

INEOSNOVA



EPS Silver

‘Building a sustainable future’

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Istanbul, 8th May 2009

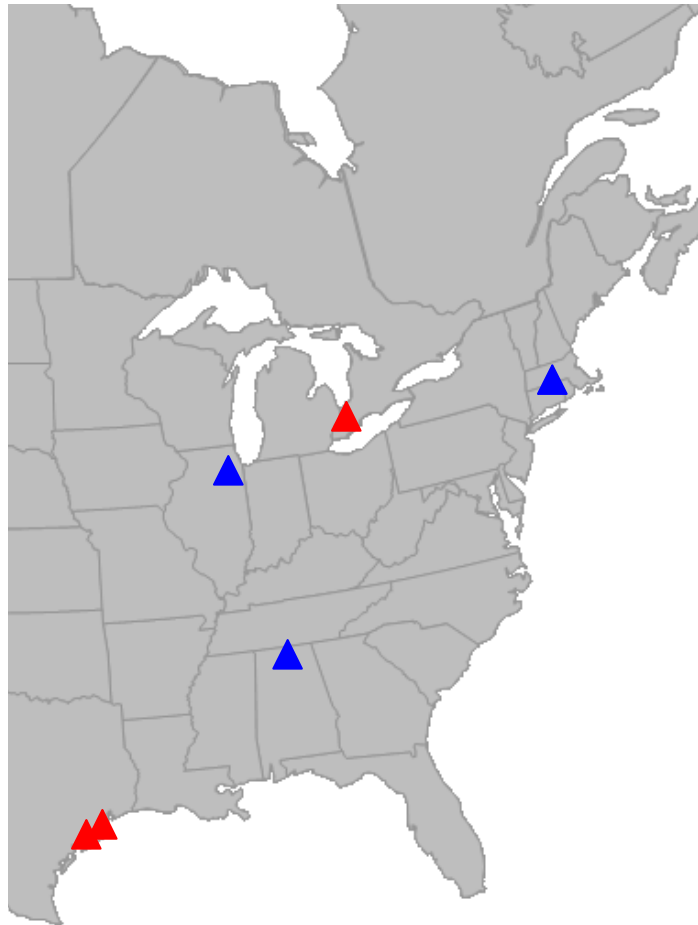


INEOS NOVA at a glance

- Business
 - ▶ Global manufacturer of styrene and styrenic polymers
- History
 - ▶ Began October 1, 2007 as an expansion of the 50:50 joint venture between NOVA Chemicals and INEOS to include North American assets
- Headquarters
 - ▶ Joliet, Illinois
- Revenue
 - ▶ Approximately €2.7 billion (\$3.8 billion)
- Employees
 - ▶ Approximately 1250
- Sites
 - ▶ 11 manufacturing plants in 6 countries

INEOS NOVA Joint Venture

North America



Location	▲ Styrene (KT)	▲ Solid PS (KT)
Bayport, TX	771	
Texas City, TX	499	
Sarnia, ON	431	
Joliet, IL		399
Decatur, AL		193
Springfield, MA		150
Total	1701	742

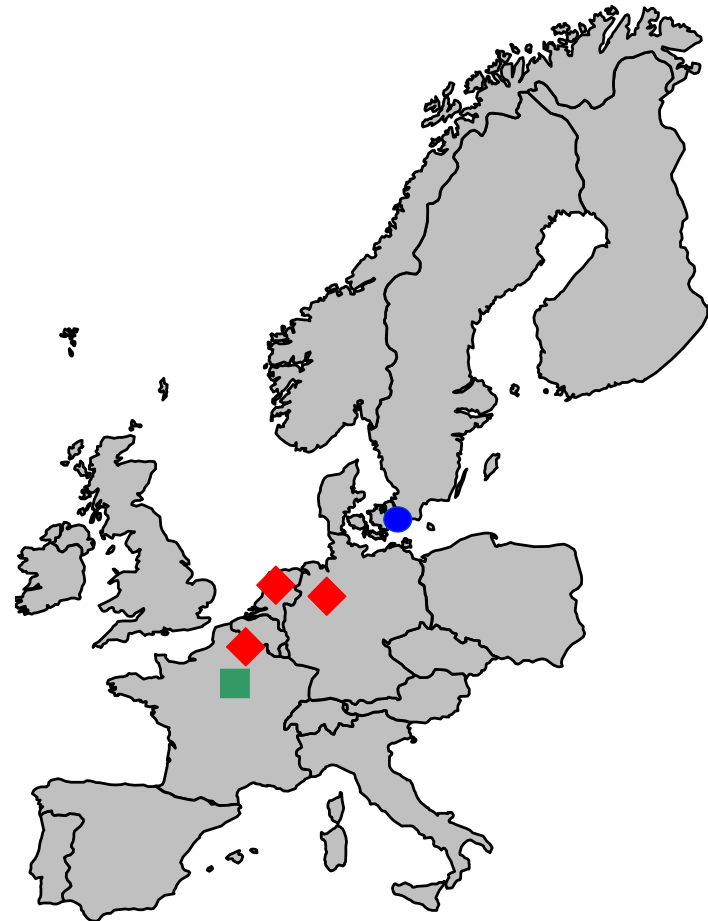
INEOS NOVA Joint Venture

Europe

Location	Solid PS (KT)	EPS (KT)
Breda, NLD	90	110
Marl, DEU	170	100
Ribécourt, FR		100
Trelleborg, SWE	80	
Wingles, FR	180	100
Total	520	410

Legend:


- Solid Polystyrene
- Expandable Polystyrene
- ◆ Solid & Expandable Polystyrene



Our Market Position

Production Capacities

	Capacity (KT)	Rank	% Share
North America			
Styrene Monomer	1701	1	26%
Solid Polystyrene	740	2	26%
Europe			
Solid Polystyrene	520	2	21%
Expandable Polystyrene	410	1	28%
Global			
Styrene Monomer	1701	5	6%
Solid Polystyrene	1260	2	10%
Expandable Polystyrene	410	4	5%



Sustainability

“Meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.”

United Nations, 1987

The Problem

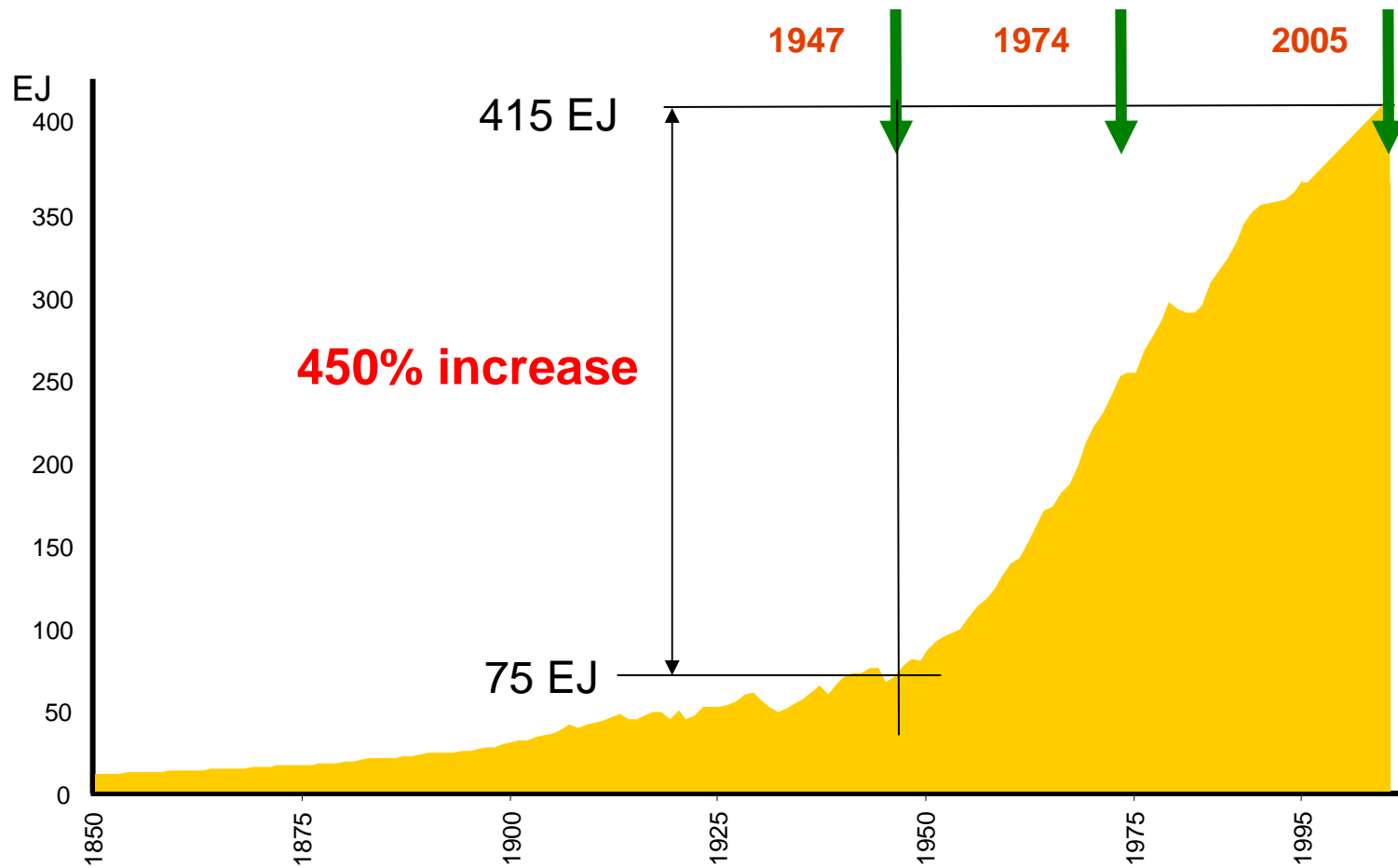


Growing demand for comfort and economic expansion globally necessitates increased supply of power or more efficient use of energy.

Current fossil fuel energy sources have a limited life-time and are linked to climate change.

Time is running out to address climate change.

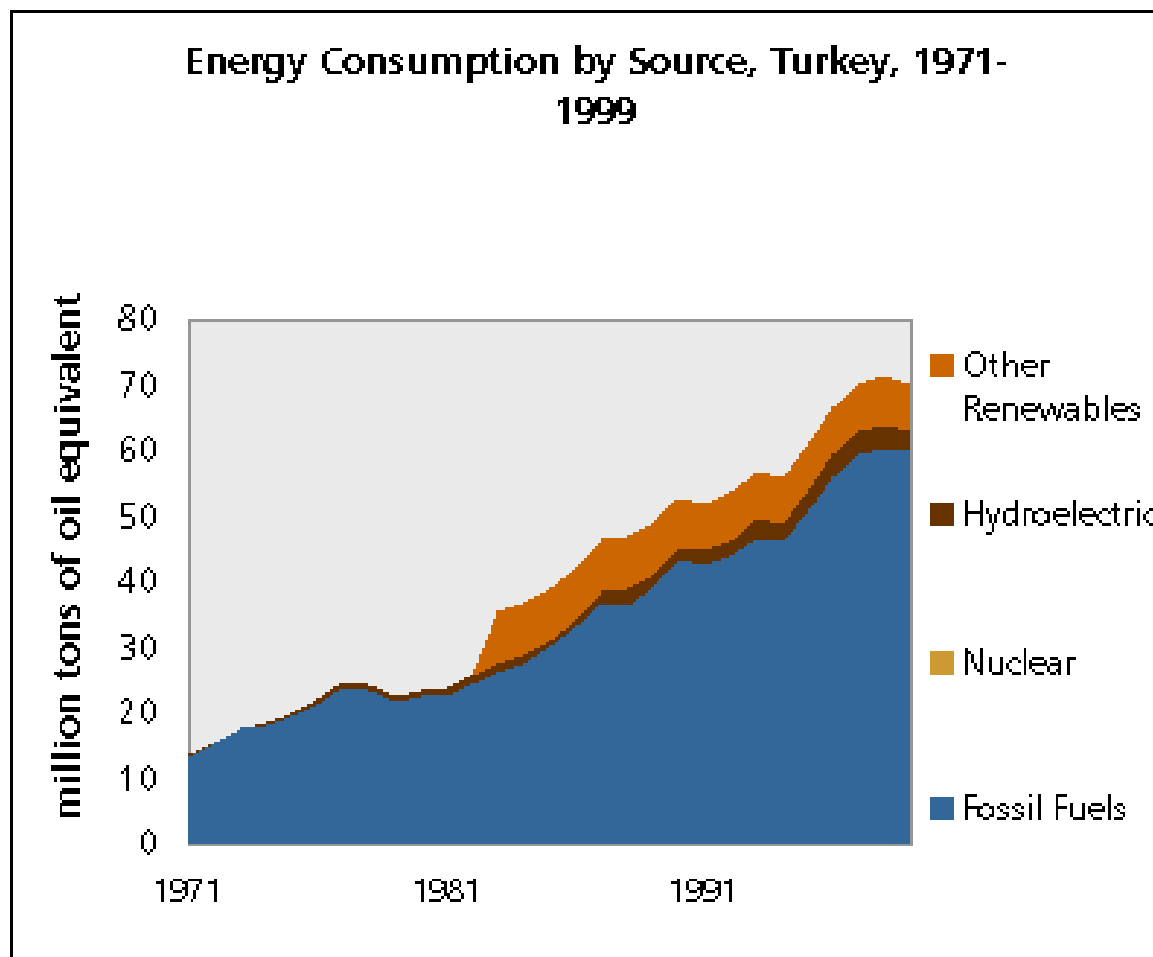
Global Energy consumption



Source NCTI

(Population increase by 140% but)

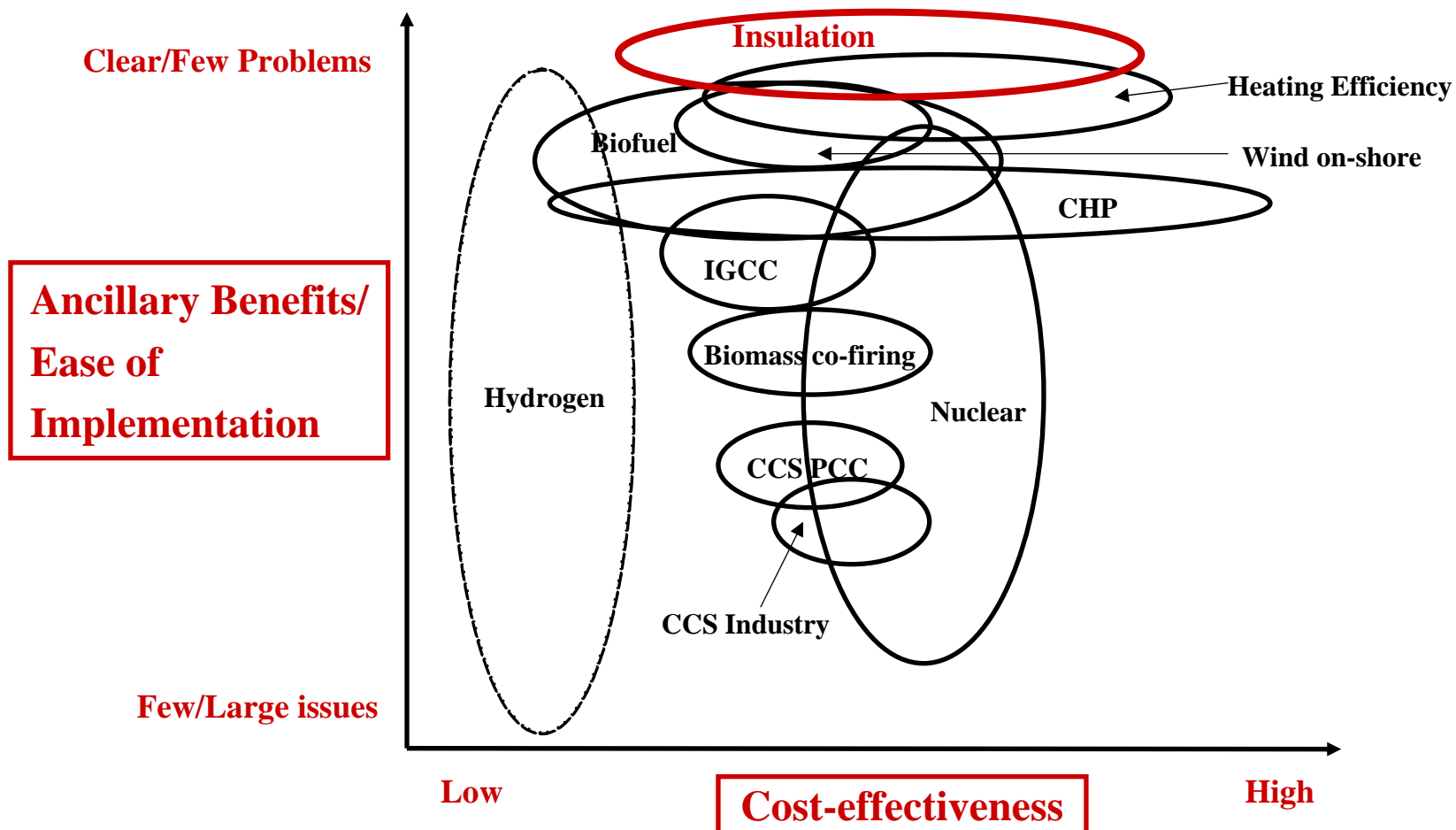
Turkey energy consumption 1971 -1999



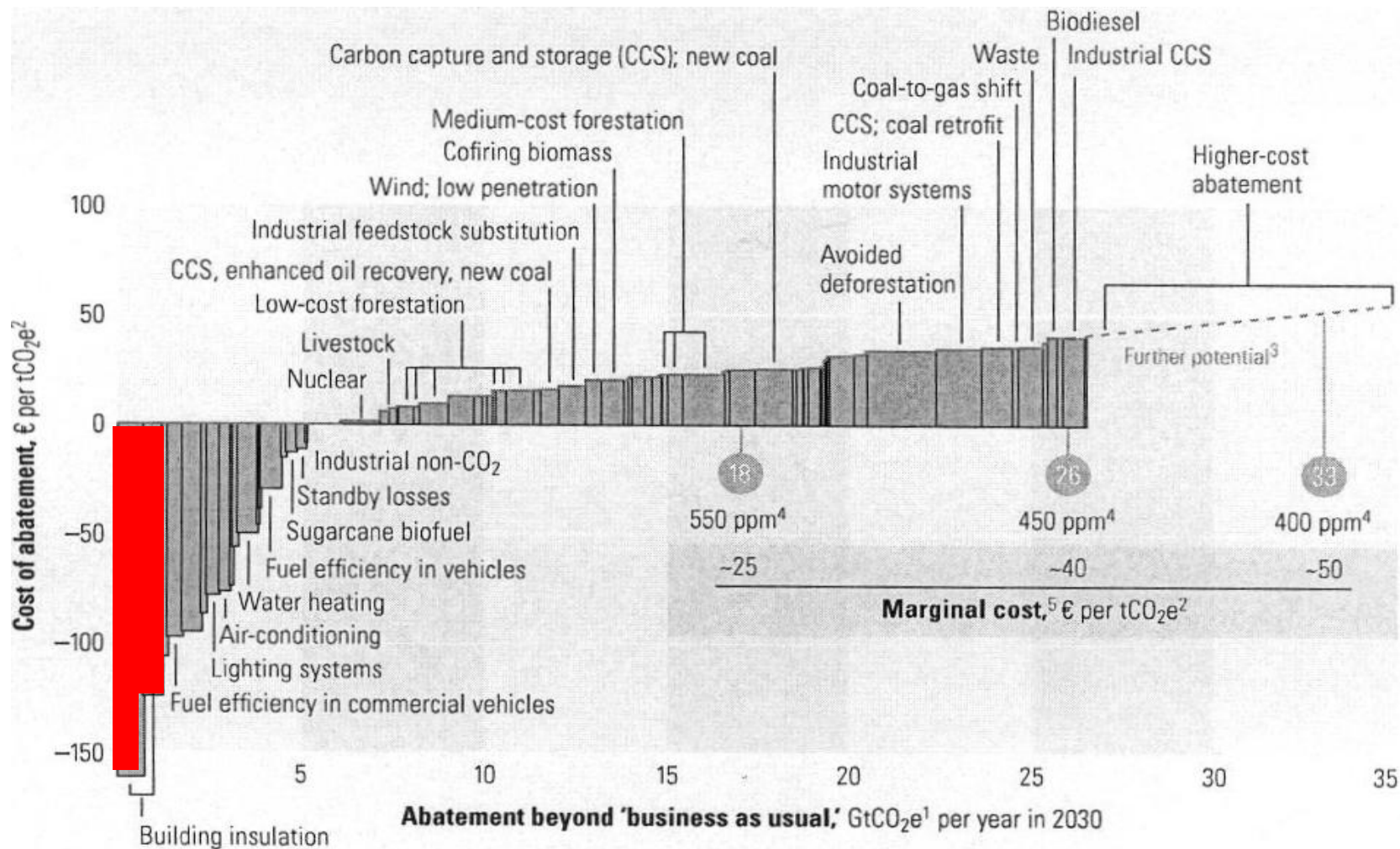
Addressing The Problem

- **Environment** – Global Warming
 - ▶ Kyoto Protocol, post Kyoto and EU 20/20/20 legislation
 - ▶ Effective use of resources
- **Energy** – Energy Efficiency
 - ▶ Energy Performance in Buildings Directive
- **Economics**
 - ▶ Return on Investment
 - ▶ Job creation

Climate Change Mitigation Options



Climate Change Mitigation Options





Better insulation is saving energy

- Buildings use > 40% of Europe's energy
- Insulation accounts for > 50% of the total energy reduction potential from buildings
- A significant contribution to the EU commitment for the Kyoto and post Kyoto Protocol
- Reduces energy consumption
- Creates jobs
- The economics are good for everyone!

**A unique convergence of Political,
Environmental and Economic Factors**



Industry Action

- Ambitious implementation of current and recast EPBD
- Public buildings should lead by example
- Focus on financial and technical support mechanisms for insulation improvement
- Adopt a clear strategy for passive houses
- Ensure that the advantages of proper insulation in all building stock is fully understood and brought into legislation

All these requests have been met in the recast EPBD!

The ideal insulation material

Expandable Polystyrene (EPS) offers a unique combination of attributes and advantages which has led to it being the leading choice for decades for architects and construction specifiers



Sustainability + Performance

- Insulation properties constant over life-time of building
 - ▶ Low moisture pick up hence lambda not impacted
 - ▶ Delivered lambda is final lambda
 - ▶ Structure withstands normal levels of handling and walking
 - ▶ Does not rot or permit mould growth

Constant Good Properties = Maximum Energy Efficiency

Sustainability + Performance

- Good balance of mechanical properties
 - ▶ Sound deadening
 - ▶ Seismic insulation



Sustainability + Performance

- No need for special protection during installation
 - ▶ Light, rigid easy to handle and cut to shape



The New EPS Generation

EPS Silver—Better Insulation For Today's Building Needs



EPS Silver is a material with significantly better insulation properties compared to standard white EPS. The Carbon black additive that is used improves the overall thermal conductivity, particularly in the low density area. This also explains the silver color appearance.

- EPS polymer containing an special additive to enhance its thermal insulation properties
- The carbon black additive also imparts the unique black colour to EPS Silver
- Processable on the existing EPS m/c
- Excellent foam mechanical properties for roof, wall, thermal-acoustic, floor including ICF applications
- Ca. 20% better insulation vs. the standard (white) EPS at comparable foam density. (i.e. 20% less foam thickness required for the same R-value)
- Flame retardant: Din 4102: B1 and Euro Class B

EPS Silver

EPS Silver maintains all the known advantages of standard Expandable Polystyrene but with enhanced thermal insulation properties



Summary

- The building and construction industry can, and must, contribute significantly to meet the environmental, economic and societal needs of sustainability
- Insulation is one of the most cost effective ways of reducing GHG emissions
- EPS Silver is the way to maximise energy efficiency!

