



Implementation of the Energy Management System (EnMS) in accordance to the UNIDO Methodology and ISO 50001 at large industry companies in the Republic of Macedonia



BREAKOUT
SESSION
standards for
**SUSTAINABLE
ENERGY**

Macedonia EnMS best practice

TPP Bitola

- ✓ Participated in GEF-UNIDO EnMS Programme
- ✓ Mining and Energy Combine (REK) Bitola covers over 70% of the country's demand for electricity
- ✓ Coal-lignite thermal power plant, total installed generating capacity of 700 MW and annual generation of 4000 GWh
- ✓ 3,000 employees

2.7% of total consumption



REK BITOLA improvements in 2016

Energy Management System Implemented

No. of Measures/Projects	4
Total Capital Investment (EUR)	0
Gross Monetary Savings (EUR)	322,000
Overall Payback Period (in years)	0.00
2016 Energy Savings Norm. (MWh)	8,502
2016 GHG Reductions (tons CO ₂)	10,528

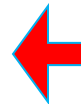


Macedonia EnMS best practice

Vardar Dolomit

- ✓ Participated in GEF-UNIDO EnMS Programme
- ✓ Production of fire resistant materials based on sintered dolomite
- ✓ 85 employees
- ✓ 29.3 GWh 2015 consumption of oil and mazut
- ✓ 3.3 GWh 2015 consumption of electricity

- 19,655 € from electricity savings (7.5%), normalized
- 70,000 € from power purchase contract savings, due to better electricity demand control and forecasting



Vardar Dolomit improvements 2016

Energy Management System Implemented

No. of Measures/Projects	21
Total Capital Investment (EUR)	5,600
Gross Monetary Savings (EUR)	89,655
Overall Payback Period (in years)	0.06
2016 Electricity Savings Nor. (MWh)	248
2016 GHG Reductions (tons CO ₂)	320.7



The results of the trainings, increasing the national capacities and implementation of ISO 50001 Energy Management System in the industry in Macedonia are:

- *12 Partner enterprises (70% success rate)*
- *23 Nat. Consultants / Expert Trainees*
- *Full cost/value of Nat. Consultants*
- *Include Progr. develop. and implementation*
- *Energy Savings 1 Yr: 13.19 GWh (67% no cost)*
- *Energy Savings 5 Yr: 165 GWh*
- ***Money savings 1 Yr: 862,700 USD (55% no cost)***
- ***Money savings 5 Yr: 10,792,000 USD***
- ***Cost of the pilot project so far: 290,000 USD***



Thank you for the attention

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