

# Towards an Energy Management Culture

OMV Petrom

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# OMV Petrom – largest integrated oil & gas company in South Eastern Europe

2014 FIGURES

## Upstream



### Romania

- ▶ 27.98 mn boe crude oil and NGL
- ▶ 34.58 mn boe/yr gas
- ▶ 671 mn boe proven reserves

### Kazakhstan

- ▶ 3.25 mn boe
- ▶ 19 mn boe proven reserves

**Oil:** Supplies 100% of oil for Petrobrazî refinery

**Gas:** Supplies equity gas for Brazi power plant

## Downstream Oil



- ▶ Petrobrazî refinery (4.5 mn t/yr capacity)
- ▶ 3.4 mn t marketing sales
- ▶ 780 filling stations (Romania, Bulgaria, Serbia, Moldova)

## Downstream Gas



- ▶ Gas sales 4.4 bn cbm/yr (up to 40% of Romanian demand)
- ▶ Brazi gas-fired power plant (860 MW)
- ▶ Dorobantu wind park (45 MW)

# Energy Efficiency, an important pillar for energy security in Europe

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*[...] the Energy Union puts energy efficiency first. We have to fundamentally rethink energy efficiency and **treat it as an energy source in its own right.***

Maroš Šefčovič, Vice President of the European Commission, in charge of Energy Union

*Future growth must be driven with less energy and lower costs, and I am confident that the EU can deliver this new paradigm. That is why I am making #efficiency first my abiding motto.*

Miguel Arias Canete, EU Commissioner for Energy and Climate Action

*For every 1% improvement in energy efficiency, EU gas imports fall by 2.6%*

Maroš Šefčovič, Vice President of the European Commission, in charge of Energy Union



# First: our commitment to improve energy consumption



## Politica Energetică a Grupului OMV Petrom

Grupul OMV Petrom se referă la OMV Petrom S.A., OMV Petrom Global Solution S.R.L., OMV Petrom Marketing S.R.L. și OMV Petrom Wind Power S.R.L., și integrează procesele upstream și downstream: explorare, exploatare și producție, dezvoltare zăcămintele de petrol și gaze, rafinare și comercializare produse petroliere, producție și distribuție de energie.

Îmbunătățirea continuă a performanței energetice este responsabilitatea întregului personal.

- ▶ Încurajăm personalul nostru să demonstreze angajament și susținere față de obiectivele Sistemului de Management Energetic.
- ▶ Ne stabilim obiective specifice și măsurăm cu regularitate progresul obținut.
- ▶ Acționăm în vederea îmbunătățirii continue a performanței energetice și asigurăm disponibilitatea resurselor și a informațiilor necesare îndeplinirii obiectivelor și țintelor.

Angajații au un rol activ în managementul energiei prin:

- ▶ Analiza activităților, proceselor și produselor care influențează semnificativ utilizarea și consumul de energie.
- ▶ Identificarea posibilităților de reducere a consumului de energie, utilizare eficientă a surselor de energie și de eficientizare energetică a proceselor.

Promovăm activ produse, servicii și tehnologii eficiente energetic prin:

- ▶ Luarea în considerare a consumului de energie și a eficienței energetice a produselor, echipamentelor și serviciilor achiziționate.
- ▶ Identificarea oportunităților de îmbunătățire a performanței energetice în procesul proiectării echipamentelor, sistemelor și proceselor.

Respectăm legislația aplicabilă și reglementările asumate din domeniul energetic prin:

- ▶ Încurajarea dialogului cu toate părțile interesate în problemele legate de managementul energiei.
- ▶ Implementarea unui proces de evaluare sistematică a conformității în cadrul procesului de audit intern al Sistemului de Management Energetic.

Prin abordare proactivă și management pro-activ al eficienței energetice asigurăm resurse pentru viitor.

- ▶ Promovăm o atitudine responsabilă față de mediul înconjurător.
- ▶ Stabilim măsuri pentru susținerea conceptului de dezvoltare durabilă.

Mai 2014, București

Mariana Gheorghe

Andreas Matje

Gabriel Salischi

Neil Anthony Morgan

Cristian Secoșan



OMV Petrom

- ▶ OMV Petrom is firmly committed to improving its energy performance **across all business segments** which we operate in
- ▶ Part of our responsible business model, Energy Efficiency is a pillar of our **Sustainability Strategy**
- ▶ Reducing our energy intensity helps us maintain our **competitiveness and contributes to securing energy supply**
- ▶ We are conducting regular energy analysis and continually seeking the **best and most innovative solutions to improve our energy performance** and reduce the impact of our operations on the environment



# Why an EnMS (ISO 50001) in OMV Petrom?

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- ▶ **OMV Petrom already has a strong culture of systematic process management** (ISO 9001 and ISO 14001) – this makes it easier for organizations to integrate energy management
- ▶ Develop a **policy** aiming at a more efficient use of energy
- ▶ Fix **targets and objectives** to meet the policy
- ▶ Focuses on a **continuous improvement process** to achieve the objectives
- ▶ The process follows the same **Plan-Do-Check-Act approach**
- ▶ **Harmonized standards for implementation across the organization** with a logical and consistent methodology for identifying and implementing improvements.

# OMV Petrom's EnMS implementation and certification

## - main benefits

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- ▶ It proves that the **energy management system meets the requirements** and is working throughout the organization
- ▶ Gives customers, employees, management and all stakeholders more **confidence that the organization saves energy**.
- ▶ **Enhanced security of energy supply** as you will have identified your energy risk exposure in areas within the organization and commenced processes to reduce them
- ▶ **Continual improvement of operational efficiency** and maintenance practices
- ▶ **Reduced greenhouse-gas (GHG) emissions** and carbon footprint
- ▶ **Additional cost savings can be generated over several years.**
- ▶ Provides support to identify **the right measures that will improve the energy performance**

# Relevant figures of ISO implementation – in 2015 we implemented an online tool for training



Issued > 100 standards, procedures and work instruction

Trained > 5500 employees



Academy for Energy Efficiency, 2<sup>nd</sup> year



Performed > 120 cross divisional internal audits



Identified > 200 improvement opportunities

# Towards an Energy Management Culture

- It's not easy
- People do things intrinsically
- Energy efficiency actions drive CO2 reductions and productivity increase

OMV Petrom

**Generative**  
(it is the way we do things)

- Energy management is simply the way we do things in the company

**Proactive**  
(continuous improvements)

- Corporate commitment
- Culture of energy efficiency – state of mind

**Calculative**  
(we have the systems)

- We have the systems
- Good actions that improved CO2 emissions and productivity

**Reactive**  
(not a priority)

- Implement some actions with some improvements
- Nothing more

**Pathological**  
(we don't care)

- By the audit (cheapest one)
- Just to check legal requirements



# 1. Achievements – we have reduced the energy consumption in the refinery by 25% compared to 2009



Key projects:

- ▶ **Petrobrazi Refinery modernization investment of 600 mil. EURO** – finalized in 2014; **reducing energy consumption by 25% compared to 2009**
- ▶ **Light Up Project** – electricity consumption decreased by 15% compared to 2013
- ▶ **Optimization of installations;** Rehabilitation and repair programs
- ▶ **G2P projects and CHP: total 54 MW installed in 2014**
- ▶ **FRD projects:** modernization of warehouses, gas plants, boilers replacement
- ▶ **EPCO Project** ( Electric Power Consumption Optimization) - reduce internal technological consumption
- ▶ **Installation of 148 capacitor for reactive energy reduction** by > 40% compared to 2012 and a saving of ~ 1.2 million, ~3,2 mil RON investment
- ▶ **Predictive maintenance MTBF** in order to lower growth and increase availability of distribution networks

## 2. Achievements - we gather our specialist twice a year within the Academy for Energy Efficiency



### Key projects:

**Energy efficiency culture:** *Communication and employee engagement is a key component of OMV Petrom's energy performance*

- ▶ **Energy Efficiency Panel:** informs building users about energy consumption, Petrom City Power Plant carbon trace and best practices within the company
- ▶ **Energy Efficiency Academy:** training and networking tool for employees; provides a forum for dialogue between experts from different divisions
- ▶ **On-line training tool** (4 modules per year)
- ▶ **Continuous communication** in the internal magazine, info screens, blog etc.

# Energy Efficiency Panel

| Complex Petrom City<br>noiembrie 2014 |               |
|---------------------------------------|---------------|
| Energie electrică                     | 216,2 MW/loc  |
| Energie termică                       | 292,65 MW/loc |
| Energie solare                        | 112,65 MW/loc |

| Centralele Petrom City<br>septembrie 2014 |     |
|---|-----|
| Eficiență energetică                      | 84% |

**Investiție de 2 milioane euro pentru creșterea eficienței energetice în benzinzăile Petrom**

Sistemul convergențial de furnizare de apă caldă pe bază de apă caldă Petrom nu folosește ca surse de încălzire decât panouri LED, în aceeași măsură de 2,1 milioane.

- reducere cu 90% a consumului de energie pentru încălzire
- acoperire cu 95% a necesarului de electricitate a fabricii din...

**OMV Petrom și-a certificat Sistemul de Management al Energiei**

Certificarea traduce înțelegerea Experienței de Producție și a înținerii Performanței, extinzându-se la implementarea Sistemului de Management al Energiei în:

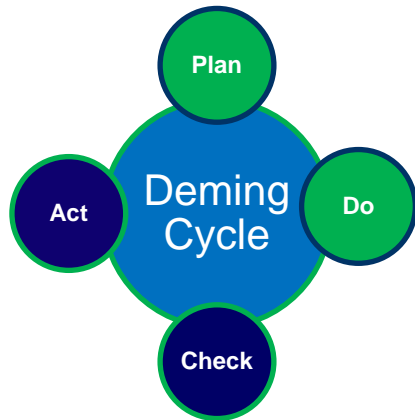
- Sistemul de Energie
- OMV Petrom Marketing
- OMV Global Services S...

În luna noiembrie, în cadrul Sistemului ISO 50001:2011, OMV Petrom și-a certificat Sistemul de Management al Energiei.



# What was done?

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## Plan

- ▶ Top management is committed to an energy management system
- ▶ Steering Committee for energy efficiency established
- ▶ Manager Representative for EnMS
- ▶ Energy use identified and opportunities for energy performance improvement prioritized.
- ▶ Petrom Energy Policy promoted internally

## Do

- ▶ Objectives, targets and KPI's at divisional and corporate levels.
- ▶ Resources made available and responsibilities assigned.
- ▶ Manuals, procedures and work instructions developed .

## Check

- ▶ Monitor processes with regard to legal and other requirements
- ▶ Internal audit to verify that the EnMS is functioning properly
- ▶ Monitor the objectives and targets of the EnMS
- ▶ The results are documented and reported to top management.

## Act

- ▶ Management review
- ▶ If necessary, corrective or preventive actions can be initiated
- ▶ Energy-relevant processes are optimized and new strategic goals are derived

# ISO 50001 certification audit



- ▶ EMS Policy – management commitment
- ▶ Energy analysis
- ▶ Objectives and targets/ EMS management program
- ▶ Compliance with legal and other energy regulation
- ▶ Process/activity specific documentation
- ▶ Personnel training evidence
- ▶ Communication: internal and external
- ▶ Non-conformities, preventive and corrective measures
- ▶ EMS internal audits
- ▶ Conformity with internal procedures