



First Annual Forum of the EU Strategy for the Danube Region
Regensburg, Germany 27-28 November 2012

**“RENEWABLE INVESTMENT IN THE DANUBE REGION - THE IMPLICATIONS FOR GRID
INFRASTRUCTURE: A CASE STUDY OF 4 COUNTRIES IN CENTRAL AND EASTERN EUROPE”**

SANDRINE DIXSON-DECLEVE, DIRECTOR EU OFFICE, CPSL

ABOUT US

Cambridge Programme for Sustainability Leadership (CPSL) Mission

To deepen business and policy leaders' understanding of the social, environmental and economic context in which they operate and help them to respond in ways that benefit their organisations and society as a whole.

Core themes : Developing business and policy leadership in...

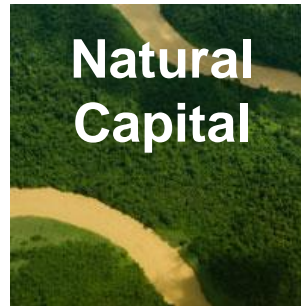
- **Climate change** (policy, practice, leadership)
- **Financial and economic resilience** (investment, insurance, banking)
- **Resource security** (ecosystems, food, water, energy)
- **Cities and urbanisation** (infrastructure, access, mobility)
- **Health and education** (wellbeing, sustainable schools)

Established 1988 - School of Technology institution
Collaborates with academics and departments across the University
Offices: Cambridge, Cape Town, Brussels and Melbourne

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*Enabling the transition
to a low carbon
economy*



*Staying within the limits
of the Earth's natural
systems*



*Designing a financial
system that values
the long term*

Enabling business leaders to be heard

Setting new standards of responsible business practice

Demonstrating what is possible



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Clean Energy Finance Solutions:

Central & Eastern Europe

April 2012

CPSL in cooperation with the REKK at Corvinus University, Budapest, Hungary

Countries covered:

Bulgaria, Czech Republic, Hungary, Romania

Project Summary:

- *Builds on HRH The Prince of Wales's Business Leadership Roundtables 2010*
- *Builds on CPSL success of bringing together business leaders supportive of viable green and low carbon growth*
- *Builds on CPSL success in convening core parts of the finance value chain around sustainability challenges*
- *Builds on the successful UK-Hungary Finance Forum held in London on 24 October 2011*
- *Builds on Advisory Committee and REKK expertise*
- *Phase II: Launch finance and capacity building workshops + Polish report*



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❑ Central & Eastern European Context

- Issue of economic viability and carbon leakage key to Central/Eastern European countries
- Difficulty in moving to Green growth agenda when investment in emerging markets e.g. China, Brazil and India
- Dependency of some countries on coal and poor energy transport/distribution/grid infrastructure
- Lack of private/public cooperation
- Opportunities for renewables and energy efficiency

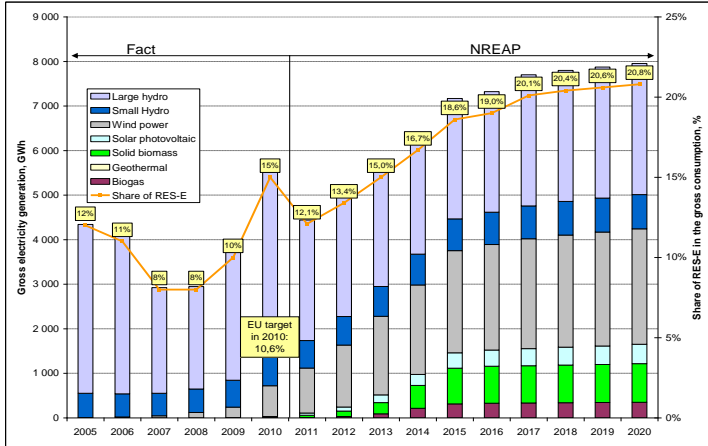
❑ Actions necessary to address regional challenges identified:

- Create green growth vision
- Increase understanding of risks of continuing high carbon agenda
- Build national/regional low carbon industry
- Increase investment portfolios in low carbon technologies + grid
- Work collaboratively on transitioning countries via economic proof
- Work with brave private and public sector leaders

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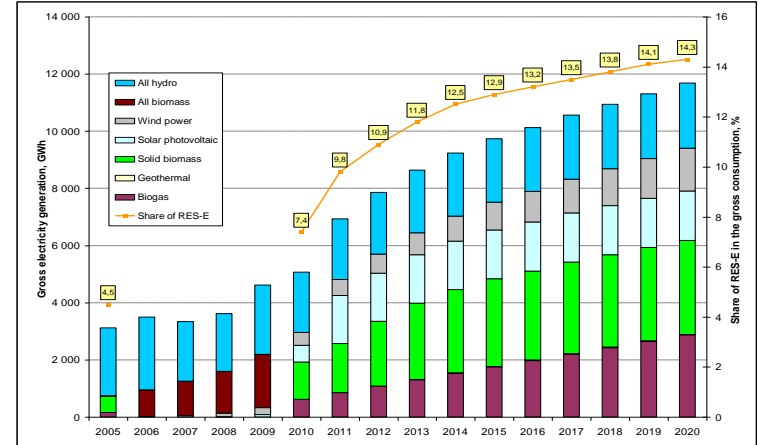
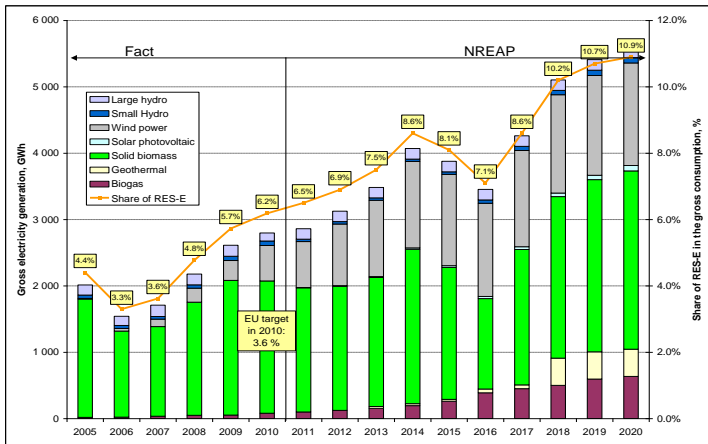
Yearly projected RES-E Gross Electricity Generation Between 2005-2020, GWh

Bulgaria

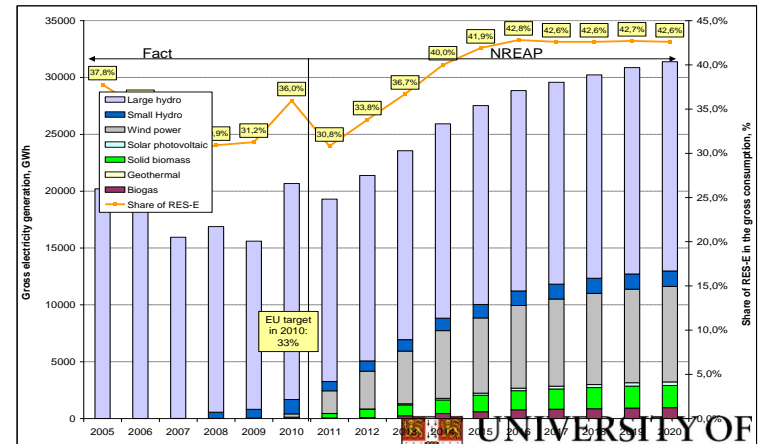


- ❖ Large hydro
- ❖ Small hydro
- ❖ Wind
- ❖ Solar PV
- ❖ Biomass
- ❖ Geothermal
- ❖ Biogas
- ❖ Share of RES

Hungary



Czech Republic

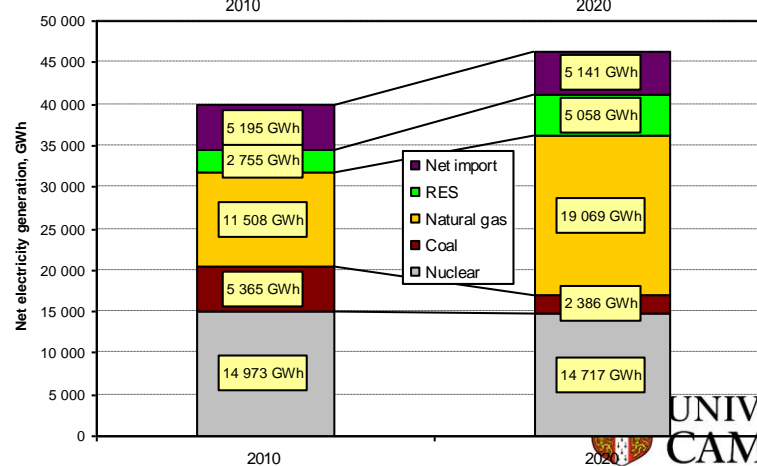
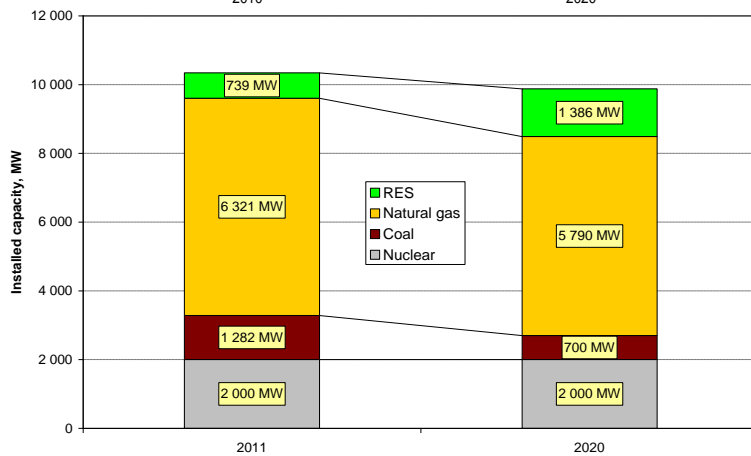
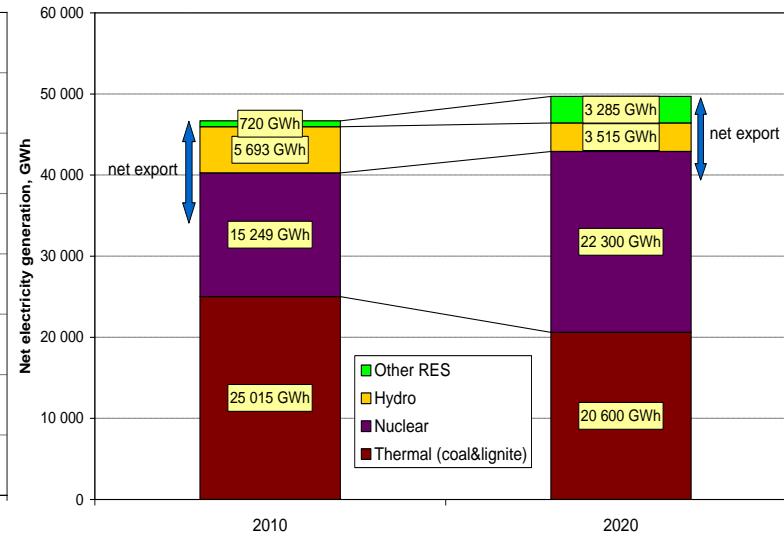
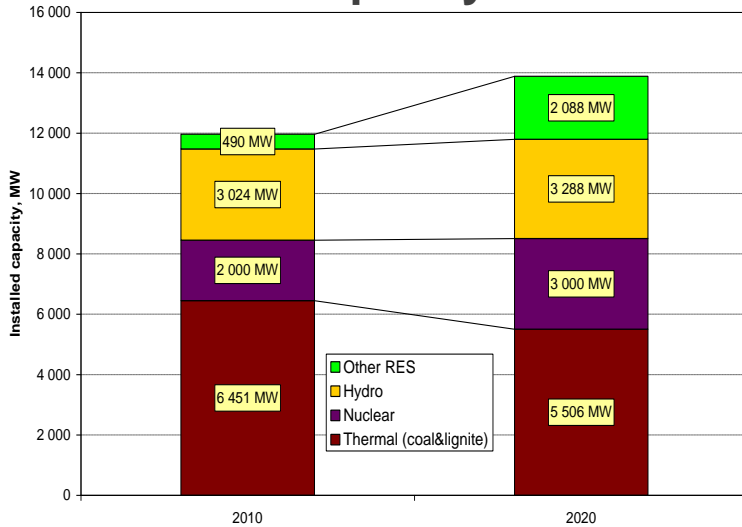


Romania

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Capacity and Generation Mix in 2010/2011 and 2020

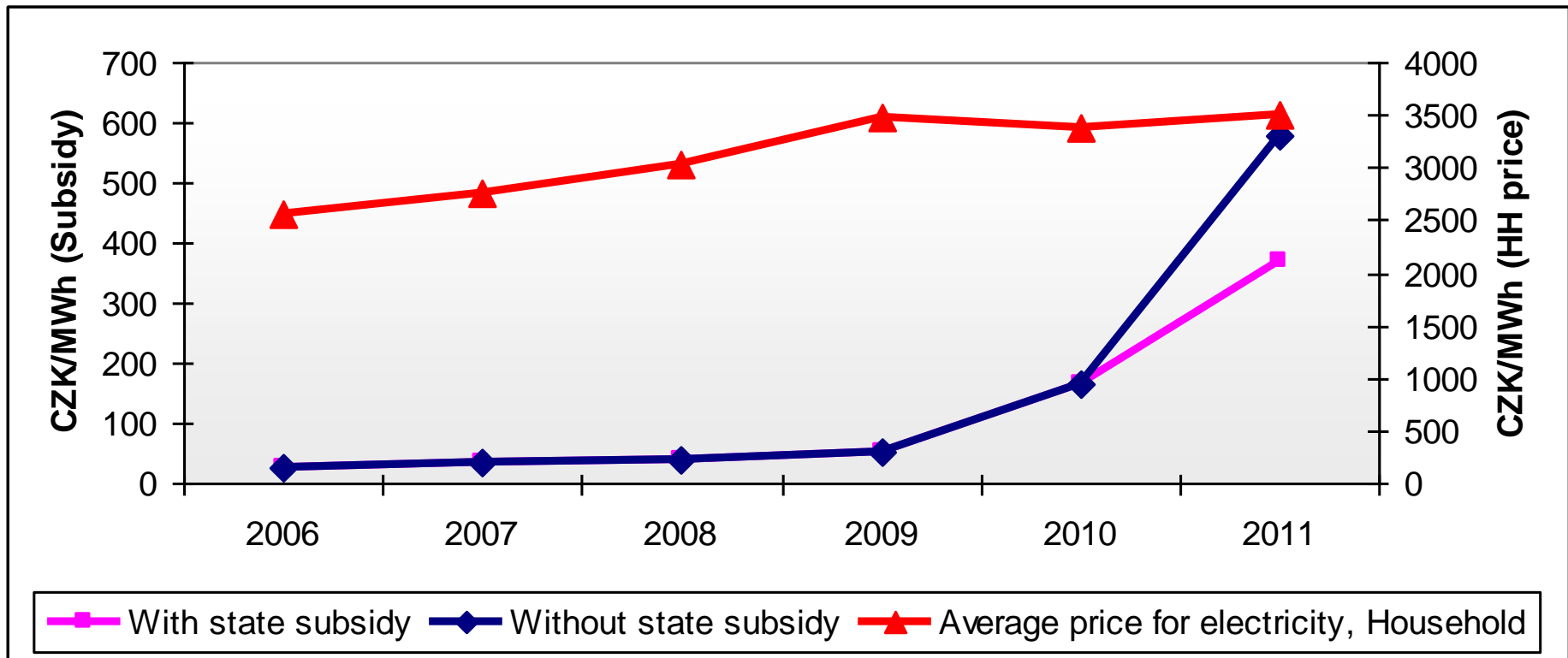
Bulgaria



Hungary

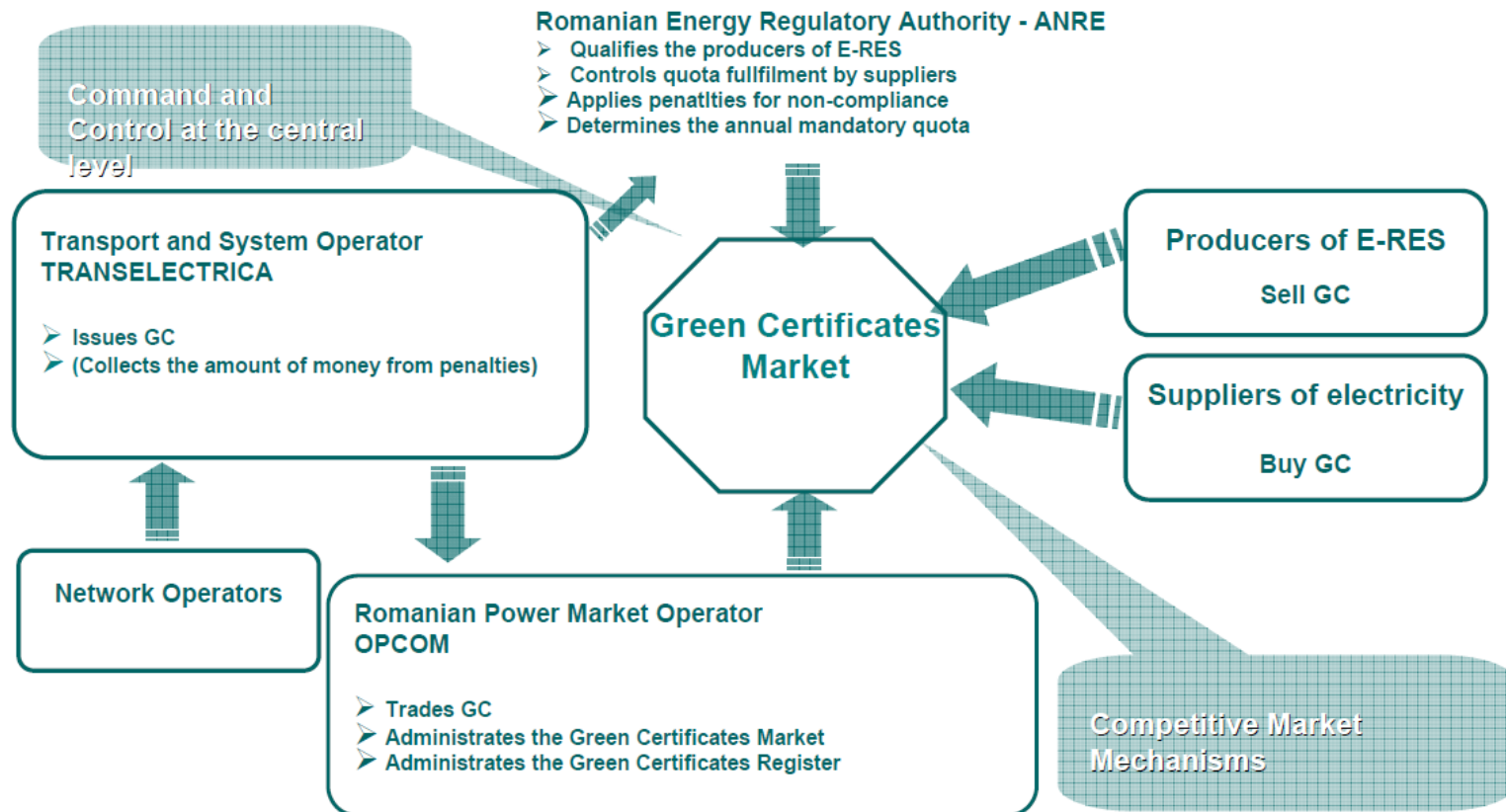
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Czech Republic: Impact of RES Subsidy on End User Prices



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Romania: Green Certificate Market



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Solutions:**

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Key regional considerations:

- Electricity demand growth and generation replacement needs
- Abundant and complementary RES resources yet need better pooling of weather-dependent electricity generation
- Network upgrade: slow, complicated, counter-incentives
- Coordinated utilization of reserve and storage capacities necessary
- Harmonized green certification across the region could help to boost cross border trading in RES-E = good news for investment!
- Past (positive) experience with encouraging RES-E investments)- latest developments all over Europe create uncertainty



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Key regional barriers:

- Customer price sensitivity
- RES-E: perceived as «western» technology import vs local growth
- Competition with nuclear developments vs possible complementarity
- State-owned incumbent generators plus frequently changed RES-E promotion policy undermines local manufacturing potential
- Queue management: integrated resource and network planning are issues
- Licensing long and burdensome
- Asymmetric incentives for RES-E generation vs network (grid, transmission & distribution) to be balanced
- Network upgrade: slow, complicated, counter-incentives

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Key benefits and opportunities:

- Multiple benefits from RES-E development: promoting local industry and jobs, improving energy supply security, decarbonisation
- RES-E generation: fast, attractive, proven to work with the right incentive structure
- Measures to make support conditional on a pre-defined share of 'domestic' manufacturing input for RES- projects are spreading (e.g. Ukraine, Turkey)
- Enhancement of innovation locally, nationally and regionally
- Investment community looking for large scale projects in SMART grid and SMART energy development



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Key Finance Considerations:

- Markets perceived as relatively “closed”, with small-scale (and unconnected) opportunities
- Investment in other emerging regions – perhaps even riskier, but with commensurate returns, is attracting more attention
- Long development lead times, complex licensing procedures, and long life spans of the investments
- Uncertain policy and tariff structures impact the appetite to invest

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Key Finance Considerations:

- Cost of capital for RES-E projects in CEE in RES high. This cannot be delinked from the general situation in the credit markets
- Timing: unfortunate for the region as many opportunities driven by trends listed above are coming to the fore in the next few years
- Lower credit ratings of governments and state-owned operators increase the cost to consumers, or lead to later investment
- Investment in the region often negatively perceived, combining “(low) OECD-level returns with (high) emerging market type risks”.



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Project Recommendations:

- *Seize opportunities and build capacity*
- *Improve the connectivity and distribution of electricity generated by RES projects by investing in the up-grading and interconnection of transmission grids at national and regional levels*
- *Develop more intelligent incentive schemes to improve predictability and sustainability and reduce the cost of capital*
- *Develop a pan-regional view of energy investments*
- *Foster a domestic RES industry by supporting entrepreneurship*
- *Support public-private risk sharing for RES-E*

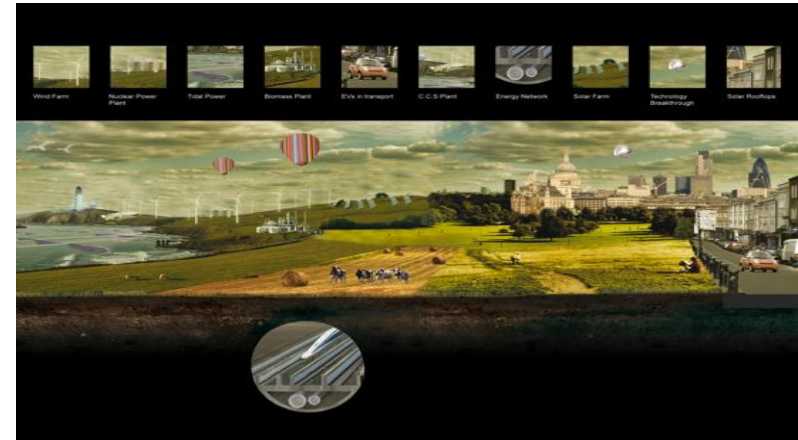


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EU 2020 Vision: “ make the EU the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion”



President Barroso , May 3 EUCLG meeting :“how do we move from an era of austerity to an age of prosperity if people do not believe in the benefits of green growth?” Creating a viable and believable green growth story is the only way forward!.”





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