

# 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.

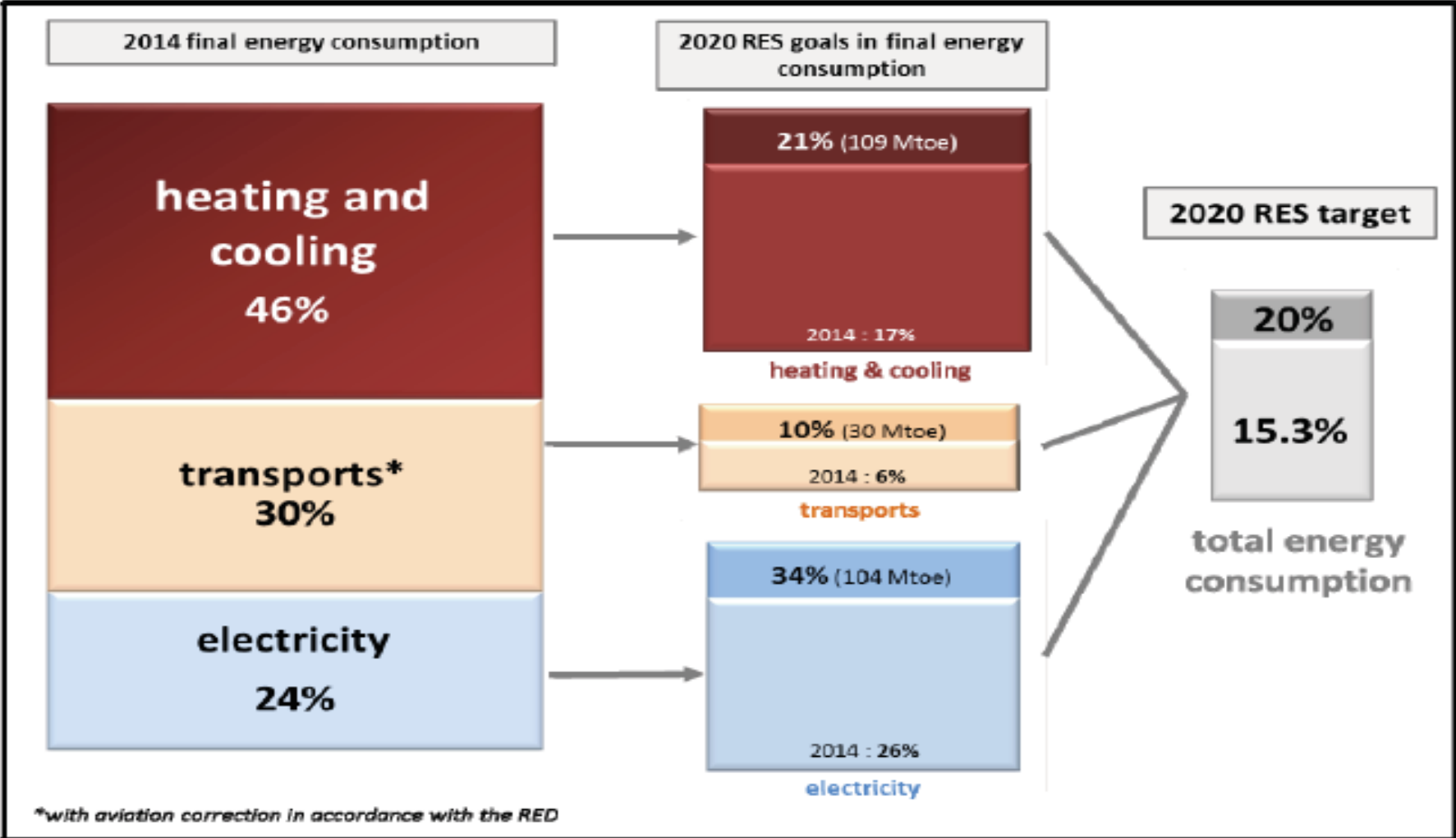
# Possible function of indicators

- **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

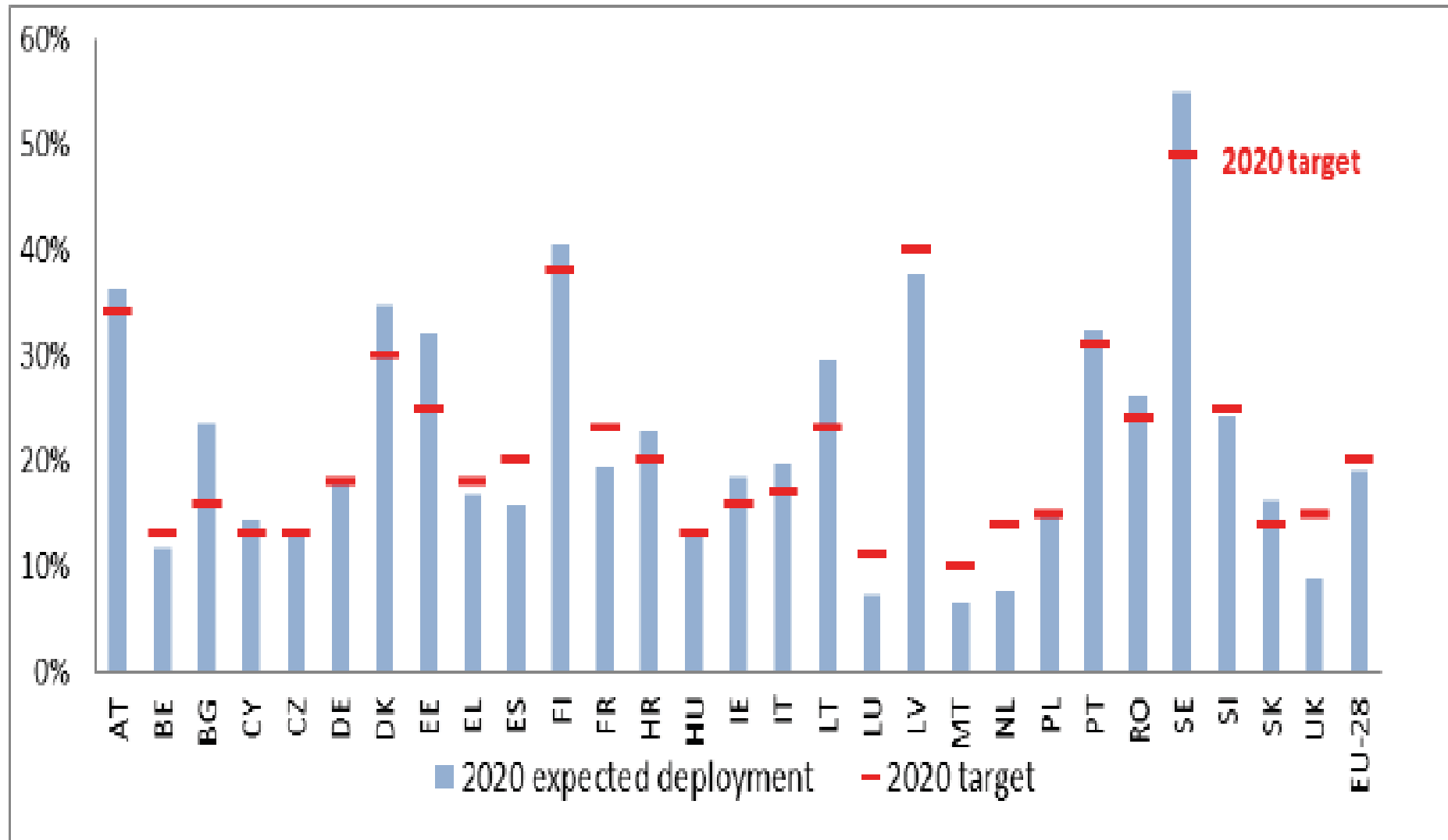


# EU Renewable target

	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))



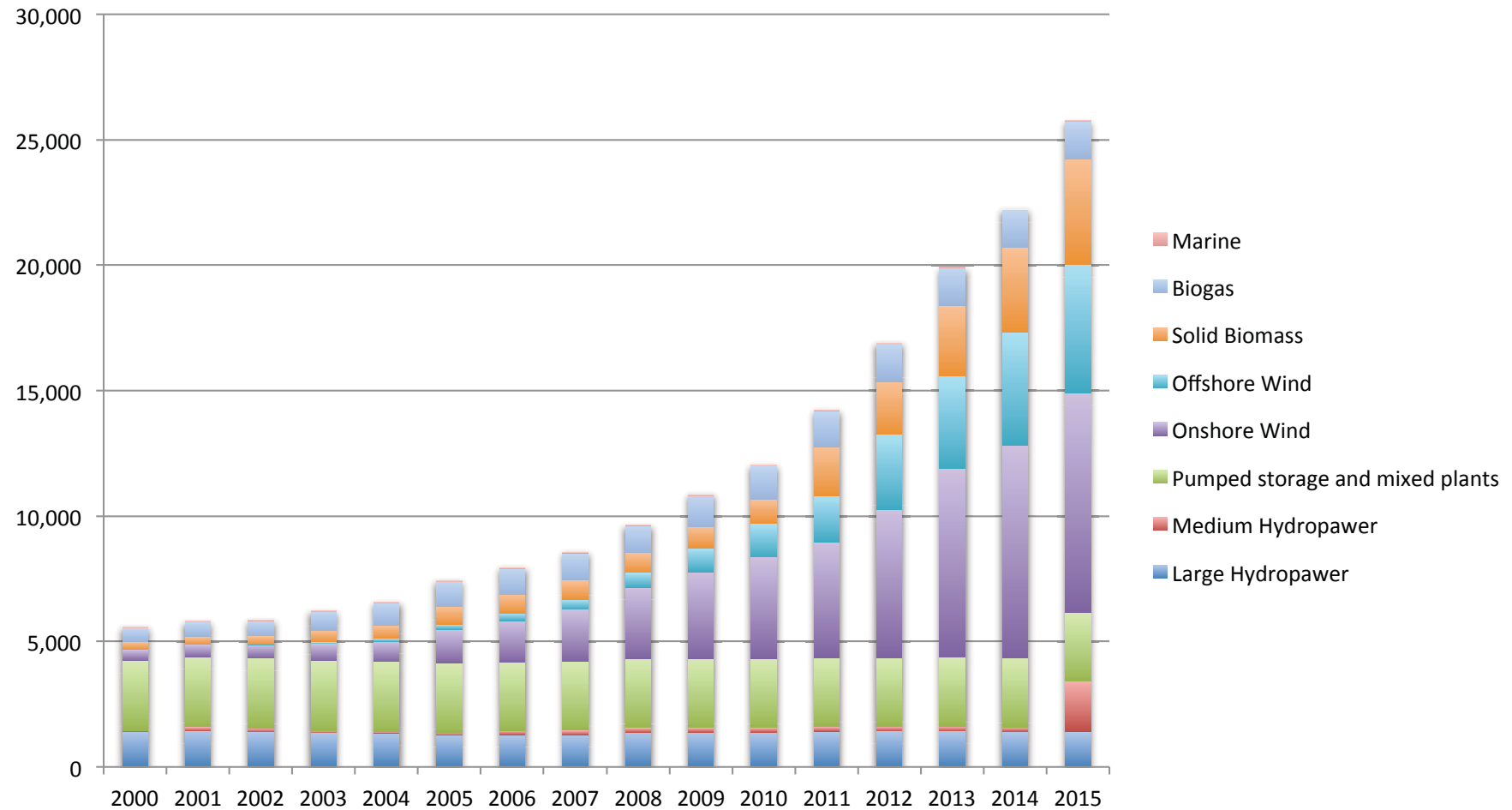
# 2020 RES target and prospect



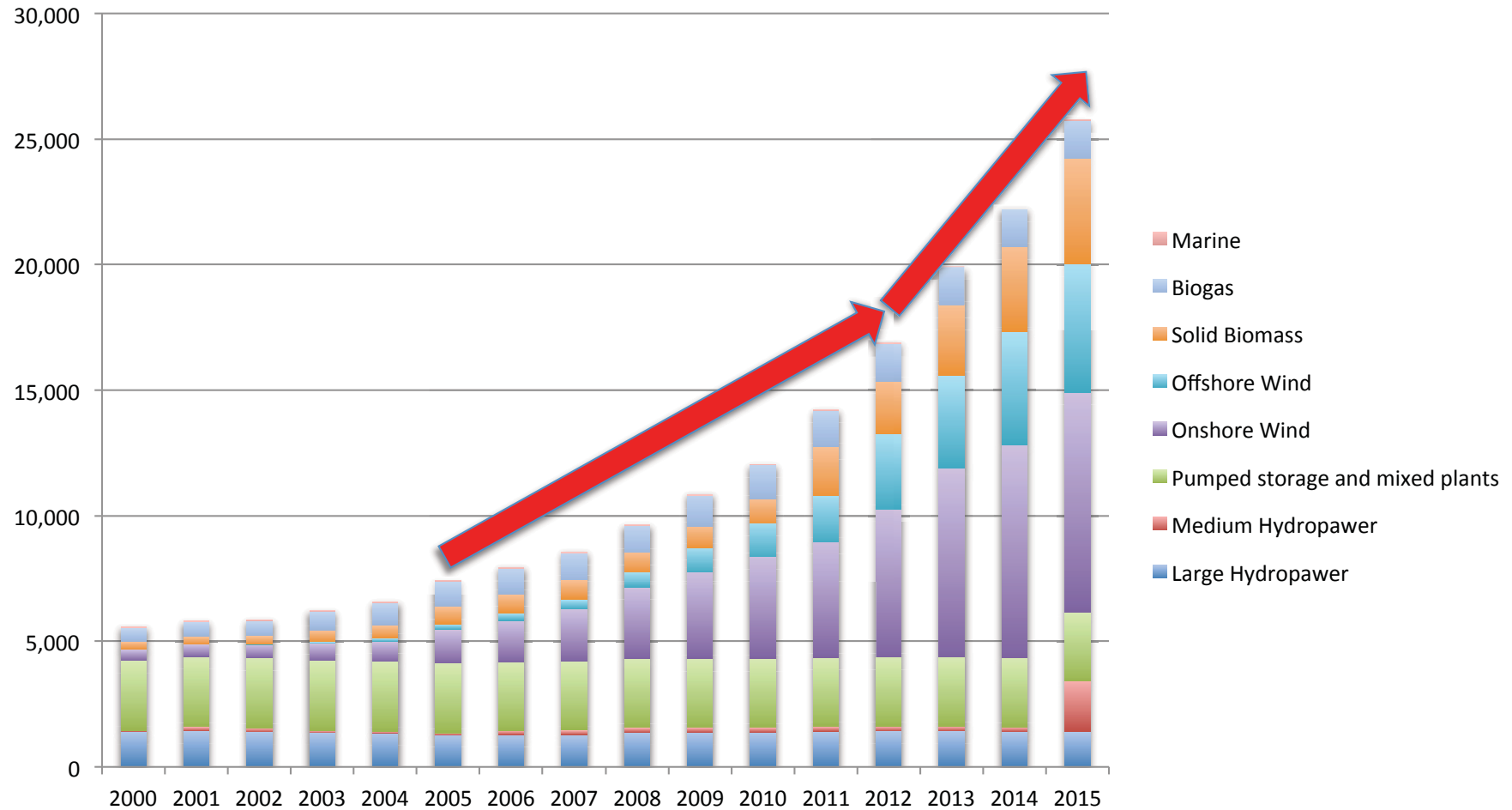
# EU measures to promote introduction of renewable energy

- 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.

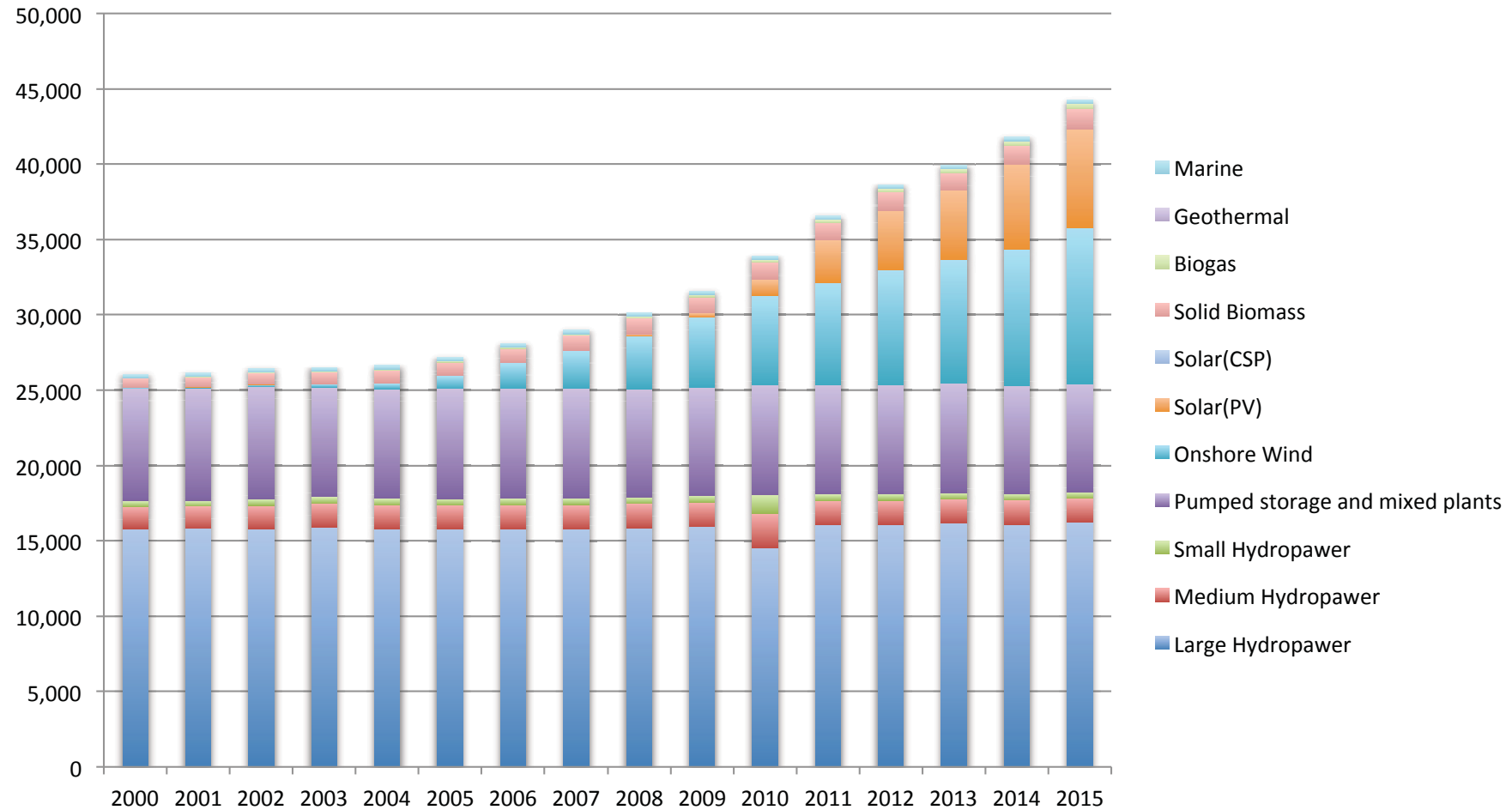
# Renewable installation capacity: UK



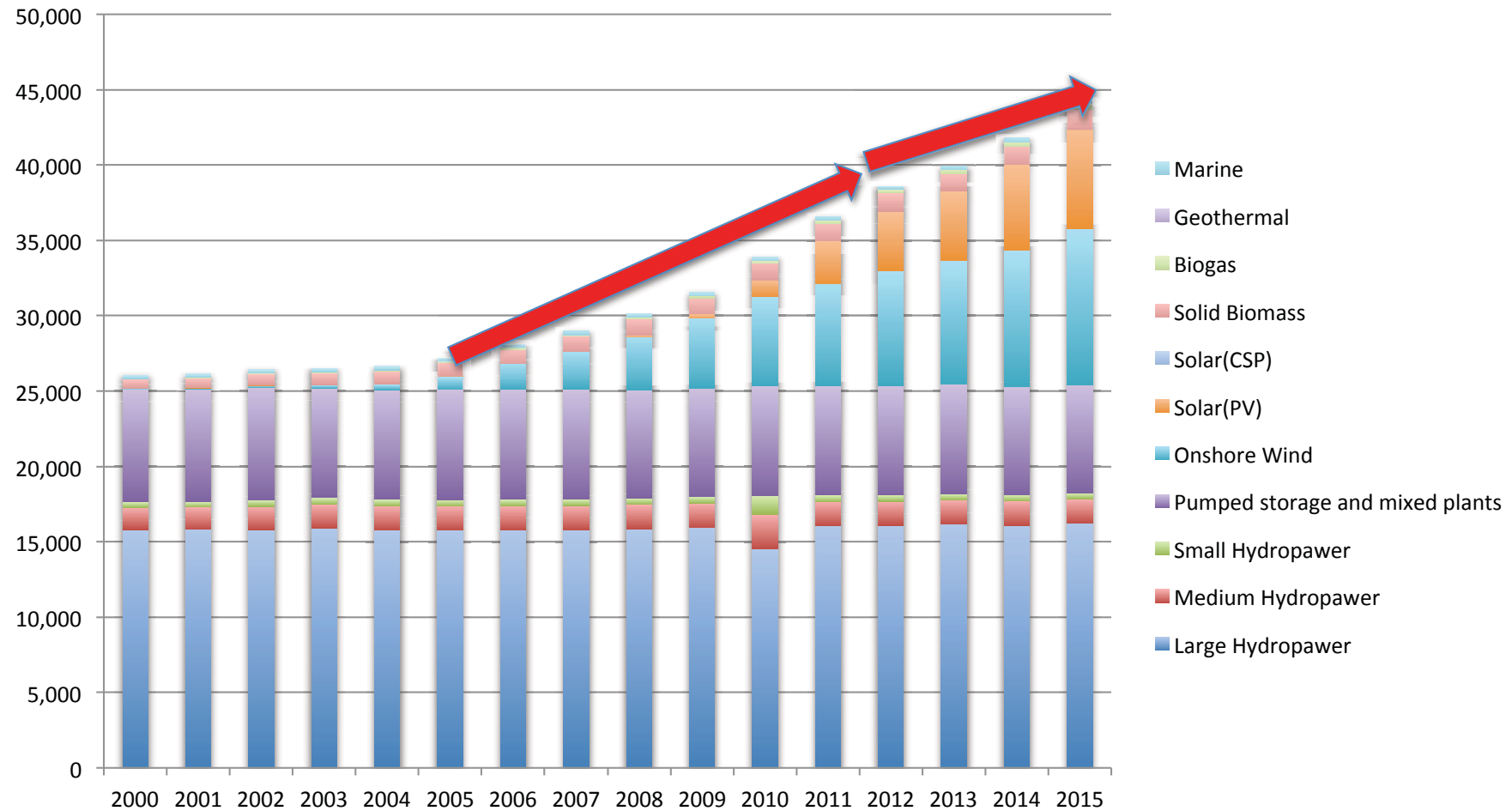
# Renewable installation capacity: UK



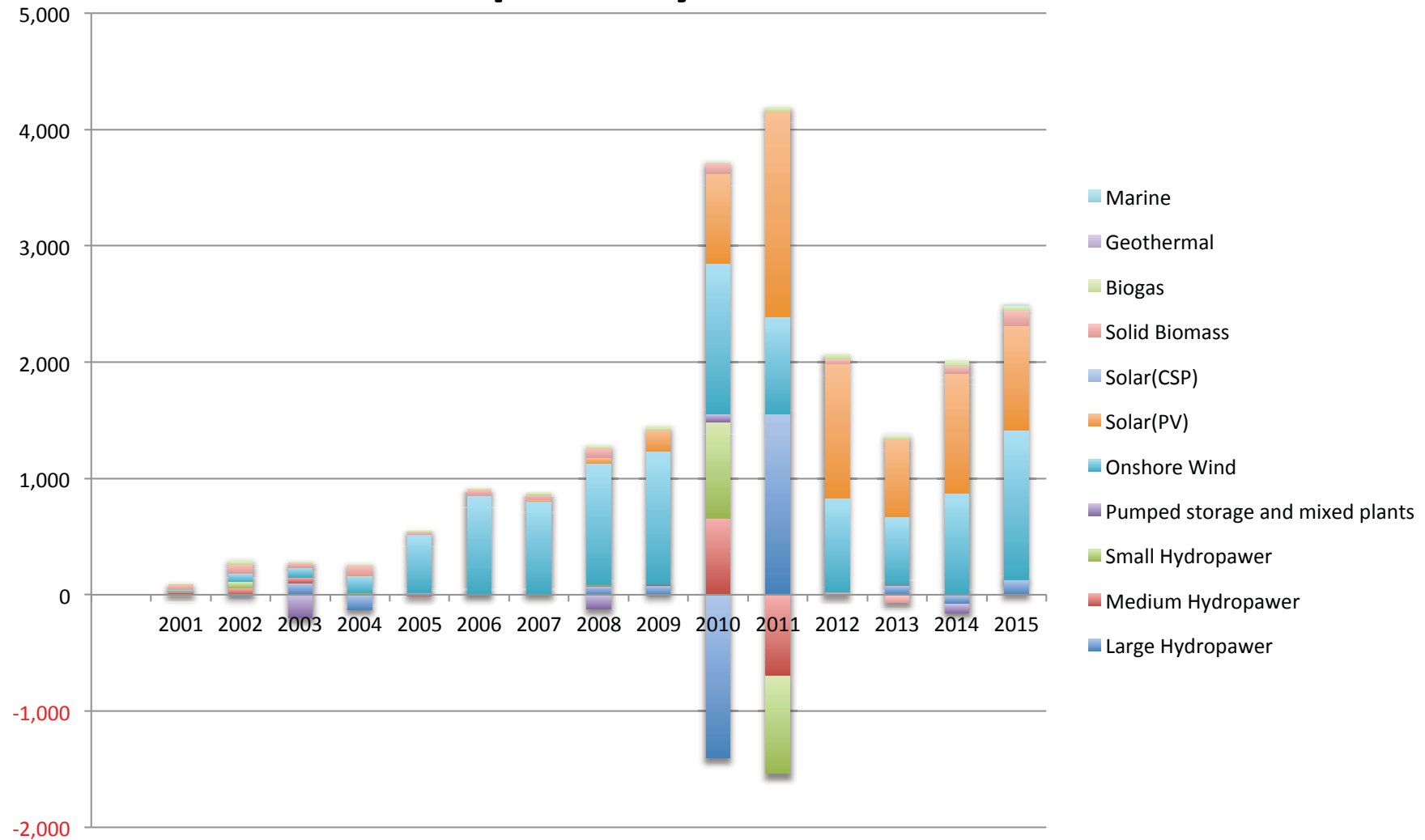
# Renewable installation capacity: France



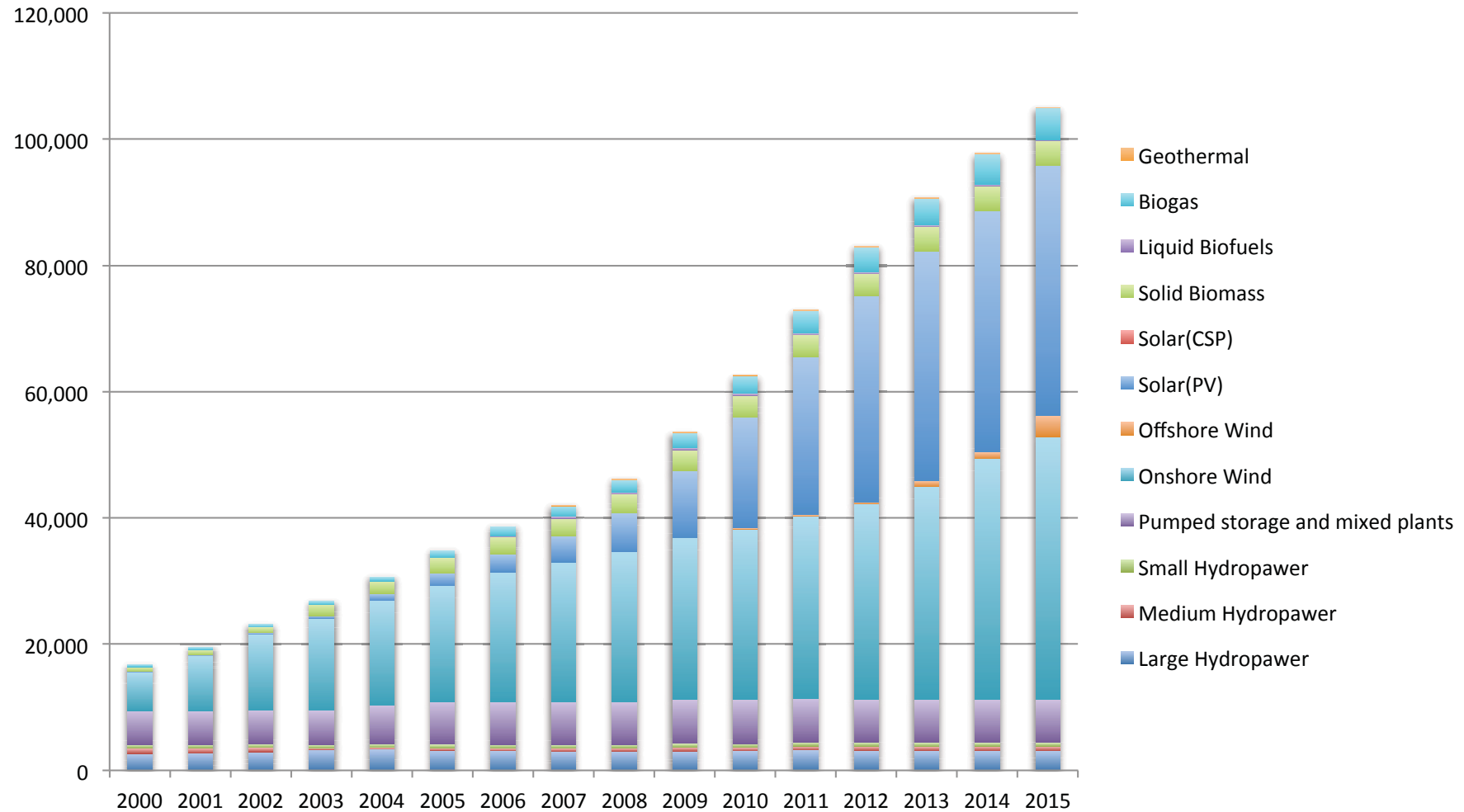
# Renewable installation capacity: France



# Additions of renewable installation capacity: France

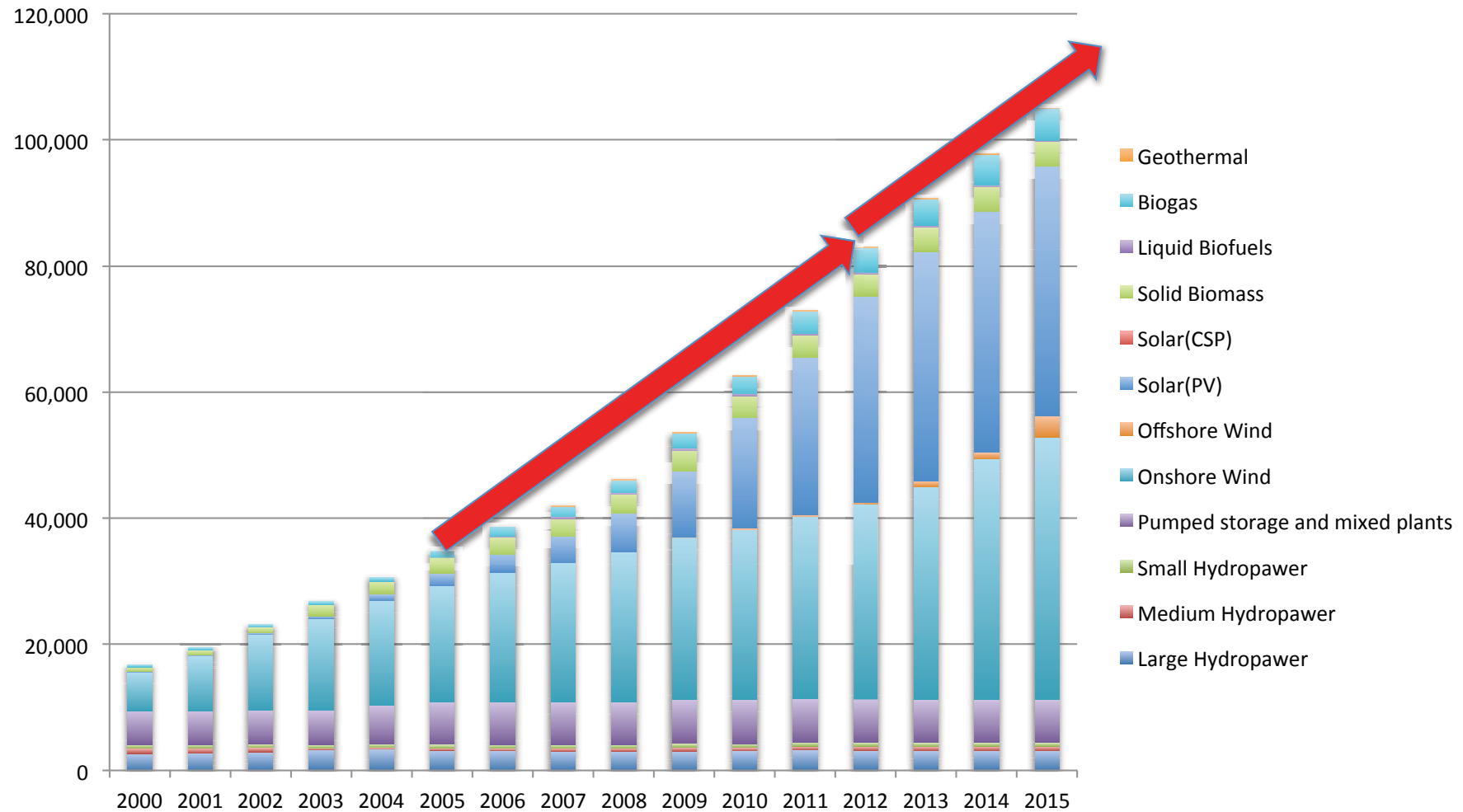


# Renewable installation capacity: Germany





# Renewable installation capacity: Germany



# US renewable target and measures (1)

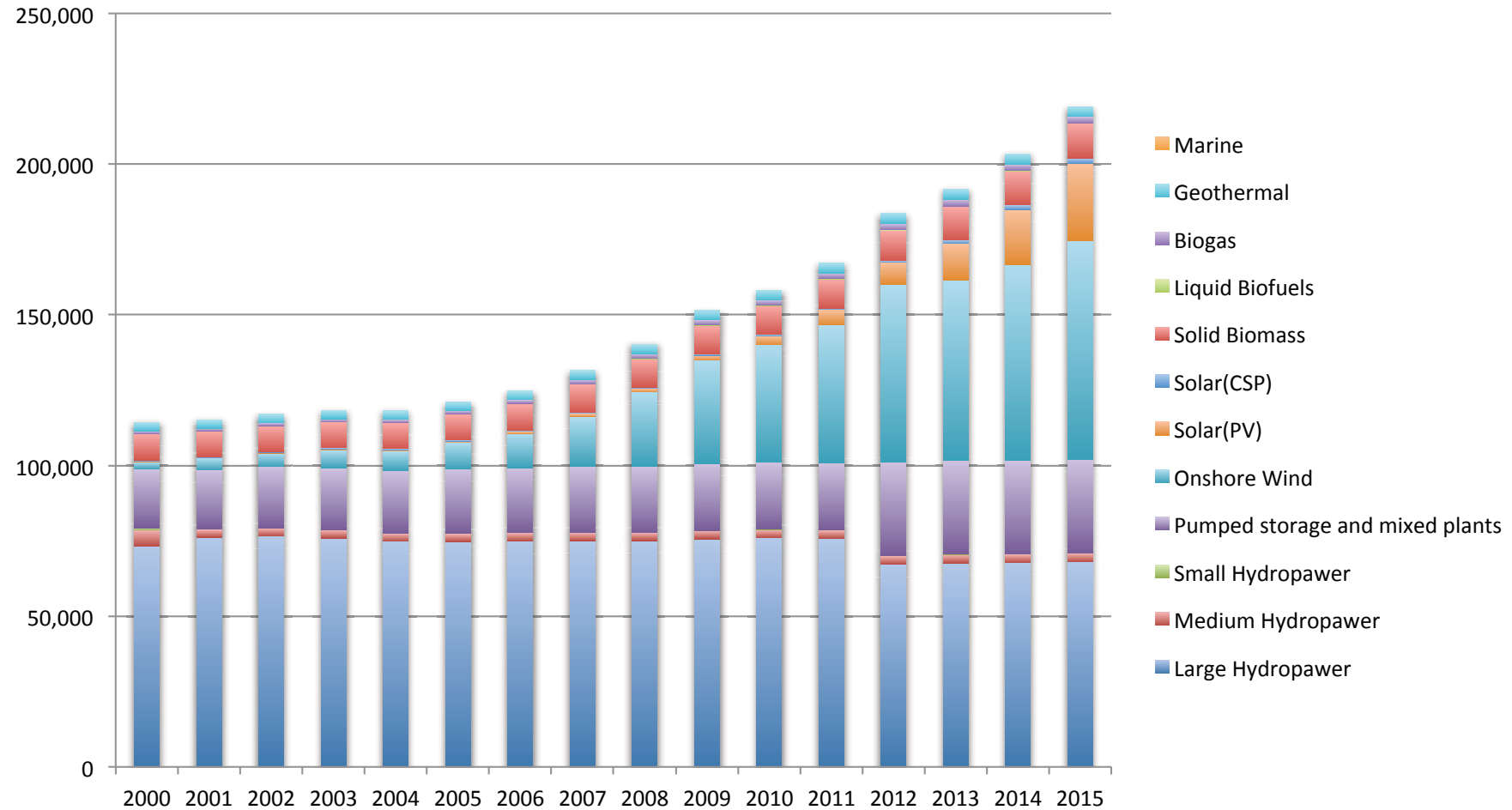
- “The President’s Climate Action Plan” provides for doubling share of renewable power generated by 2020 (about 26%) as the Federal target
- Measures at the Federal level: mainly tax exemption/ rebate for investment in renewable, subsidies
  - Promoting renewable energy is one of the candidate measures 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.



# 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

