
EUSEW workshop - Best Practices in Member State Implementation of EU EED Article 8

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Borealis contribution
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Borealis – taking on the challenges of tomorrow for more than 50 years



BOREALIS

- *Leading provider of innovative, value creating solutions in the areas of base chemicals, polyolefins, and fertilisers*
- *Strong European manufacturing footprint with Integrated base chemicals, petrochemicals and polymer activities*
- *Customers in over 120 countries*
- *Around 6.400 employees worldwide*
- *Ownership Borealis: 64% IPIC / 36% OMV*
- *Middle East and Asia activities through ADNOC JV - Borouge*

Providing solutions in Polyolefins...



Energy & Infrastructure



Mobility



advanced packaging

... Base Chemicals and Fertilisers



Borealis Energy and CO₂ - Policy

- **Main Objective:** gain competitive edge by securing energy and utilities at a lower cost than and use it more efficiently than our competitors.
- **Multiple Instruments:**
 - Portfolio Management: Pan-European system for risk management of all energy and carbon exposures
 - Initiatives that will allow sourcing on a competitive basis and may increase generation capacity in relevant markets. Such projects / initiatives may include local generation projects (wind, cogeneration etc.) and third party cooperation (district heating, consortia etc.)
 - Energy efficiency: the strategic internal tool for carbon abatement and to tackle rising energy costs, fostered by operational excellence and developing profitable investment opportunities
 - Internal target setting process for key performance indicators (KPI) on energy efficiency, N₂O and flaring emissions
- **Borealis Energy & CO₂ Committee** ensures high level commitment to Group Energy and Carbon Management

Borealis Energy and CO₂ - Governance

- **Borealis Energy & CO₂ Committee**
Standing Committee of the Executive Board
 - Governing body for Energy and Carbon Management at Borealis
 - Align, coordinate and assure implementation of all energy activities
 - Review on performance, market and regulatory trends, key projects / initiatives
- Synergies from group wide coordination and strong local presence
 - **Centralised strategy, policy making, sourcing & risk management**
(aligned across BU Energy, Operations OPEX, and Group HSE energy functions)
 - **Decentralised empowered operational and regulatory responsibilities**
(local/regional energy managers)
 - Local legal compliance, Regulatory & Advocacy, Voluntary Agreements
 - Operational contract implementation, co-develop project initiatives
 - Foster ownership in line organisation as drive for energy efficiency improvements
 - This cooperation enables **meeting increased regulatory requirements and capturing market opportunities**

Borealis Energy and CO₂ - Figures

- Well over 60% of Borealis' turnover is linked and exposed to energy
- Fossil fuels are both feedstock and energy
- Primary energy consumption (excl. feedstock): 31.400 GWh (2014)
- ca. 4 TWh/y electricity and ca. 19 TWh/y natural gas sourcing
- EU ETS emissions : 4,25 million Tons (2014)

EU Energy Efficiency Directive (1/3)

*Preliminary –
views under development*

- Energy Efficiency Directive (EED, 2012/27/EU) entered into force on December 4, 2012.
- Member States (MS) had until 5 June 2014 to transpose it into national law; some MS still in the final stage of implementation.
- Article 8 : “Energy audits and energy management systems”
 - 8(4): Member States shall ensure that enterprises that are not SMEs are subject to an **energy audit** carried out in an independent and cost-effective manner by qualified and/or accredited experts or implemented and supervised by independent authorities under national legislation by 5 December 2015 and at least every four years from the date of the previous energy audit.
 - 8(5): Energy audits shall be considered as fulfilling the requirements of paragraph 4 when they are carried out in an independent manner, on the basis of minimum criteria based on Annex VI, and implemented under voluntary agreements concluded between organisations of stakeholders and an appointed body and supervised by the Member State concerned, or other bodies to which the competent authorities have delegated the responsibility concerned, or by the Commission.
 - 8(6): Enterprises that are not SMEs and that are implementing an **energy or environmental management system** - certified by an independent body according to the relevant European or International Standards - shall be exempted from the requirements of paragraph 4, provided that Member States ensure that the management system concerned includes an energy audit on the basis of the minimum criteria based on Annex VI.

EED implementation as per today (2/3)

*Preliminary –
views under development*

- Sweden:
 - Past Voluntary Agreement “Program for Electricity” (PFE) had compulsory ISO 50001.
 - New legal framework under development; meanwhile continuing the ISO 50001 certification.
- Germany:
 - Compulsory ISO 50001 certification in 2012, linked to energy tax exemption (EEG).
- Belgium:
 - Past Flemish Voluntary Agreement 2003-2014 recently ended. New local Voluntary Agreement (2015-2020) requires an energy management system with final external accreditation latest in ~2017 and intermediate implementation progress follow-up.
 - Walloon region: Ongoing local Voluntary Agreement since 2014. ISO 50001 certification possibly required in 2018.
- Netherlands:
 - Local Voluntary Agreement frameworks (MEE/MJA3) in place; development of reinforced framework from 2017 onwards may on the horizon.

EED implementation as per today (3/3)

*Preliminary –
views under development*

- Austria:
 - New energy efficiency legislation in place, with two options: i) certified energy management system by end of October 2015 or ii) external technical energy screening by end of November 2015. Possibility to switch between pathway afterwards.

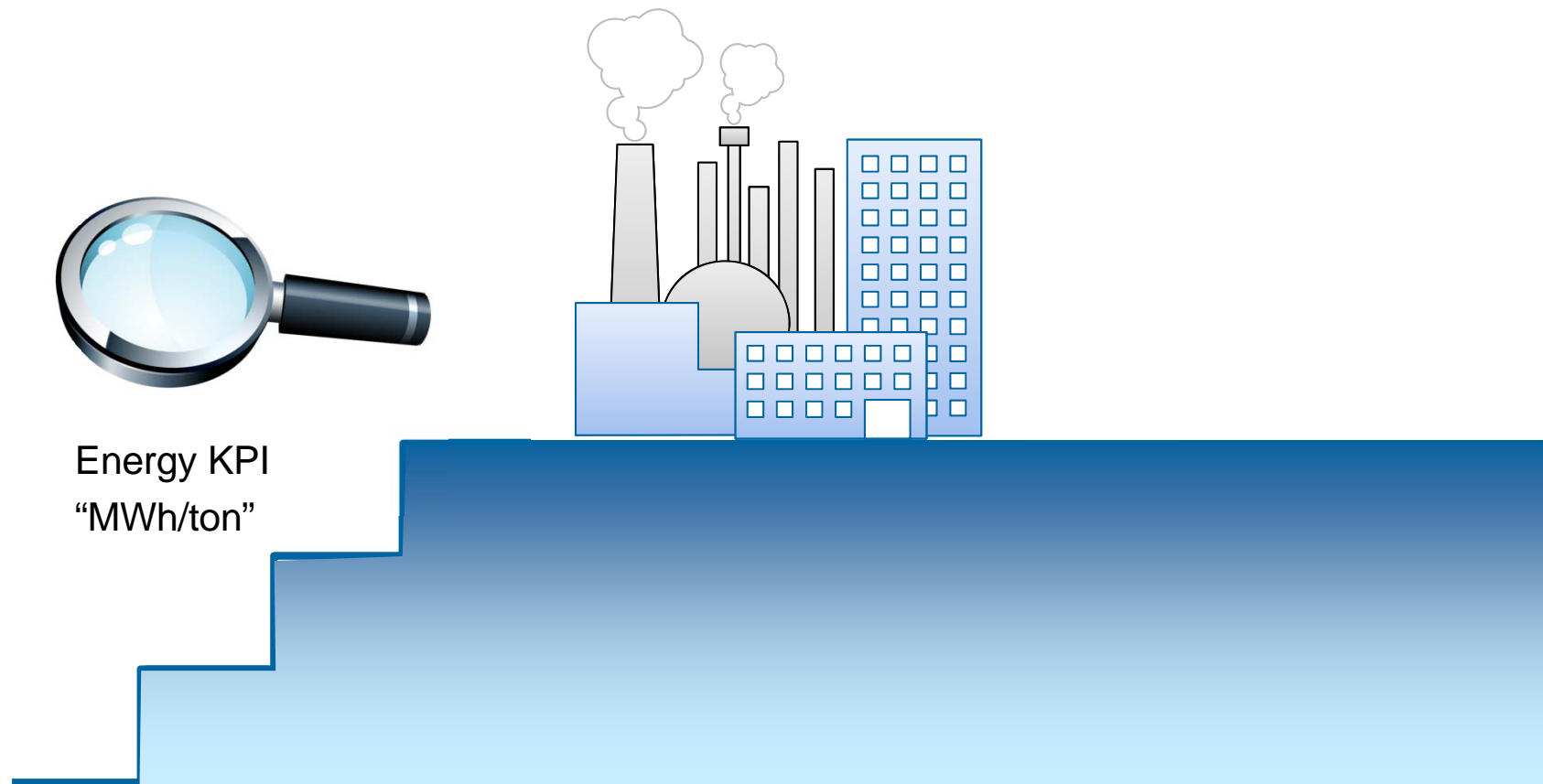
- France:
 - New energy efficiency legislation in place with two options: i) external technical energy screening, or ii) ISO 50001 certification, covering 65% of energy quantities. Possibility to switch between pathway afterwards.

- Finland:
 - Ongoing local Voluntary Energy Agreement until end of 2016; negotiations for new Voluntary Agreement just started. New energy efficiency legislation in place with three options to be met by 5 December 2015; i) certified ISO 50001, ii) certified ISO 14001 with additional energy specific requirements, or iii) subscriber of the actual Voluntary Agreement with certified ISO 14001 and “statement” that energy principles will be followed.

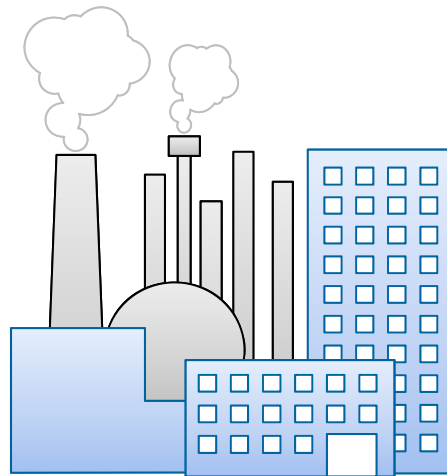
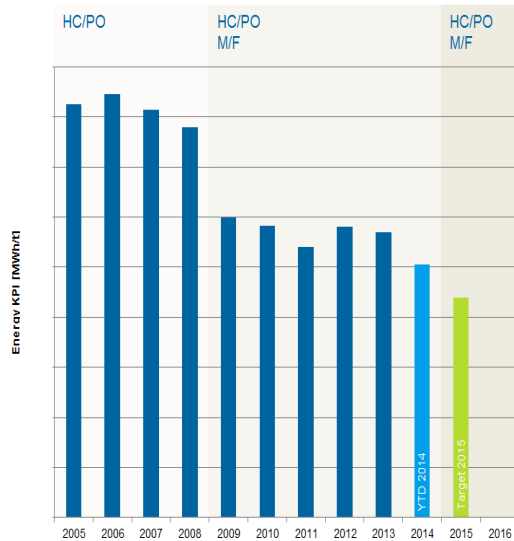
Reflections and way-forward

- Energy efficiency has been for longer time a key instrument for energy intensive industries' competitive edge.
- Borealis has consistently adhered to emerging local Voluntary Energy Agreements. Already in early 2000s helpful to frame the Borealis take on energy – meanwhile established and sound basis to build EED compliance.
- Group challenge to keep track with fulfilling EED compliance across EU Member States. The various ways of EED implementation (shall) reflect underlying differences in energy costs, incentives & obligations schemes.
- Energy and carbon costs inclusion in business decisions has been a long standing practice in Borealis.
- Besides the push from the evolving energy regulatory framework, also internally a reinforced focus on variable costs unlocked the momentum for enhanced internal energy awareness – Energy and Operational Excellence are mutually reinforcing.
- Borealis journey towards group-wide ISO 50001 has started; in addition we strongly believe in the importance of building a genuine Energy Culture.

Energy KPI and energy improvement measures (EIMs)



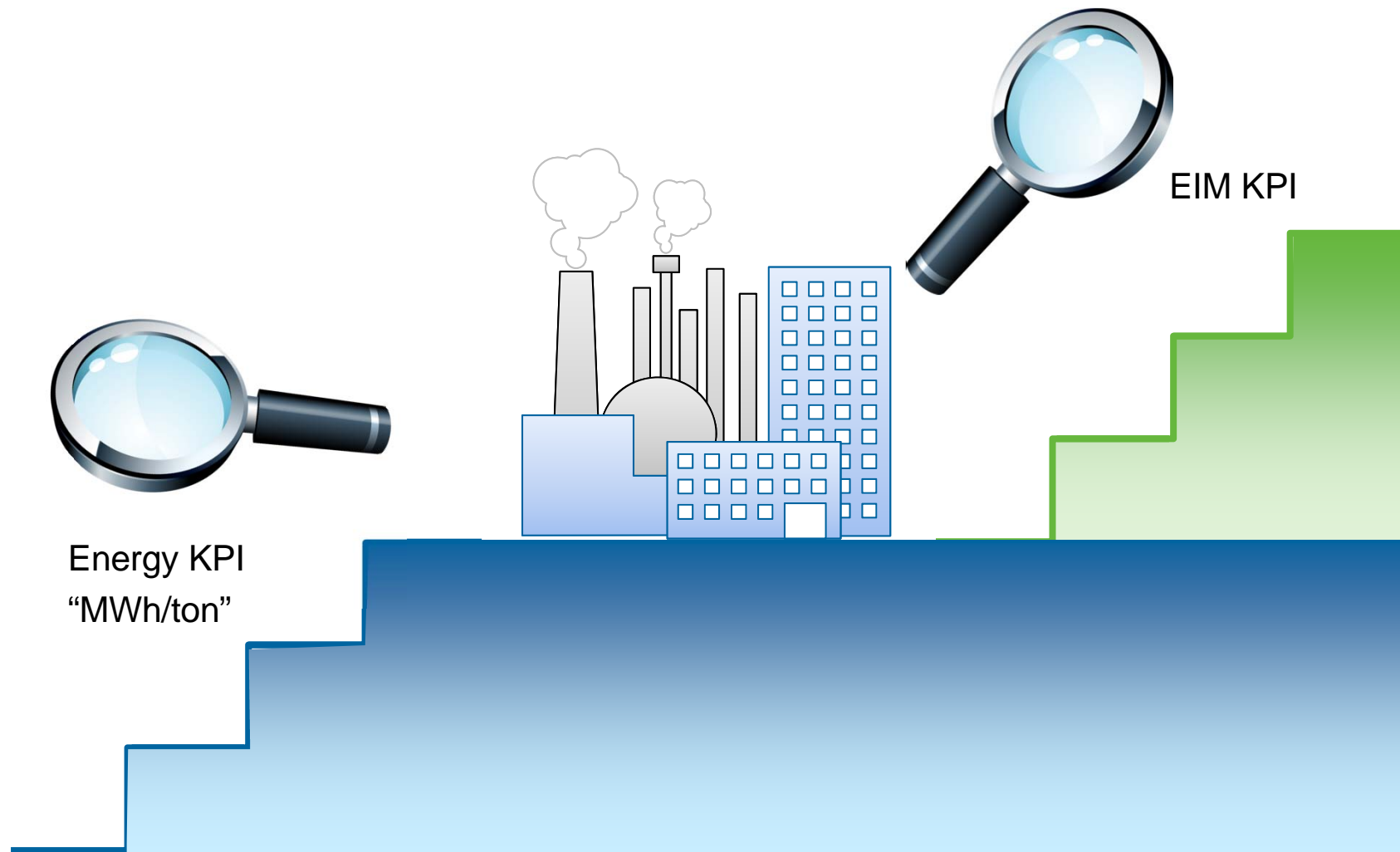
Energy KPI and energy improvement measures (EIMs)



Energy KPI
“MWh/ton”

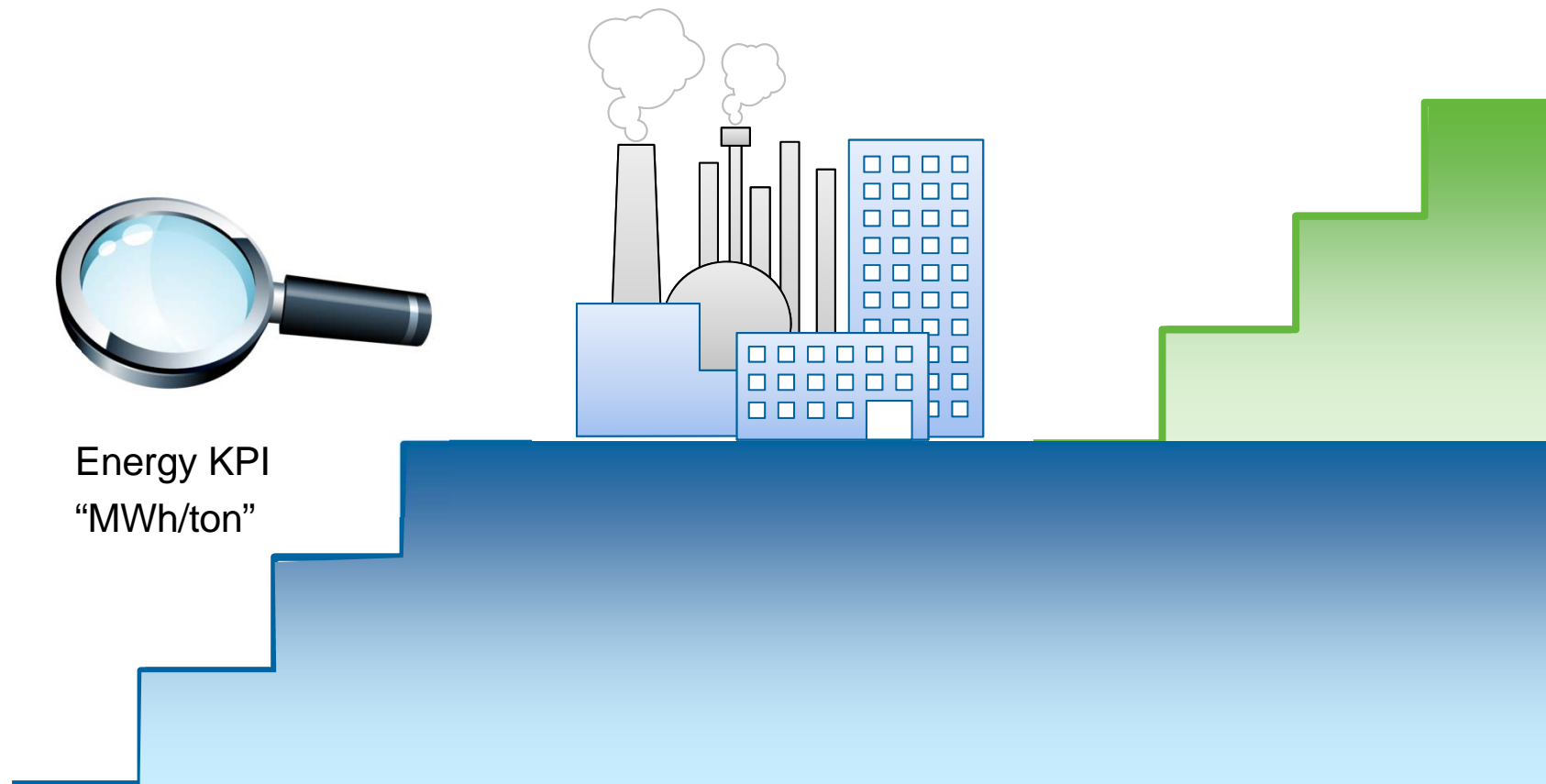


Energy KPI and energy improvement measures (EIMs)



Energy KPI and energy improvement measures (EIMs)

Forward looking trigger to identify and realise energy efficiency improvements (EIMs)
Seek for GWh efficiency gains (vs. BAU)



SPiCE³: Achievements



- SPiCE³ (Sectoral Platform in Chemicals for Energy Efficiency Excellence) is designed to enable energy efficiency improvements in the EU chemical industry, particularly in SMEs. The SPiCE³ project is 75% co-funded by EC and ends in June 2015.
- SPiCE³ involves 13 national chemical industry associations as partners: BE, BG, CZ, DE, ES, FI, FR, GR, IT, NL, PL, SE, UK, which together represents more than 80% of the EU chemical industry. FR and ES are voluntary members.
- www.spice3.eu is the project's multi-lingual (available in 12 languages) resource platform for chemical companies seeking guidance and advice on energy efficiency. Launched in 2014 the platform now has more than 20 best practice & 15+ case studies, various tools and country specific information on legislation, etc.
- The project will have carried-out 48 workshops at the local (project partner) level during the project lifetime, attracting around 20-30 SMEs to each workshop.
- Onsite trainings, have been organised at the local level and targeted 20-30 SMEs each. They have often included half-day site visits and follow-up support has been offered by energy experts chosen by the national chemical federation.
- EU-Level, 3 conferences have been organised during the project, drawing in more than 150 participants from the industry (large and small companies), EU decision-makers and EU member state authorities, amongst others.



Sectoral Platform in Chemical
Energy Efficiency Excellence



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