



Leonardo Venablers

Vision to Venture to Value

**Overview and Attractiveness of Biomass
Investments in the EU**

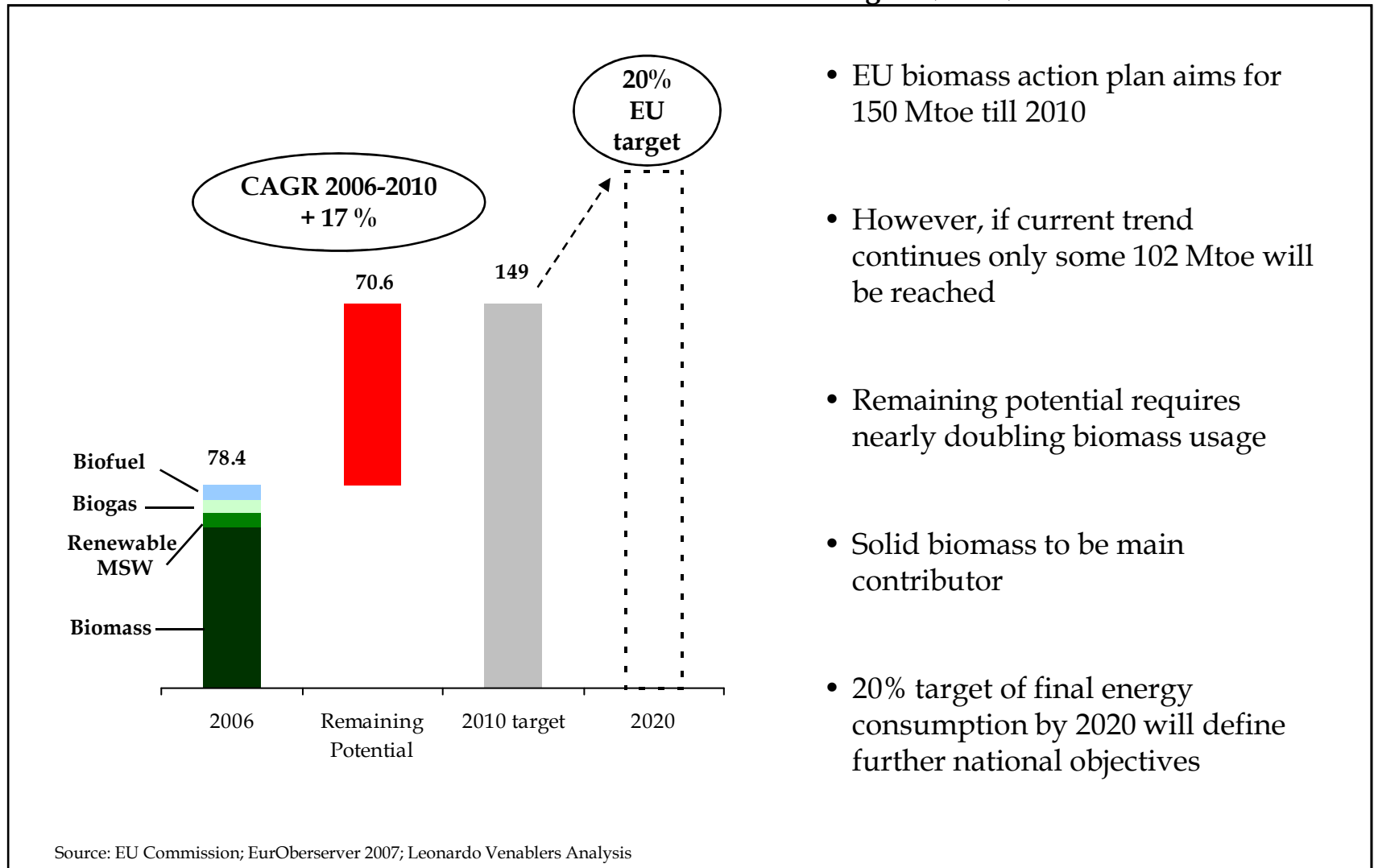
Christian Grütte

16th European Biomass
Conference & Exhibition

Valencia, June 2008

Overall EU objectives set to spur development within the biomass sector

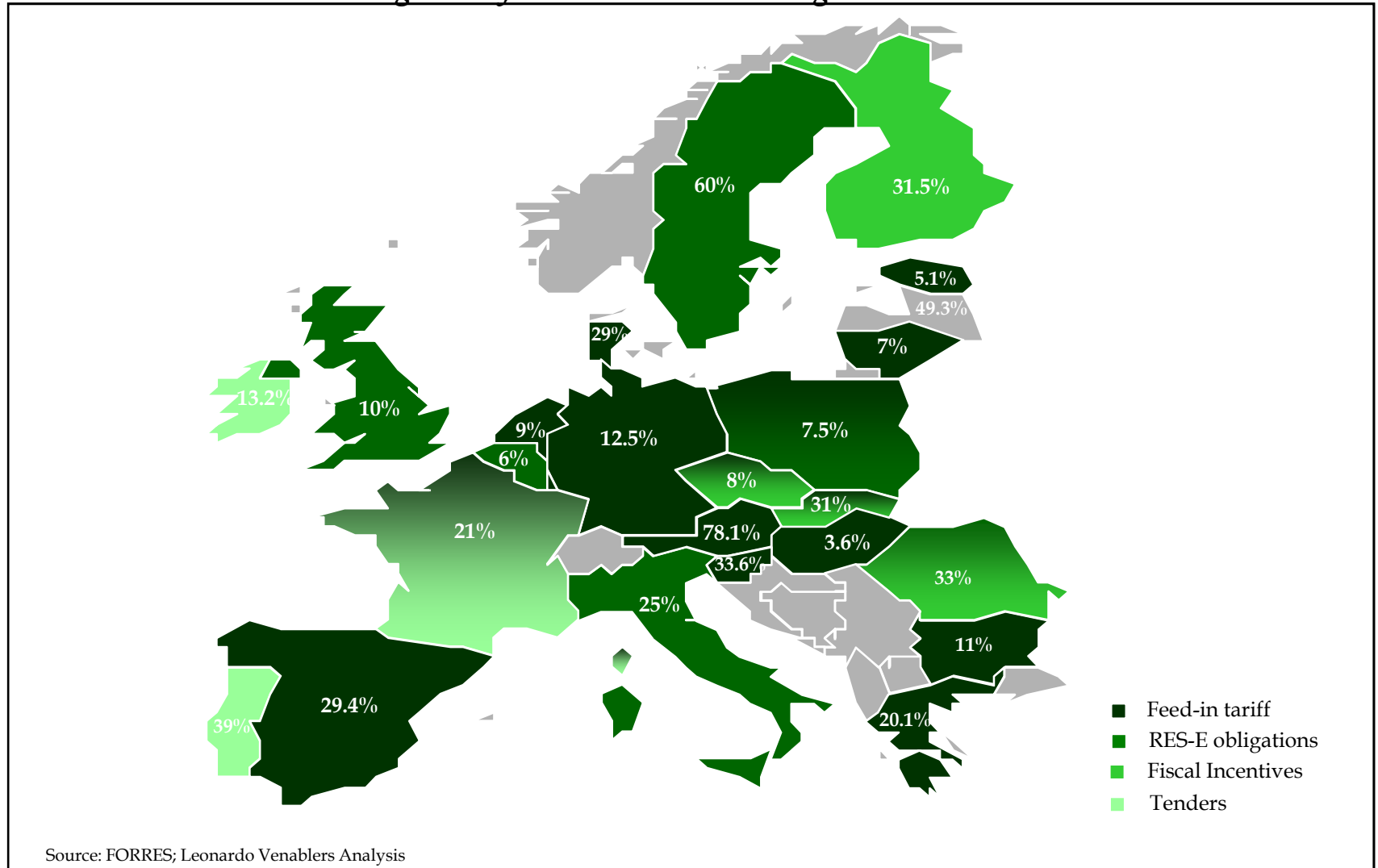
Current biomass status and EU targets (Mtoe)



- EU biomass action plan aims for 150 Mtoe till 2010
- However, if current trend continues only some 102 Mtoe will be reached
- Remaining potential requires nearly doubling biomass usage
- Solid biomass to be main contributor
- 20% target of final energy consumption by 2020 will define further national objectives

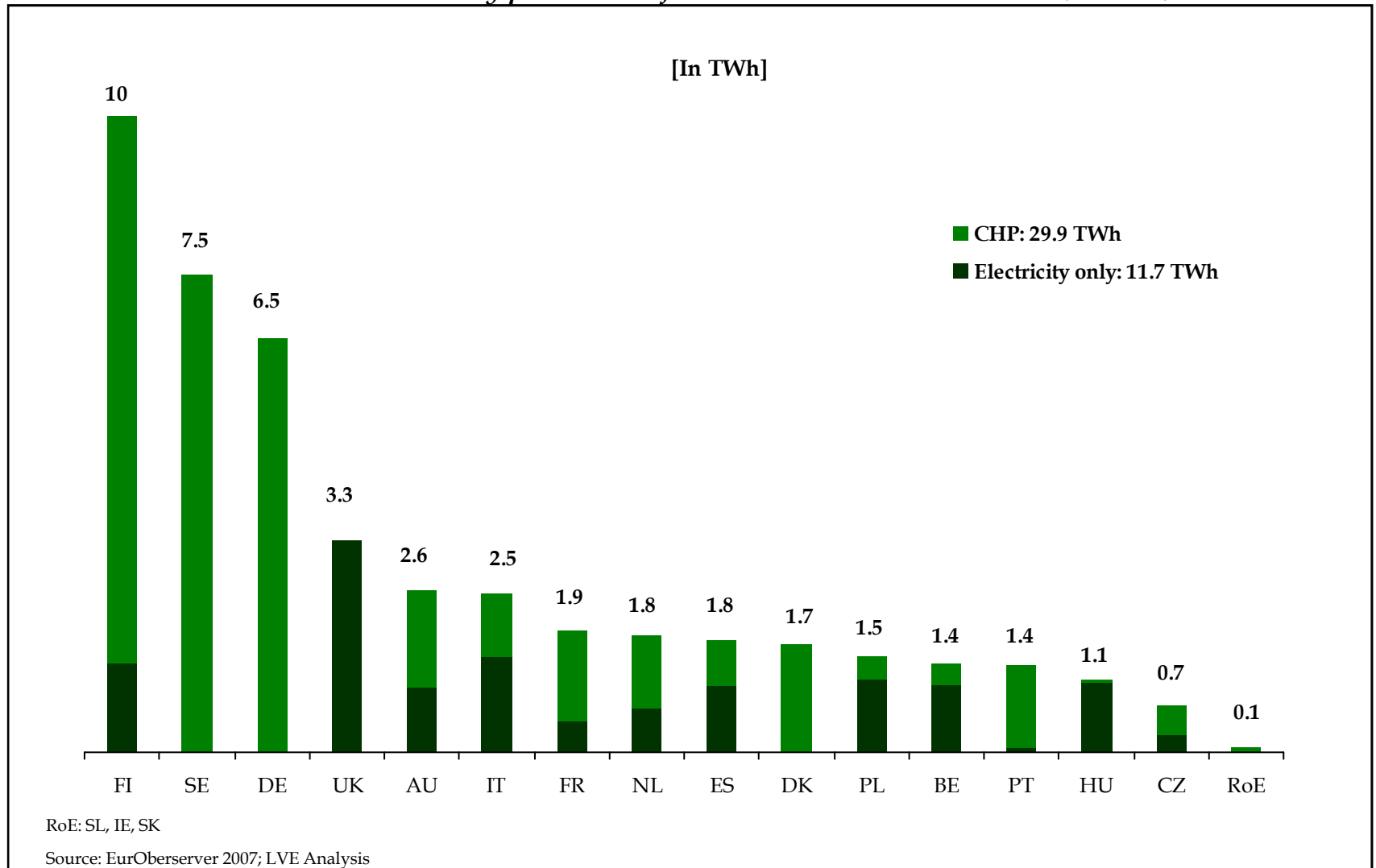
Member countries have diverse targets to achieve EU target of 22.1% RES-E. Feed-in tariff, so far the most common regulatory tool

Regulatory scheme and RES-E targets in the EU



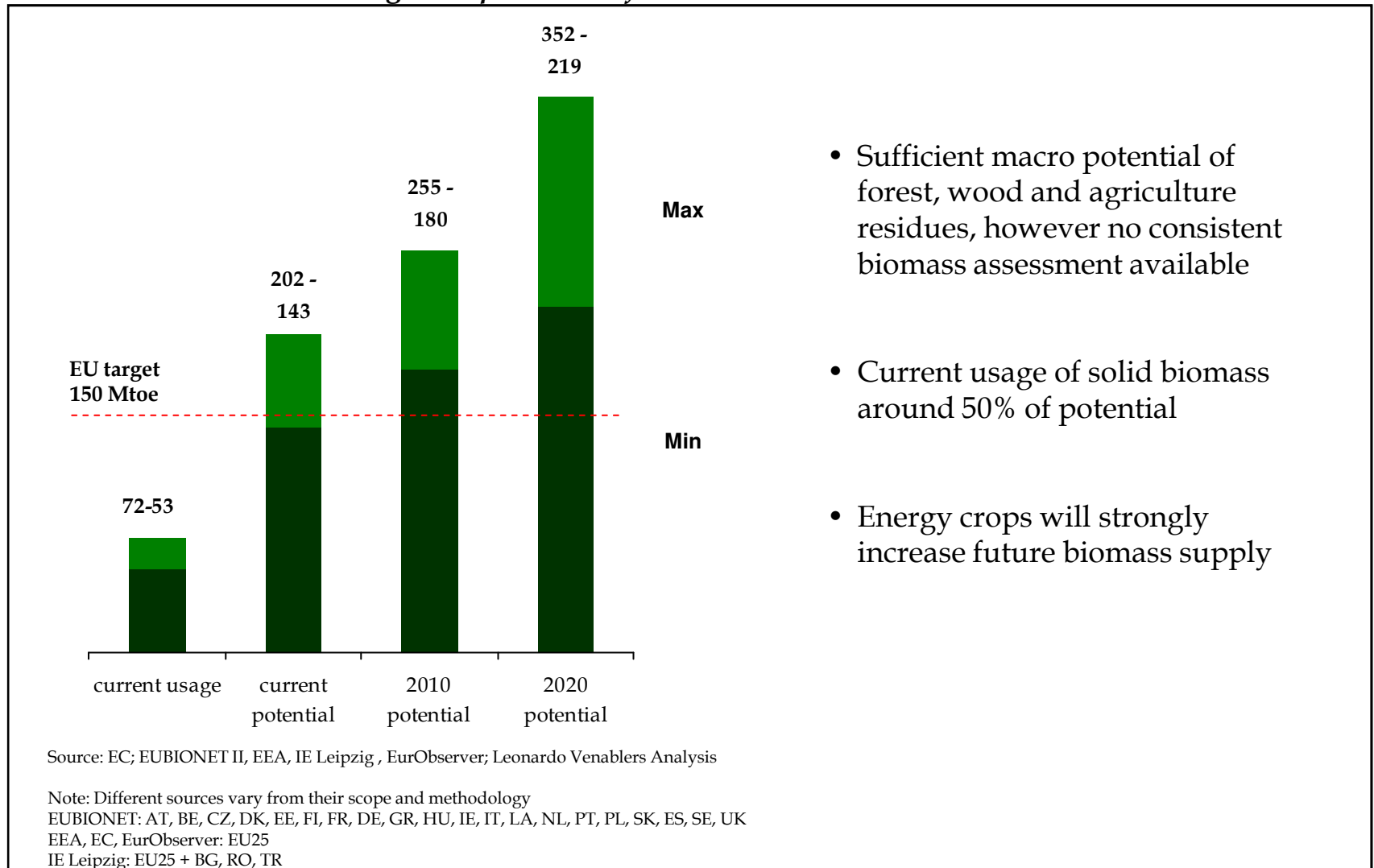
Scandinavia and Germany, leading countries in electricity production from solid biomass

Gross electricity production from solid biomass in the EU (in 2006)



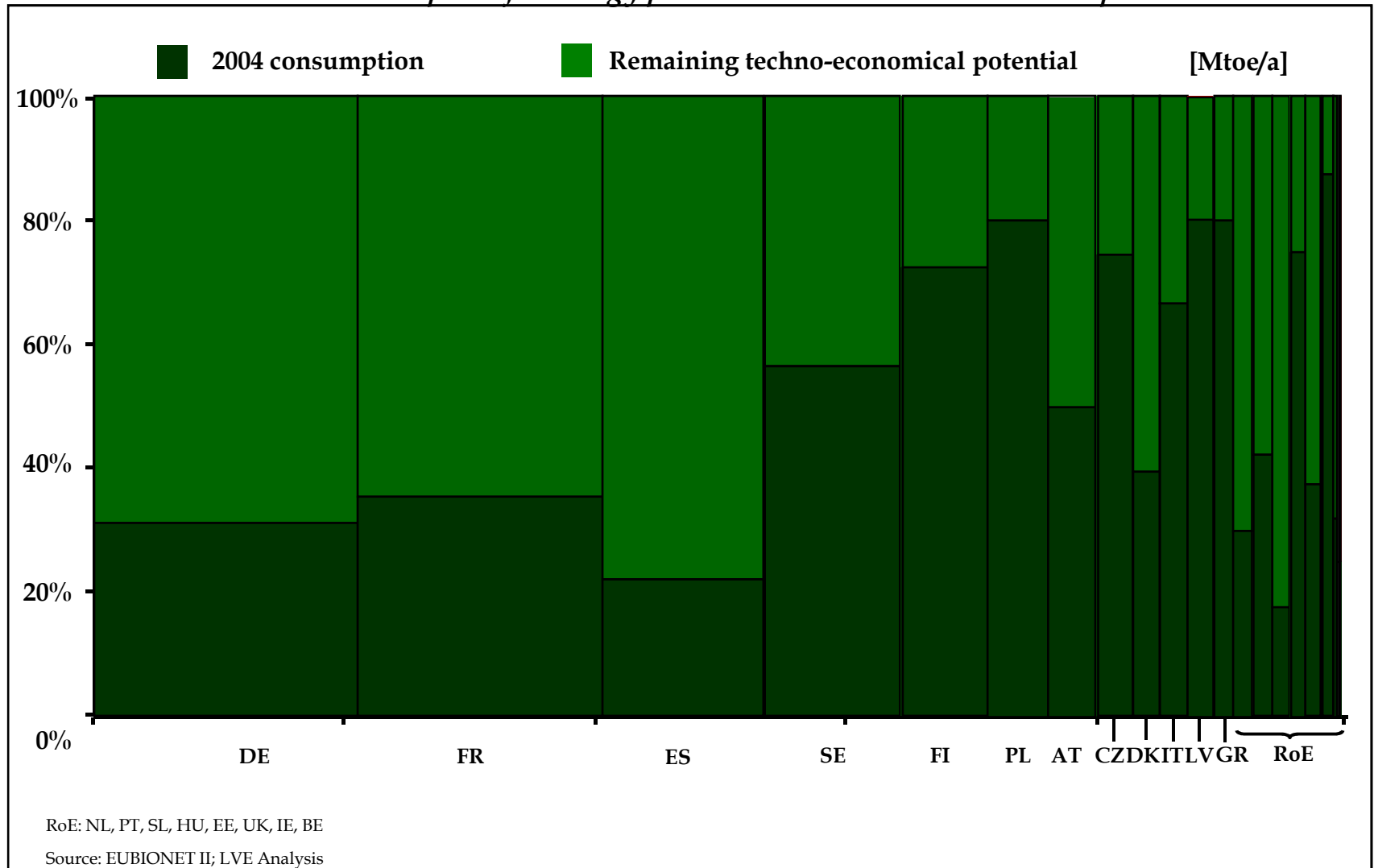
Current and future biomass potential sufficient to reach political objectives

Usage and potential of EU biomass resources (Mtoe)



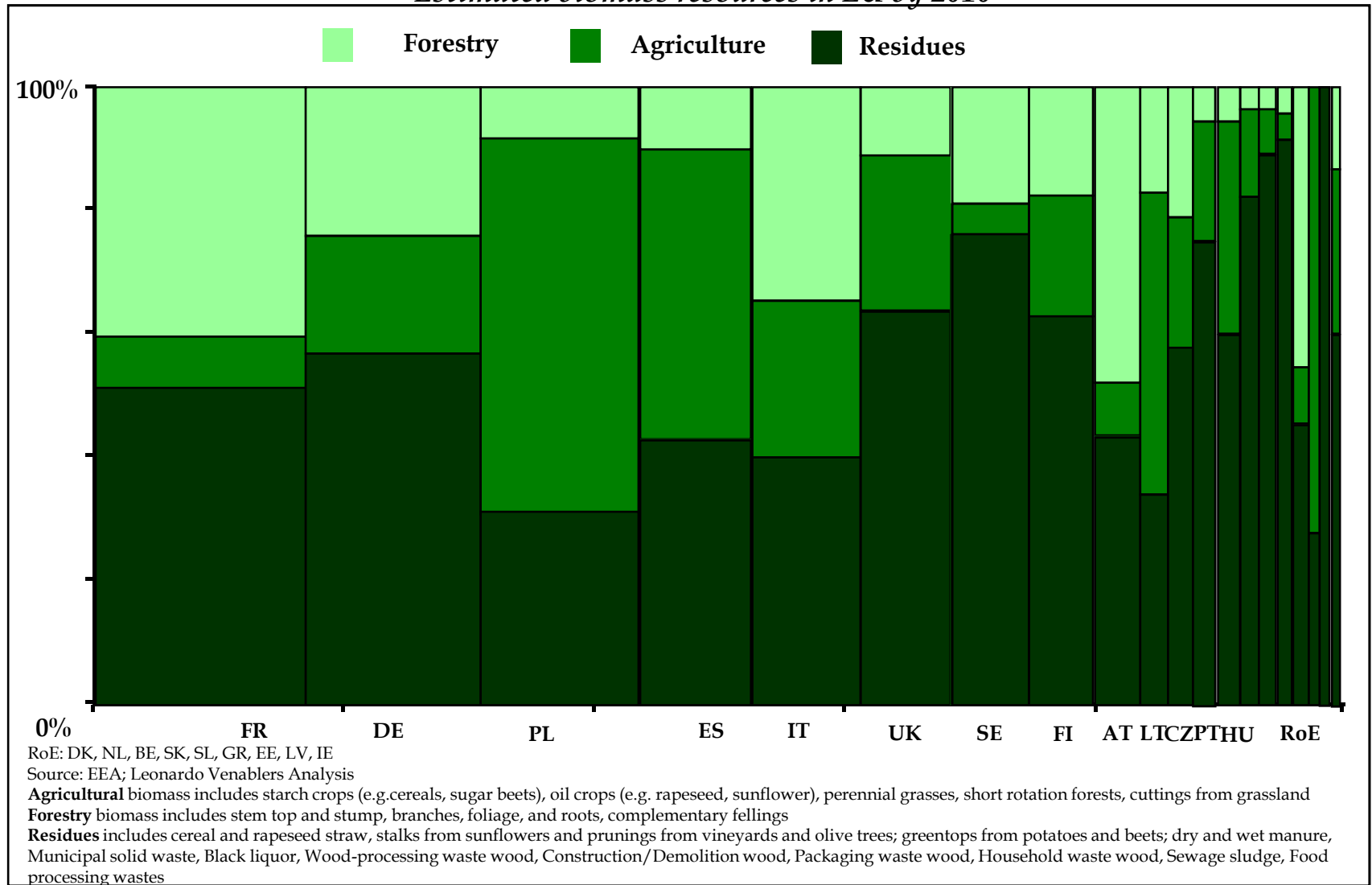
Enormous growth potential for biomass electricity production in EU, with more than 60% in Germany, France and Spain

Biomass consumption for energy production in 2004 and estimated potential



Over 50% of biomass resources in EU correspond to processed agro-forest residues

Estimated biomass resources in EU by 2010





Competitive feedstock supply is THE crucial factor to finance a biomass power plant

- Type & quantity
- Availability and visibility
 - seasonal or year around
 - raw material trader
 - own plantations
 - agricultural cooperative
 - processing industries
- Price and quality agreements
- Duration (match with lender time horizon)
- Penalizations (avoid walking away)
- Strategic partnership? (get commitment)
- Added value of project to supplier?

Financing biomass projects requires complex project management - expect the unexpected!

Key success factors

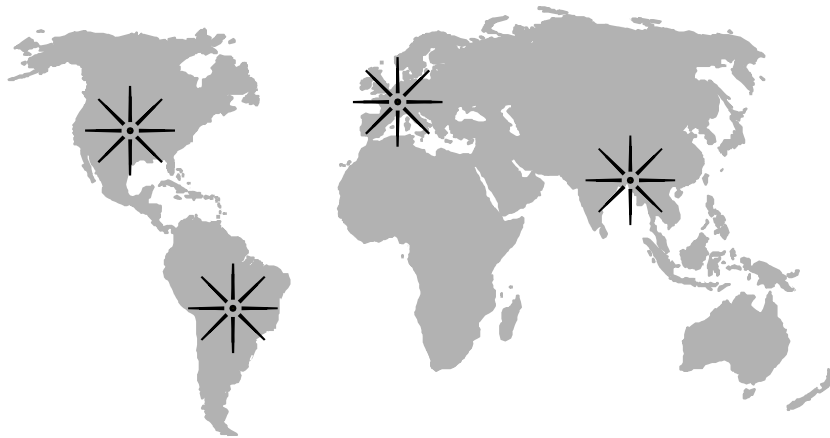
- ▷ **Feed-stock secured on a long-term basis? Reliable? Quality? Penalizations?**
- ▷ **Off-take arranged on a long-term basis? Spot market? Seasonality? Volumes and prices?**
- ▷ **Evaluate technology provider? Track record? Performance guarantees ? Ability to deliver?**
- ▷ **Concept for regional set-up? Additional incomes source?**
- ▷ **Strategic Partners involved? Project Finance or other sources? Scenarios for business model?**
- ▷ **Got the team in place? Raw material or Energy background?**

Leonardo Venablers - Specialized advisory firm within the international renewable energy markets



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Vision to Venture to Value



- Specialized in renewable energy technologies and markets
- Global network of experts in Europe, America and Asia
- Focus on strategic analysis, market entry, business development and financing

Addressing the specific challenges to realize growth across geographical markets and technology sectors

Wind



Biofuels



Photovoltaic



Biomass



Geothermal



Small Hydro



Solar Thermal



Thank you for your interest - at your service !



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