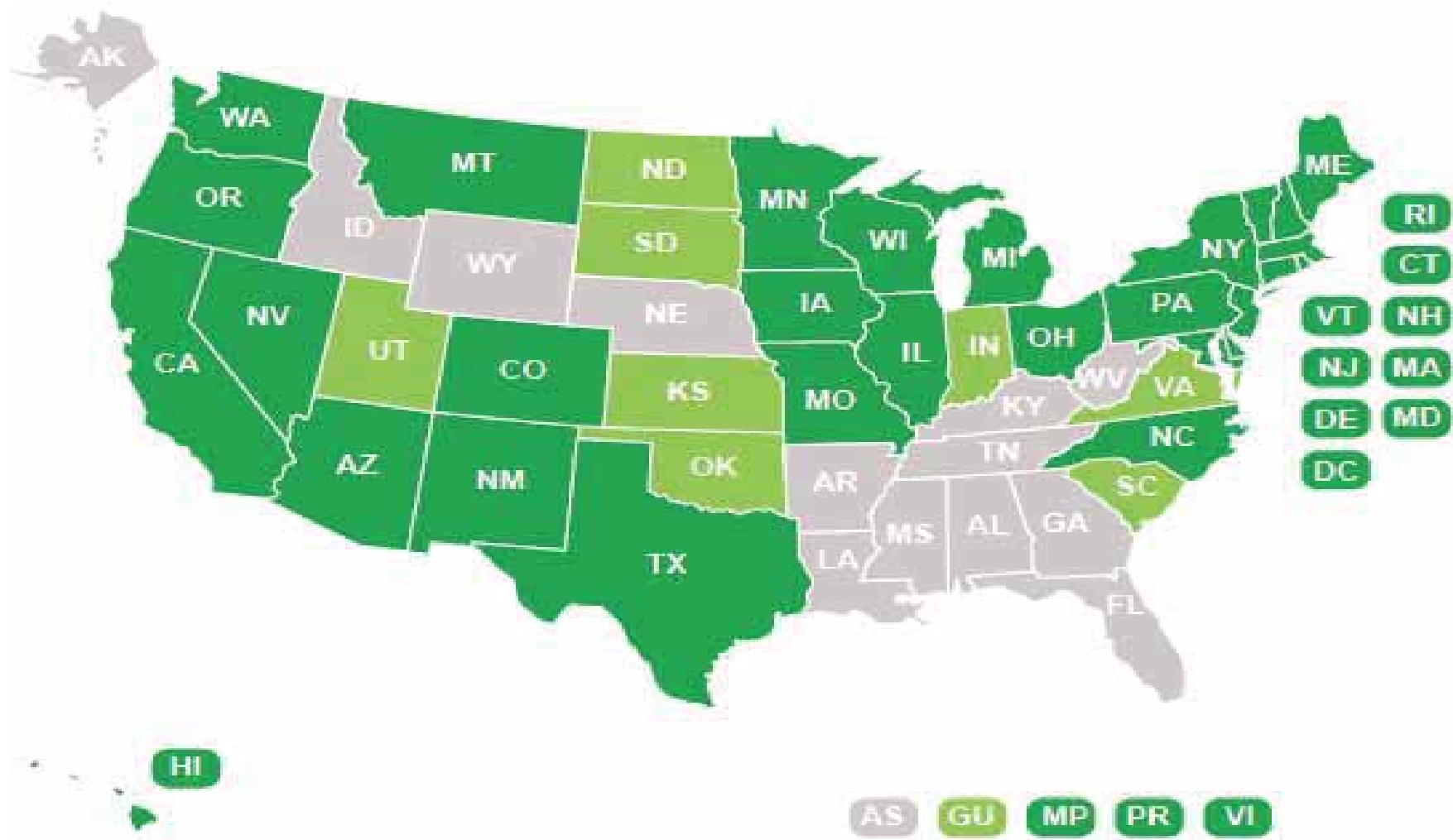
Renewable installation capacity: Germany



US renewable target and measures (1)

- “The President’s Climate Action Plan” provides for doubling share of renewable power generated by 2020 (about 26%) as the Federal target
- Measures at the Federal level: mainly tax exemption/ rebate for investment in renewable, subsidies
 - Promoting renewable energy is one of the candidate measures to be taken by States in the Clean Power Plan
- Measures taken mainly at the State level. Target and measures vary from State to State.
 - As of March 2016, 29 States and Washington D.C. introduced RPS (and renewable target), and 8 more States set renewable target.

Renewable target at the State level



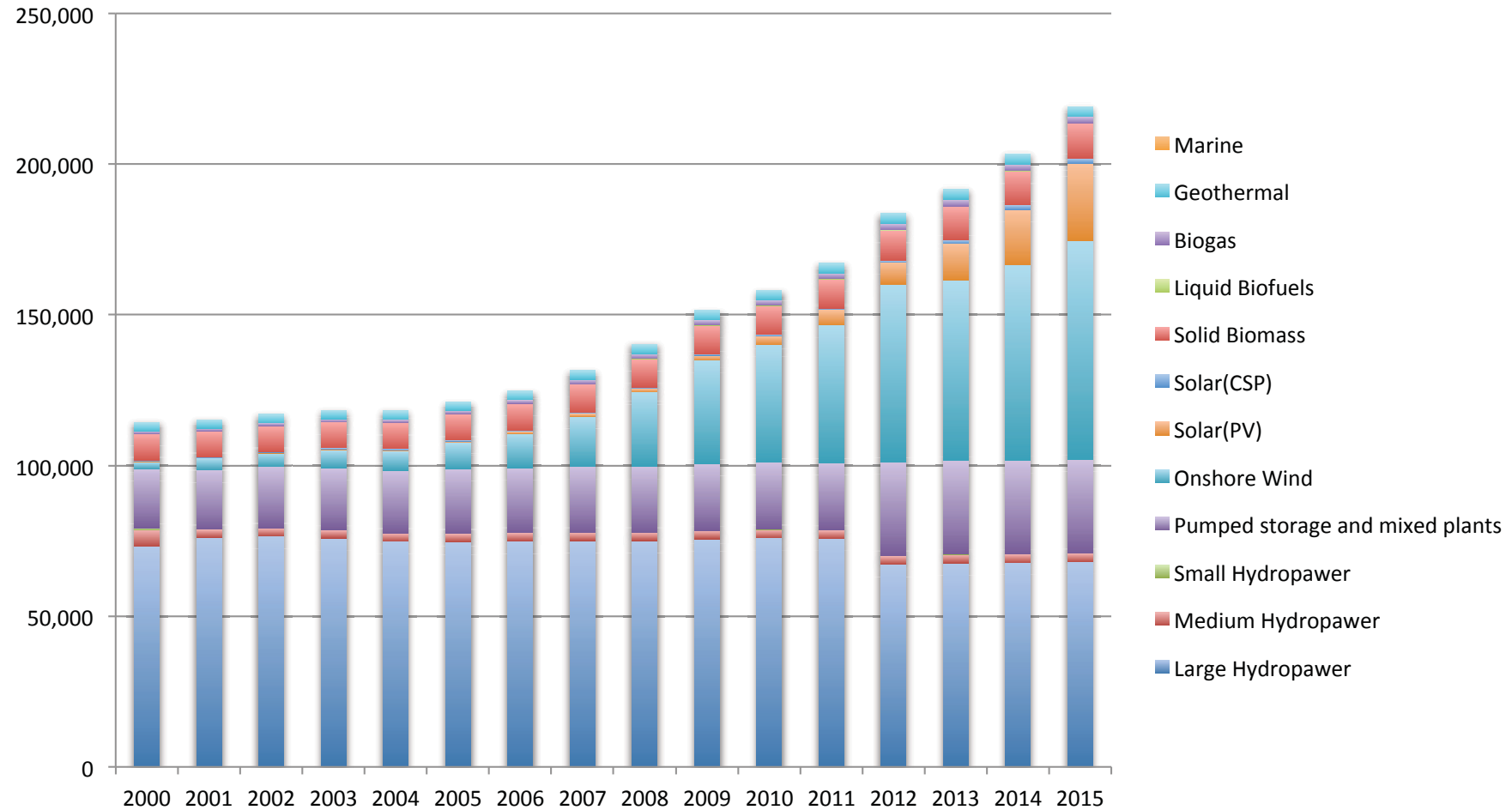
Source: Durkay, 2016.

Note: States in green introduced RPS; States in yellowish green set renewable target.

US renewable target and measures (2)

- Representative examples of actions by States
 - State of California
 - On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08 requiring that "...[a]ll retail sellers of electricity shall serve 33% of their load with renewable energy by 2020."
 - 2009: Executive Order S-21-09 directed the California Air Resources Board, under its AB 32 authority, to enact regulations to achieve the goal of 33%.
 - 2011: Senate Bill X1-2 codifies 33% by 2020 RPS.
 - 2015: 2015: Senate Bill 350 codifies 50% by 2030.
 - State of New York
 - 2004: 29% by 2015
 - In the process of setting a target of 50% by 2030
 - State of Hawaii
 - Started Hawaii Clean Energy Initiative in 2008
 - State government set 70% from renewable of power generated by 2030
 - 100% renewable by 2045 is codified
 - State of Texas
 - 5 Competitive RE Zone were designated as zone with large potential of wind power. Cost of grid is charged to power bill.

Renewable installation capacity: US



Renewable installation capacity: US

