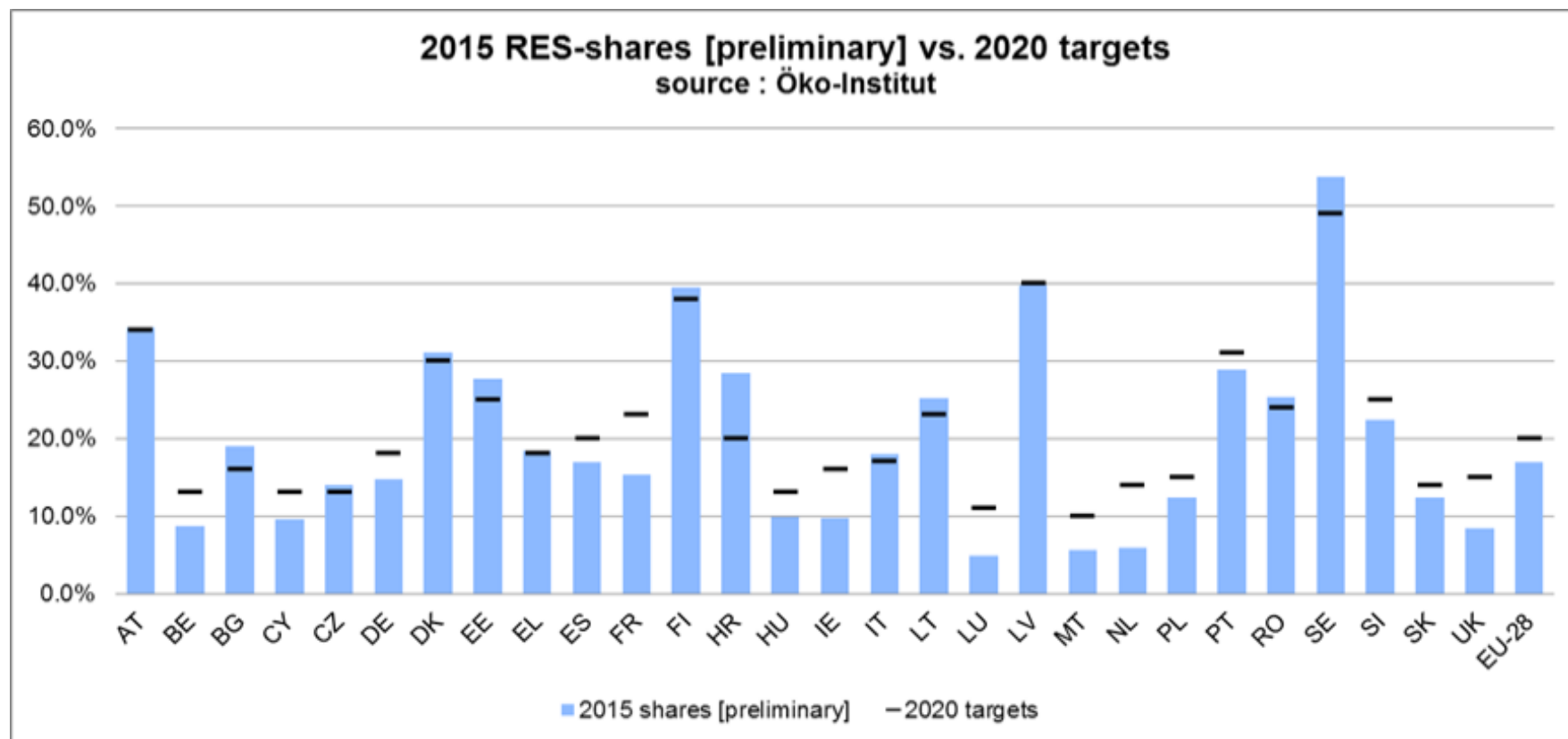




The Revised Renewable Energy Directive and Bioenergy

9 December 2016

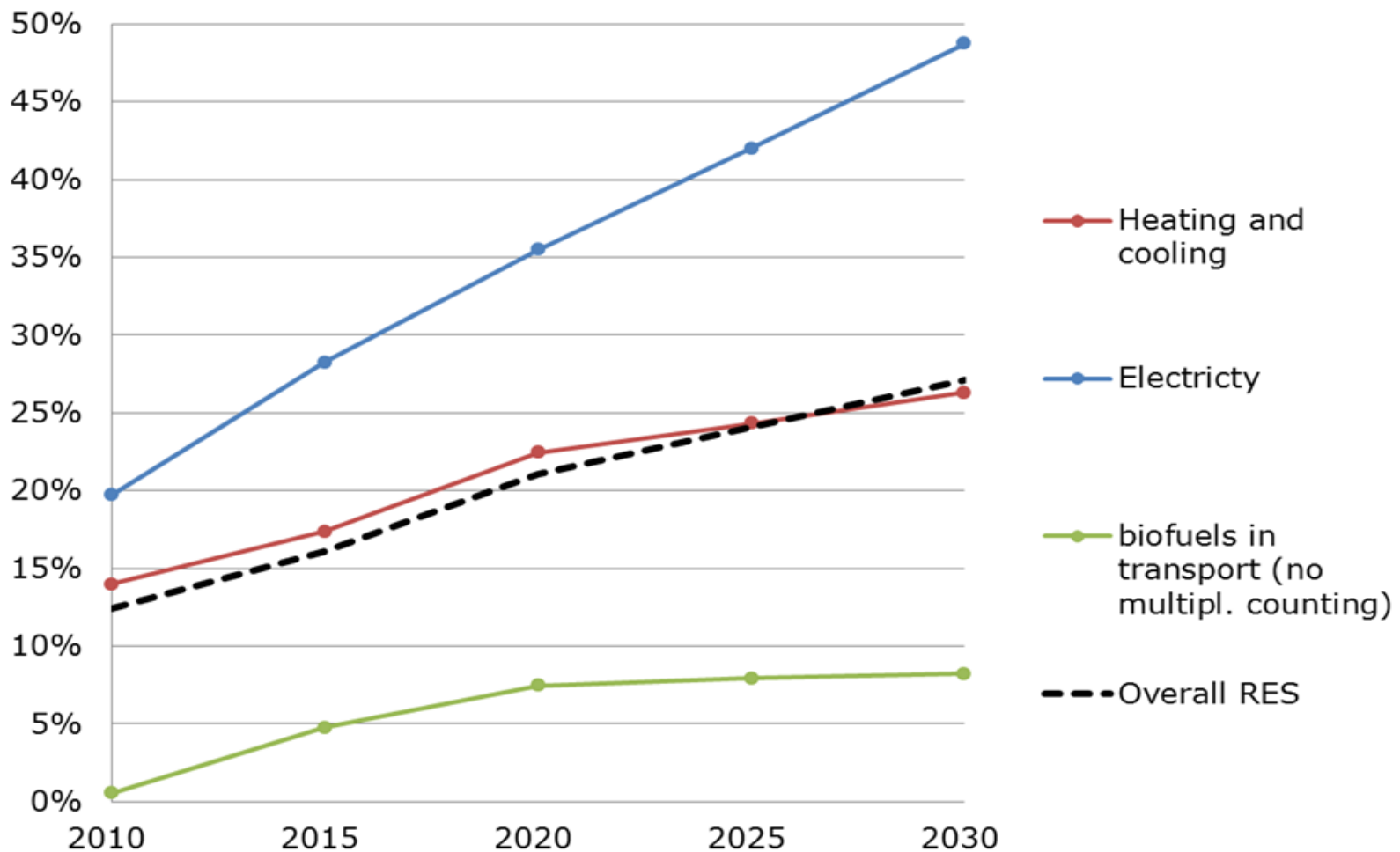
STATE OF PLAY - PROGRESS TOWARDS NATIONAL 2020 TARGETS



Based on 2016 Interim Progress Report - Oeko-Institute

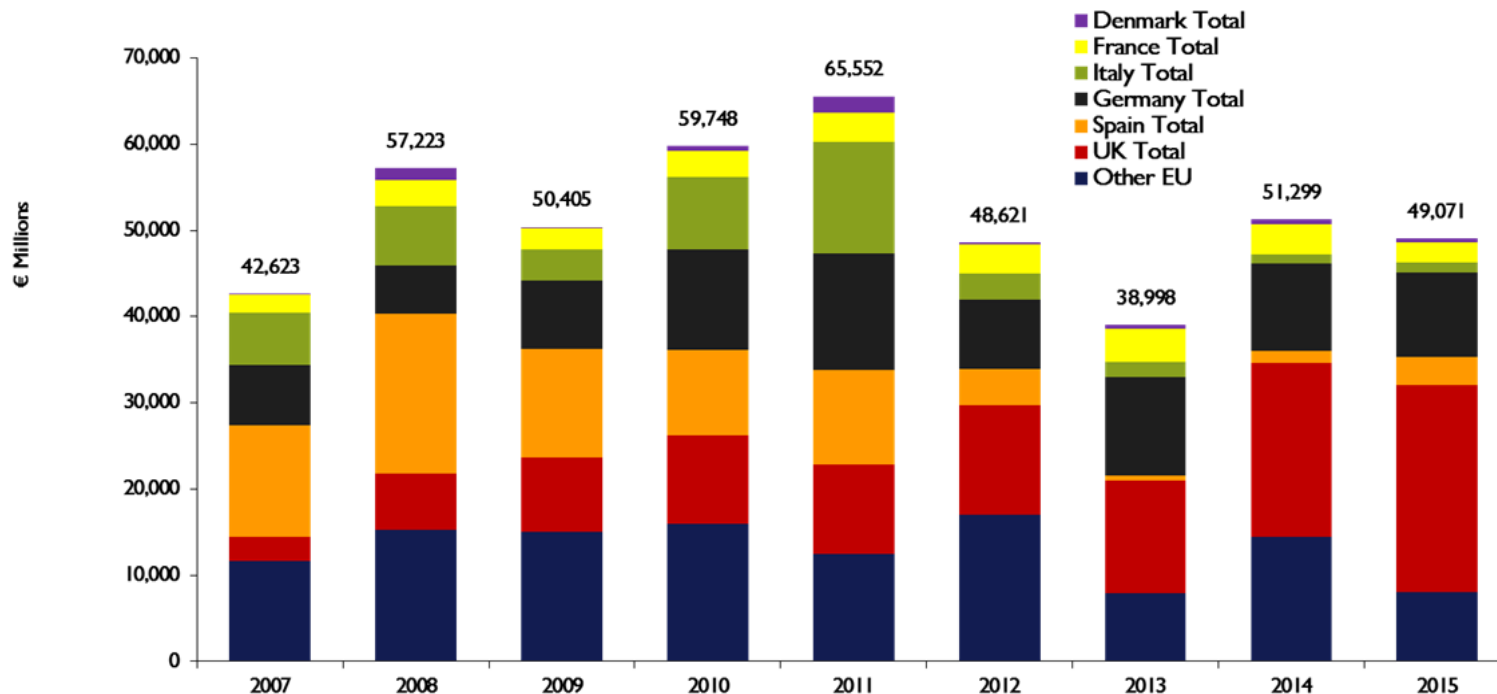
EU RENEWABLE ENERGY POLICY OBJECTIVES

- Increasing renewables to at least 27 % by 2030
- EU becoming world #1 in renewable energy



ENSURING COST-EFFECTIVE ACTION ACROSS ALL COUNTRIES

EU RENEWABLE PROJECT INVESTMENT BY COUNTRY– NEW BUILD, M&A, REFINANCING (2007-2015)



Source: Bloomberg / New Energy Finance

HgCapital } Sector expert investors supporting management to grow industry champions

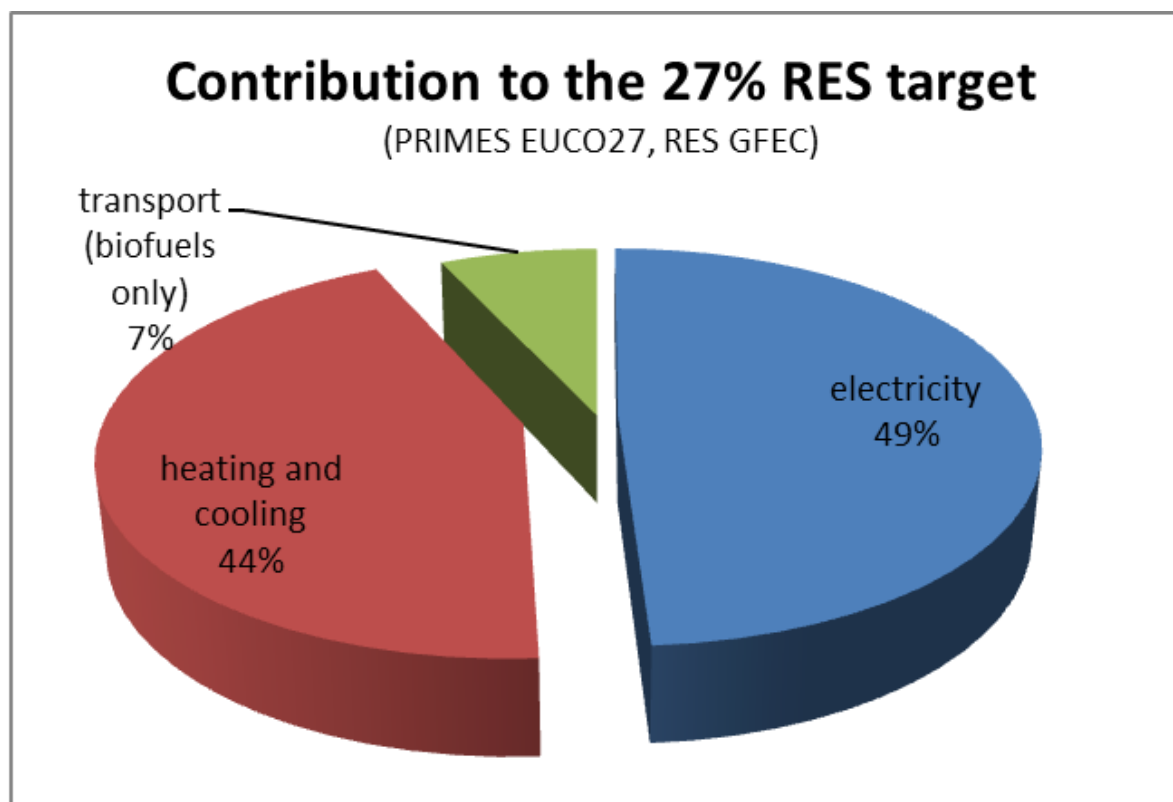
© Copyright 2013 HgCapital 3

**Investments are increasingly concentrated in a few Member States
UK and Germany alone represented over 2/3 of all investments over 2013-2015**



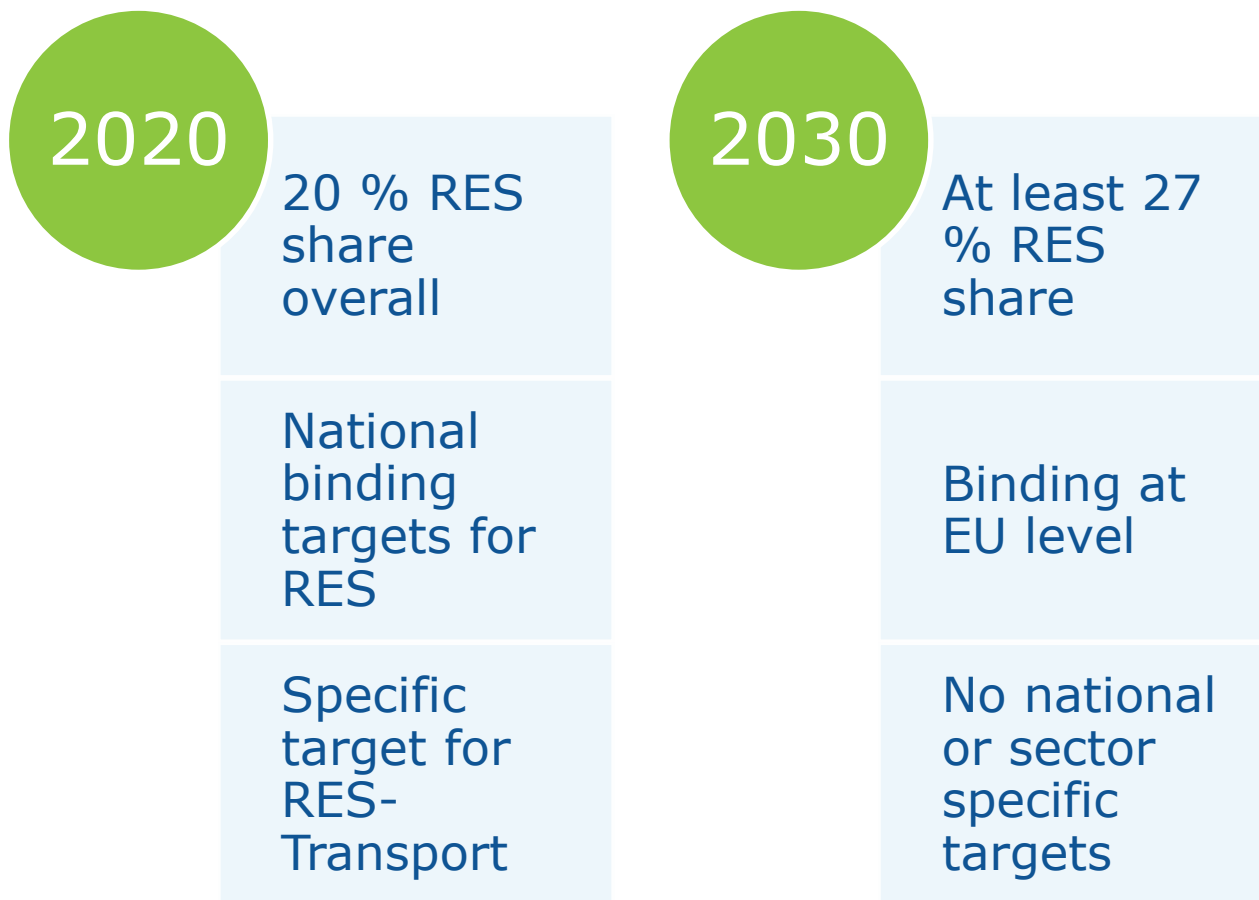
European
Commission

ENSURING COST-EFFECTIVE ACTION ACROSS ALL SECTORS

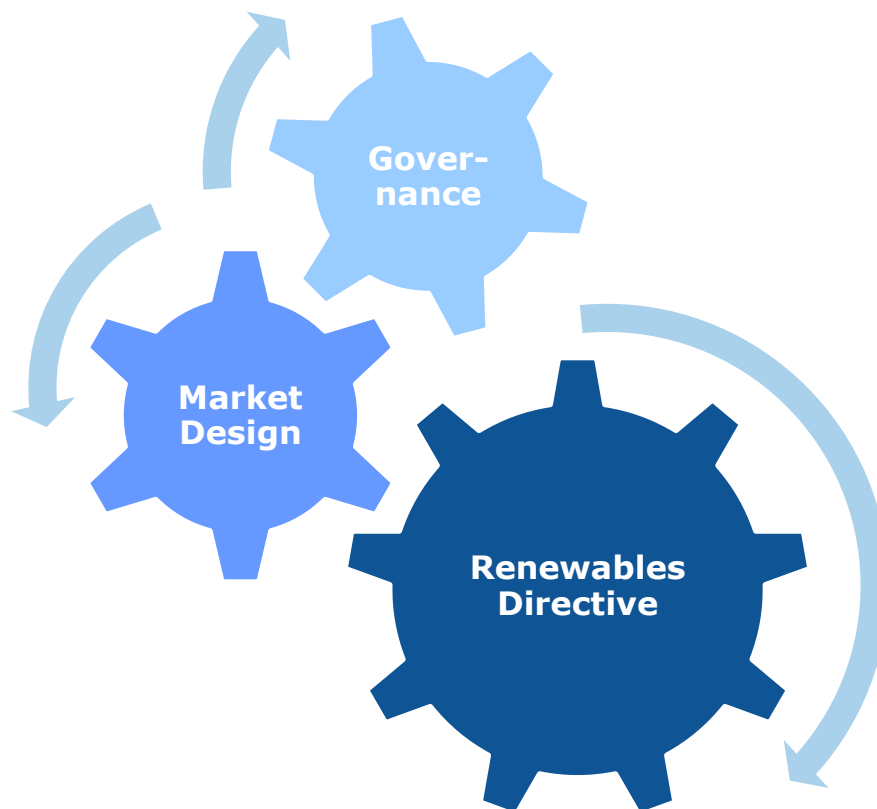


Renewables need to be mainstreamed also in heating & cooling and transport

MOVING TO A NEW MORE EUROPEAN APPROACH TO RENEWABLES

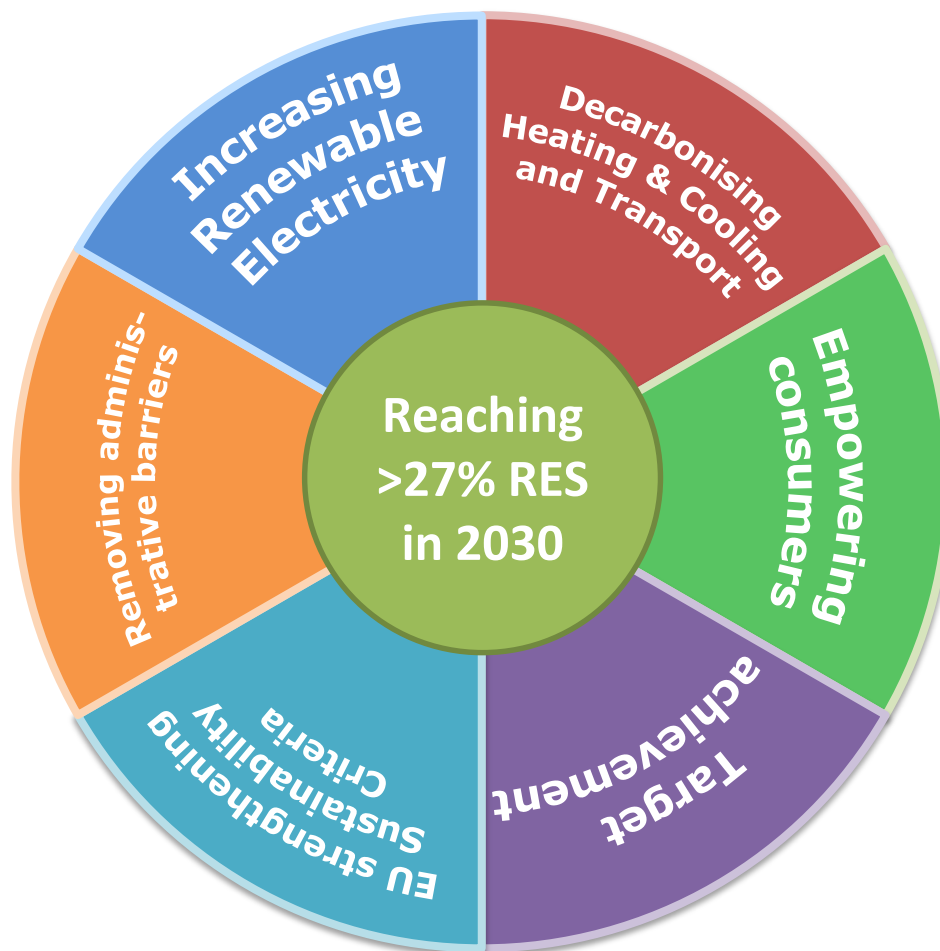


ENSURING SYNERGIES WITH OTHER EU POLICY INITIATIVES

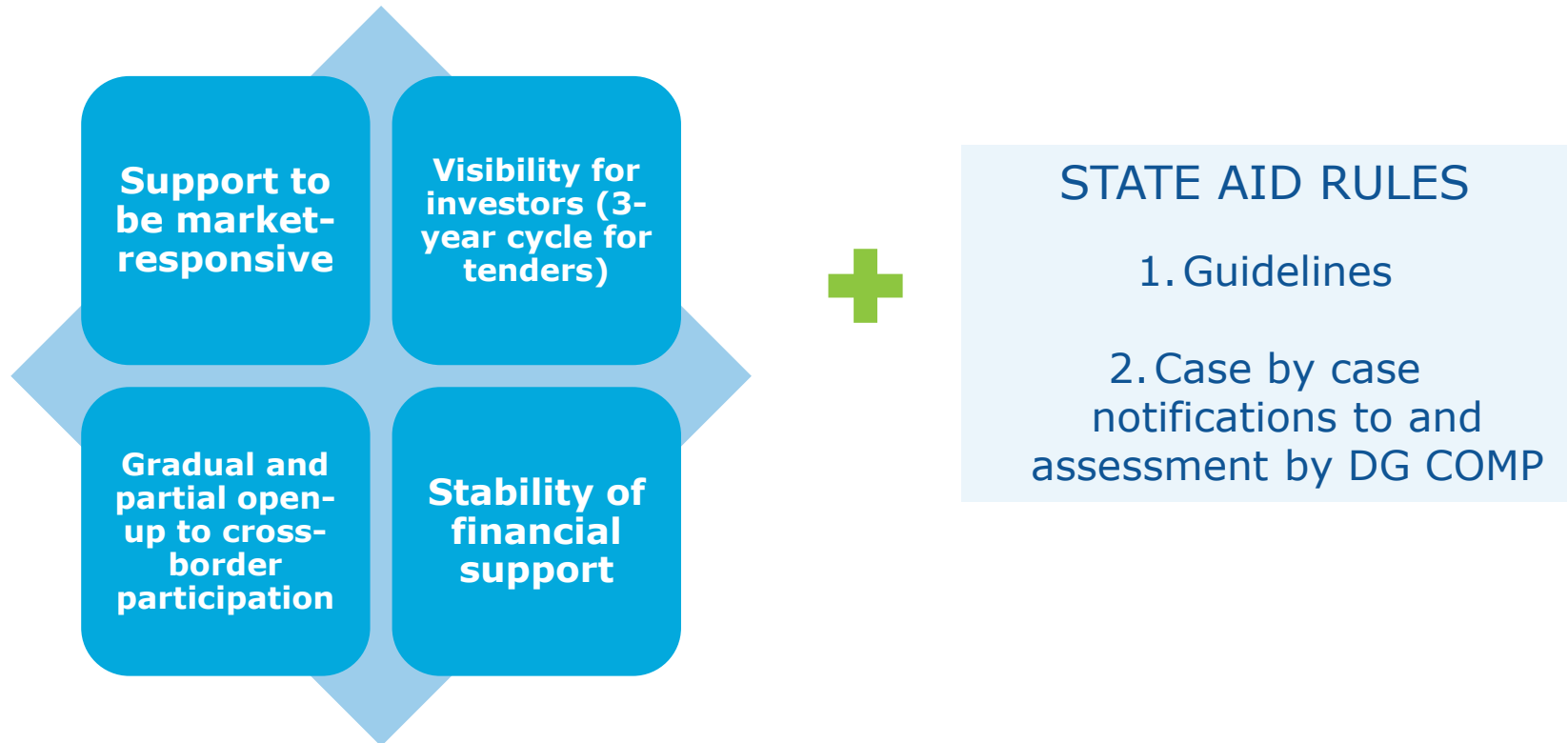


But also with Energy Efficiency Package, ETS, Effort Sharing, LULUCF etc.

REVISED RENEWABLE ENERGY DIRECTIVE – KEY MEASURES



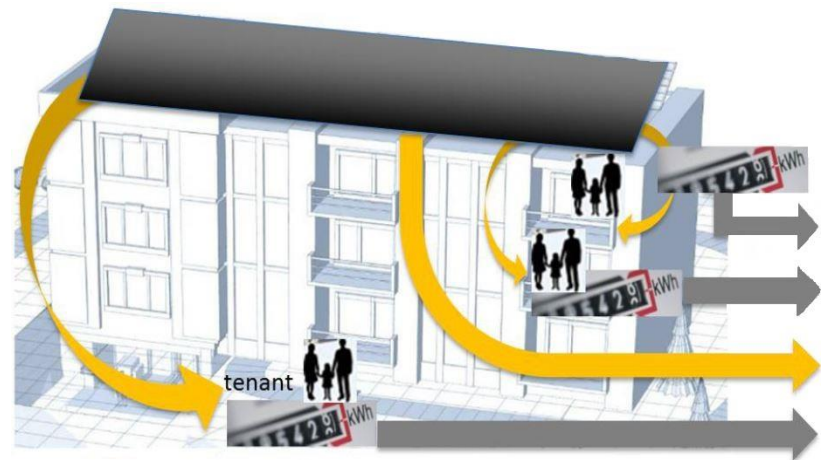
EUROPEAN FRAMEWORK FOR SUPPORT SCHEMES



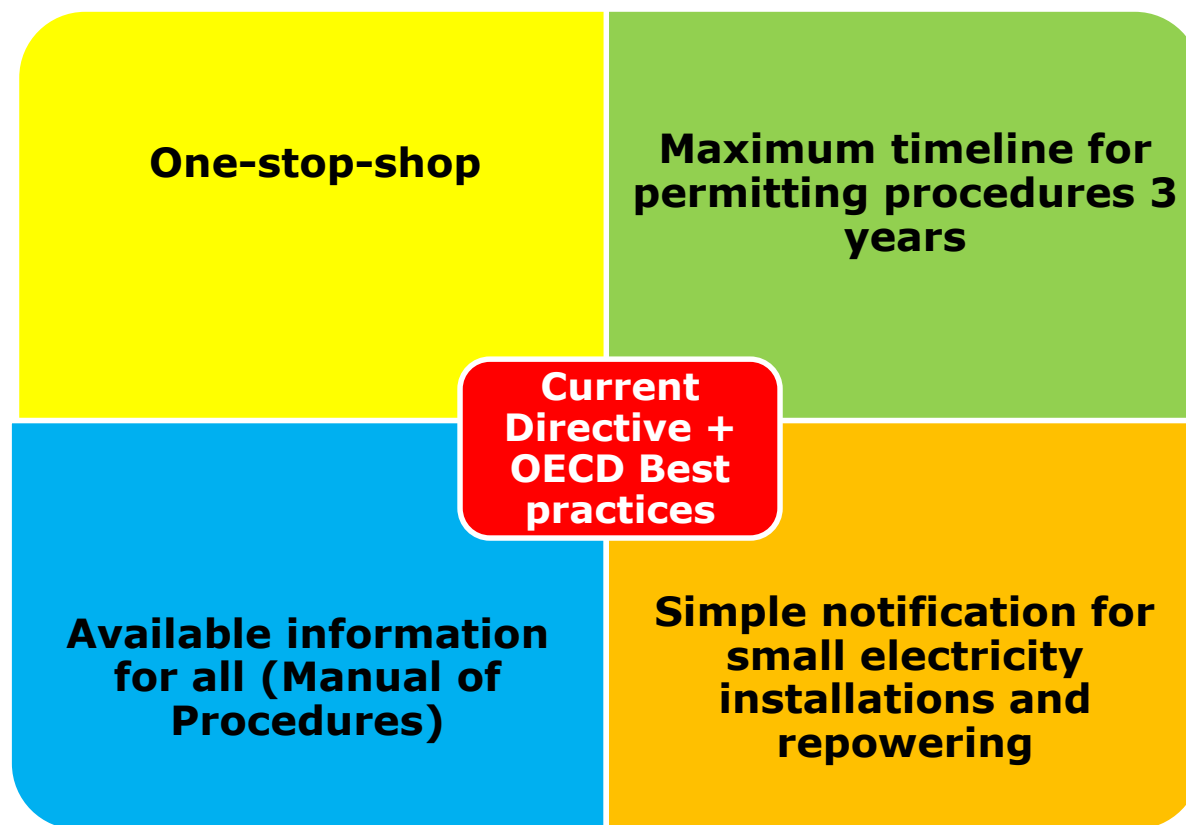
EMPOWERING CITIZENS AND COMMUNITIES

A EU-level framework for renewable self-consumption in which citizens are at the core

- ✓ Renewable self-consumers to be allowed to generate, store, sell and consume their own electricity
- ✓ Renewable self-consumers in multifamily houses to be allowed to generate, store, sell and consume their electricity jointly
- ✓ Specific provisions for energy communities



REMOVING ADMINISTRATIVE BARRIERS FOR RENEWABLE PROJECTS



ADDRESSING THE UNTAPPED POTENTIAL OF HEATING & COOLING

WHAT

MS endeavour to increase their share of renewable energy in heating and cooling supply, by 1 percentage point per year until 2030.

Access rights to local district heating and cooling systems for producers of renewables heating and cooling and waste from industry and third parties acting on their behalf.

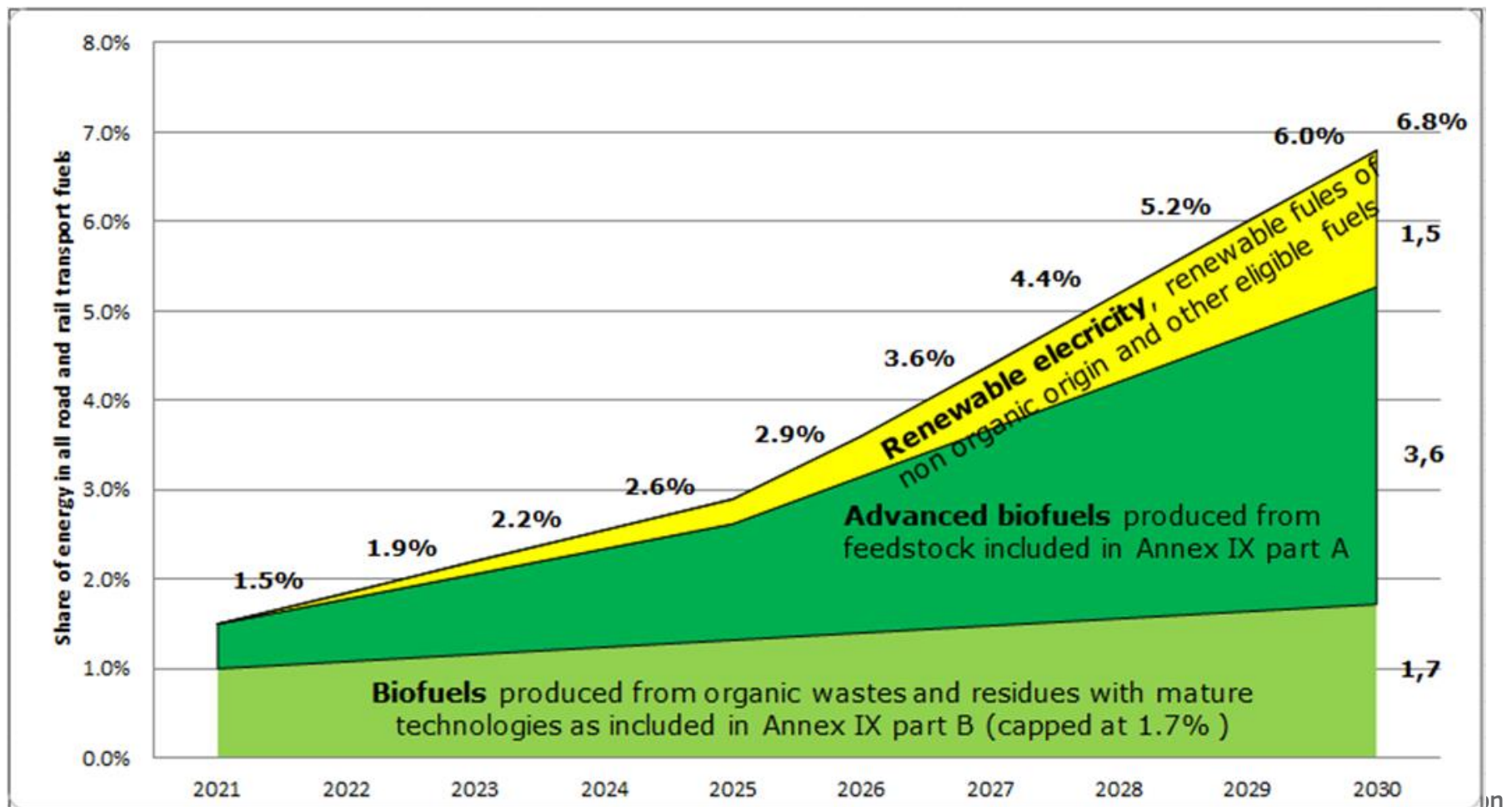
HOW

Proportionality and flexibility for Member States when implementing the options

Limited administrative burden (particularly when combined with Energy Efficiency measures)

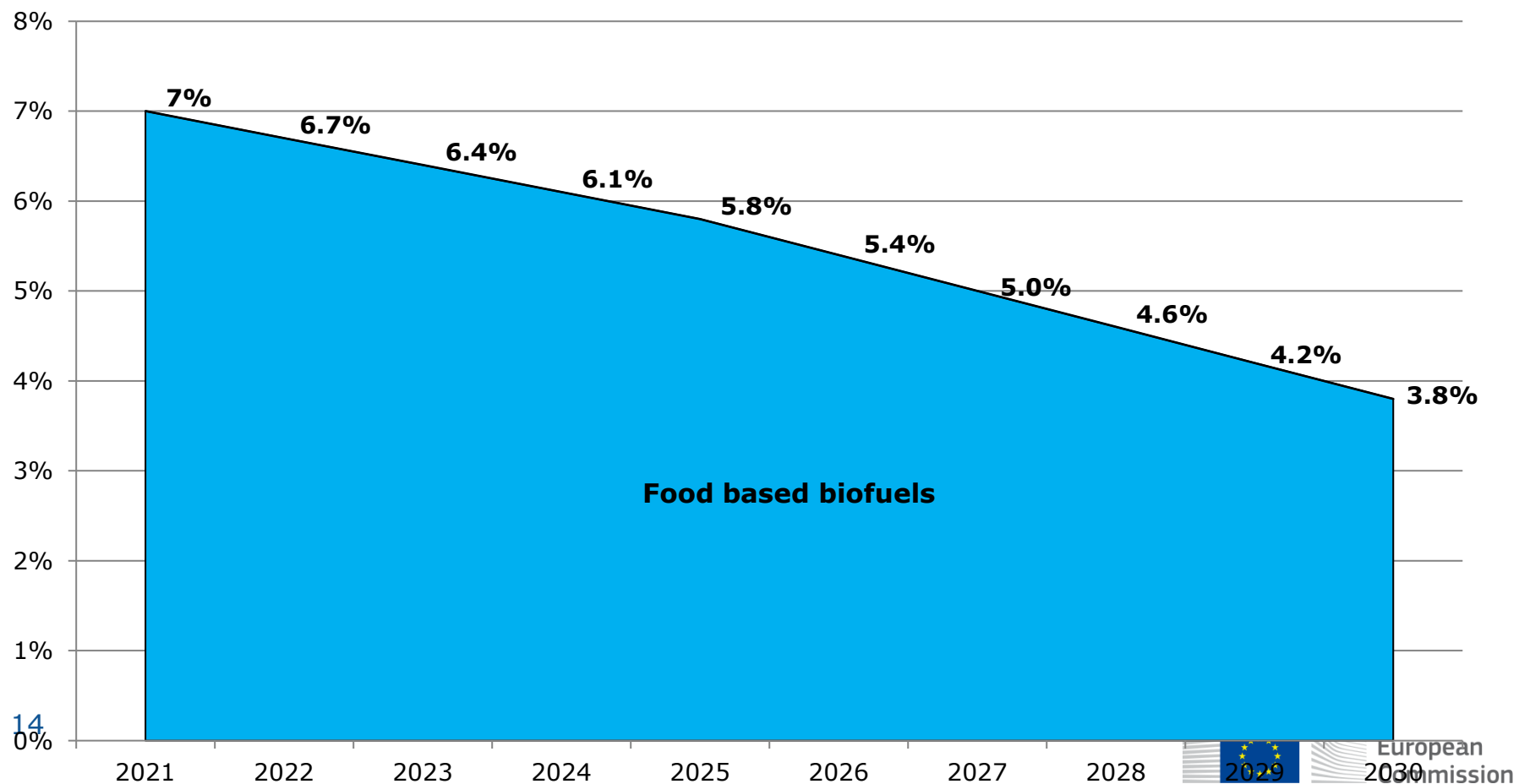
PROMOTING INNOVATION IN TRANSPORT

Increasing the share of low carbon and renewable fuels in transport through an EU blending mandate for transport fuel suppliers



GRADUAL REDUCTION OF FOOD BASED BIOFUELS

Addressing ILUC by promoting a gradual reduction of crop-based biofuels from 7% in 2020 to 3.8% in 2030 (i.e. pre-2008 levels)



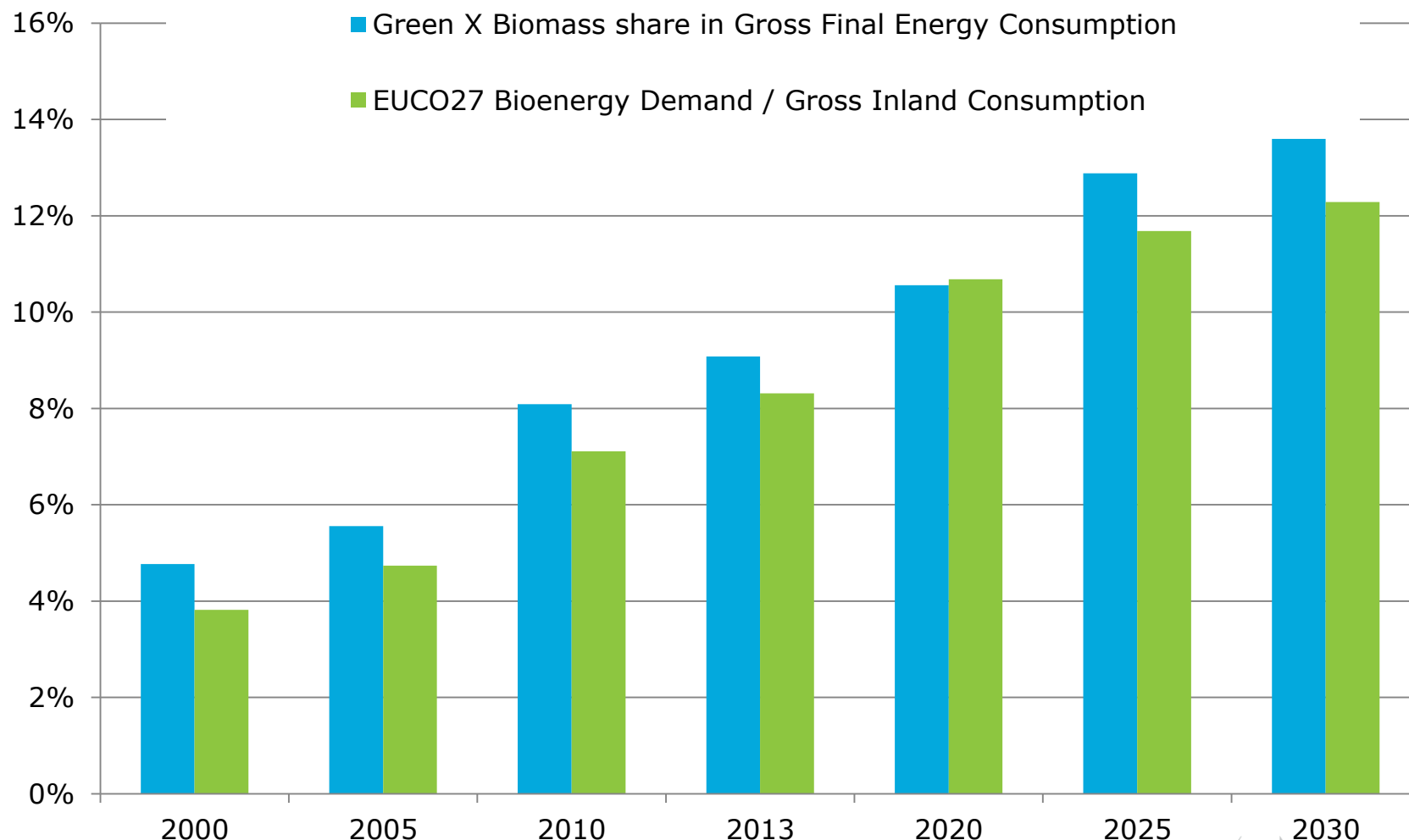
ENSURING BIOENERGY SUSTAINABILITY

- ✓ Long process, started in 2009 with adoption of EU sustainability criteria for biofuels in RED
- ✓ 2010 & 2014 reports on sustainability of biomass and biogas for heat and power
- ✓ 2015 ILUC Directive

Preparation for the revised RES Directive

- ✓ Extensive research on carbon performance of biomass, biomass availability post-2020 and potential competition for biomass resources
- ✓ Carefully assessment of synergies with existing EU legislation, e.g. LULUCF, EU energy efficiency legislation, etc.
- ✓ Many uncertainties involved, possible trade-offs between bioenergy production, climate mitigation and biodiversity conservation

EU FINAL BIOENERGY DEMAND (2000-2030, %)



source: PRIMES and GREEN-X modelling

CLIMATE PERFORMANCE – FOREST BIOMASS

- Forest biomass often considered "carbon neutral" (zero emissions) because of tree regrowth
- But there is a timelag between harvest and regrowth
- Research suggests that certain forest biomass supply chains could lead to no or negative emission savings
- Most of the current and future EU demand of bioenergy lead to GHG emission reductions, but future growth of forest biomass can bear more risks
- It's complex issue, links with LULUCF

ONGOING PUBLIC DEBATE ON BIOENERGY SUSTAINABILITY



Burning wood for power, UK government

Report by energy department's chief says restrictions on biomass power stations



Drax Power Station near Selby, parts of which are being converted for biomass co-firing Photograph: Anna Gowthorpe/PA

Burning wood to produce electricity can produce lower carbon emissions than other fuels, but only under tightly controlled conditions, a report for the UK's Department of Energy and Climate Change has found.

US forests under threat as demand for wood-based biofuels grows - report

An increase in US wood pellet exports intended to reduce reliance on fossil fuels may be threatening ecologically important forests across the country, according to a new report from the Natural Resources Defense Council



Monongahela National Forest, West Virginia. A new report shows that an increase in wood pellet exports for the EU could pose a risk to unprotected forests across the US. Photograph: Anna Gowthorpe/PA

European Union (EU) rules intended to reduce power plant emissions are threatening significant areas of ecologically important forests across the southeastern US, and will do little to mitigate climate change, according to a new report.

Study Finds Increasing Wood Pellet Demand Boosts Forest Growth, Reduces Greenhouse Gas Emissions, Creates Jobs

Posted by Robert Johansson, USDA Acting Chief Economist, on June 8, 2015 at 10:30 AM



A truck is filled with wood chips as part of the process of turning wood into energy.



SHARE

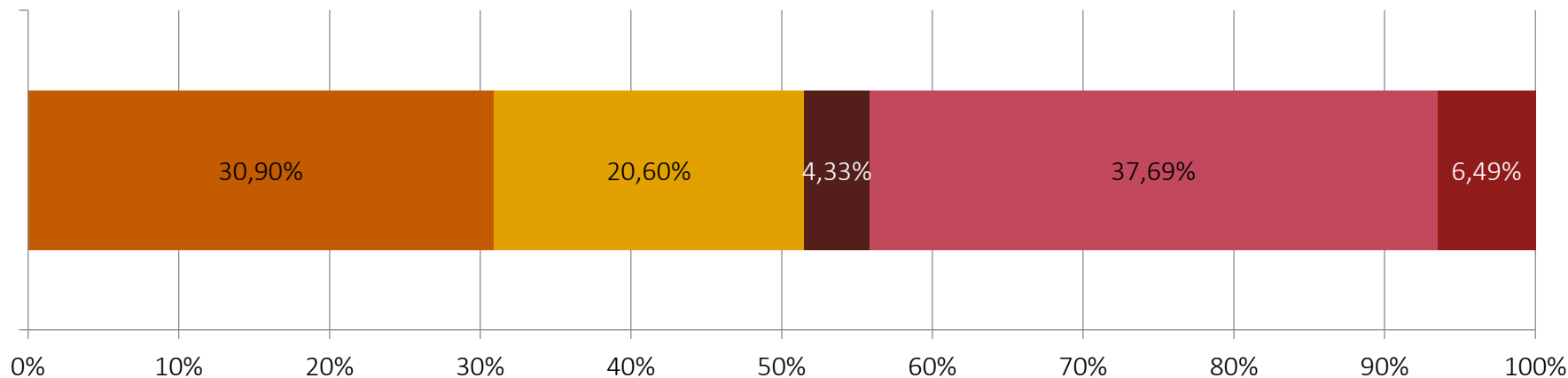


Proposal to define wood-burning as 'carbon neutral' fuels debate

By Warren Cornwall | Mar. 4, 2016, 3:15 PM

PUBLIC CONSULTATION RESULTS

IS THERE A NEED FOR ADDITIONAL EU ACTION?



■ No: current policy framework is sufficient

■ Yes: additional policy is needed for solid and gaseous biomass, for biofuels and bioliquids the existing scheme is sufficient

■ Yes: additional policy is needed on biofuels and bioliquids, but for solid and gaseous biomass existing EU and national policies are sufficient

■ Yes: a new policy is needed covering all types of bioenergy

■ no answer

STRENGTHENED EU BIOENERGY SUSTAINABILITY CRITERIA (1)

Proposal for strengthening the EU sustainability criteria, by extending them to biomass and biogas for heat and power, in order to ensure that bioenergy:

- ✓ Continues to deliver **optimal greenhouse gas (GHG) savings** compared to fossil fuels
- ✓ Is produced in a way that **does not cause deforestation/ degradation or biodiversity loss**
- ✓ Is **converted into electricity in an efficient way** (e.g. with combined heat and power technology), in order to promote resource efficiency and avoid market distortions



STRENGTHENED EU BIOENERGY SUSTAINABILITY CRITERIA (2)

Biomass production

Improved sustainability criteria on
agriculture biomass for energy use



New sustainability criterion for
forest biomass for energy use
(i.e. risk-based/ two-step approach)



Biomass end-use performance

Biofuels/bioliquids:
70% GHG saving requirement by 2021



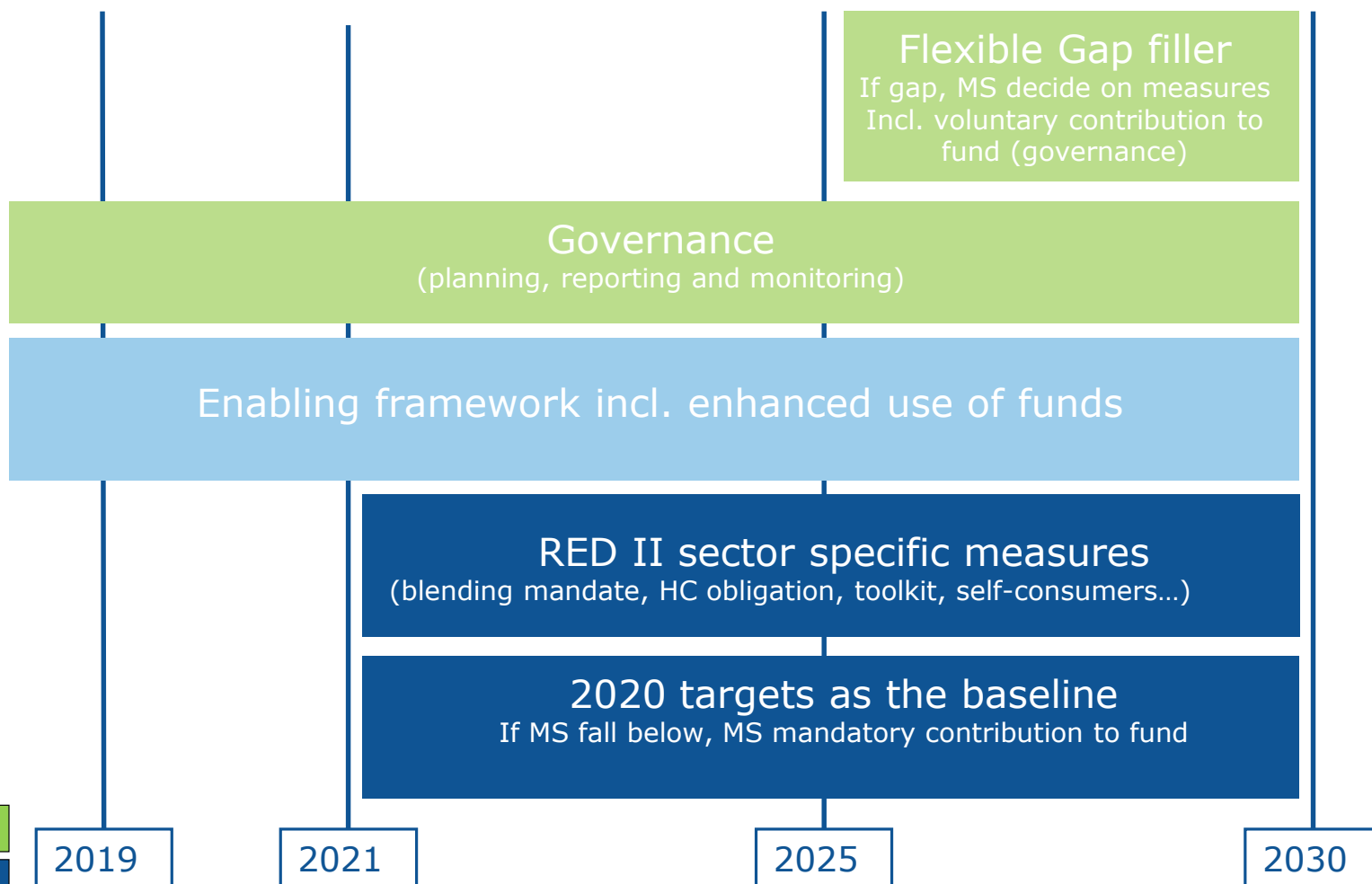
Biomass & biogas for heat and power (large scale):
80% GHG saving requirement by 2021 (85% by 2026)



Support to new biomass electricity only if with
combined heat and power technology
(exception for security of supply)



NEW GOVERNANCE PROCESS





ENERGY UNION

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THANK YOU!