



**Ministry of Industry, Energy, and
Small and Medium Enterprises**

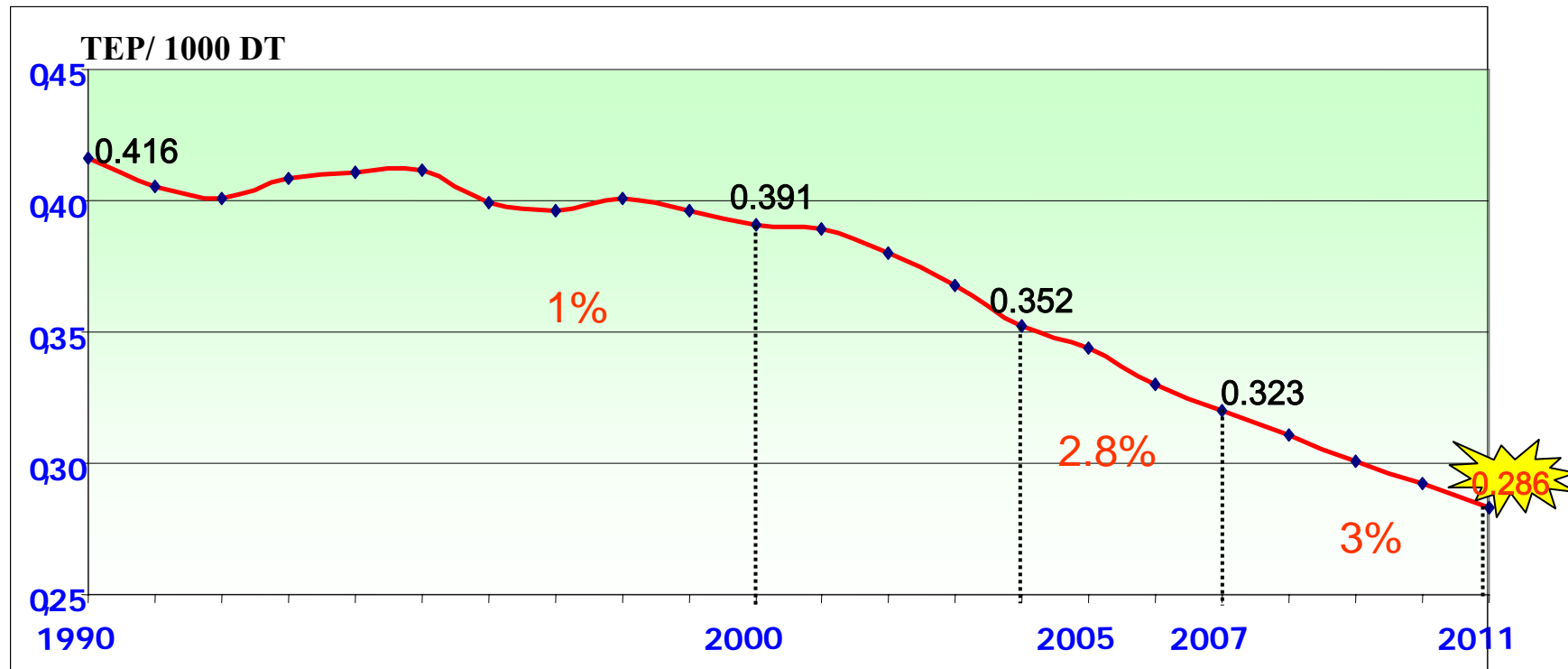
**National Agency for Energy Conservation
[*Agence Nationale pour la Maîtrise de l'Énergie*]**

Financing for Energy Efficiency in Tunisia

I- Three-Year Program 2005-2007 and Four-Year Program 2008-2011

I-1 Energy intensity trends in Tunisia

- ✓ **1990-2005** : Reduce energy intensity by 1 % per year.
- ✓ **2005-2007** : Reduce energy intensity by 2.8 % per year.
- ✓ **2008-2011** : Reduce energy intensity by 3 % per year.



Program Guide

The program has allowed for savings of approximately **760.000** TEP overall during the period (2005-2007), **400.000** TEP of this in 2007 compared to **100.000** TEP in 2004, through the implementation of the following actions:

Actions	Accumulated energy savings		Energy savings in 2007	Energy substitution (2005-2007)		Total reduction of State subsidies	Subsidies given by the Tunisian State
	Quantity (ktep)	Subsidies not given by the Tunisian State (MDT)	(ktep)	Quantity (ktep)	Subsidies not given by the Tunisian State (MDT)	(MDT)	(MDT)
1. Large Institutional energy consumers	446	73	240	1169	251	324	14
2. Building	240		130				
LCB	212	43	115	129	40	83	11
ECS	28		15				
3. Other actions	74	56	30	-	-	56	0.1
Total	760	172	400	1298	291	463	25

The program has enabled the subsidy to be reduced by **463** MDT, **251** MDT of which came from energy substitution against an overall amount of **25** MDT in assistance granted.

The Four-Year Program (2008-2011)

Action Program

This program will facilitate **accumulated energy savings** during the period (2008-2011) of **2.5 mtep** and savings of **1.1 mtep in 2011**.

Actions	Accumulated energy savings (2008-2011)		Energy Savings in 2011	Energy substitution (2008-2011)		Total reduction of State subsidies	Subsidy given by the Tunisian State
	Quantity (ktep)	Subsidies not given by the Tunisian State (MDT)	(ktep)	Quantity (ktep)	Subsidies not given by the Tunisian State (MDT)	(MDT)	(MDT)
1. Large institutional energy consumers	730	239	273	2660	839	1078	48
2. Building Sector (LCB, 2 household appliances, SWH, Thermal efficiency of the facade)	1010	209	(*) 434	280	147	356	63
3. Transport Sector	290	134	111			134	3
4. Production of electricity by RE	470	83	262			34	-
5. Agricultural and Rural Sector	2	1	1			1	4
Total	2500	666	1081	2940	986	1652	118

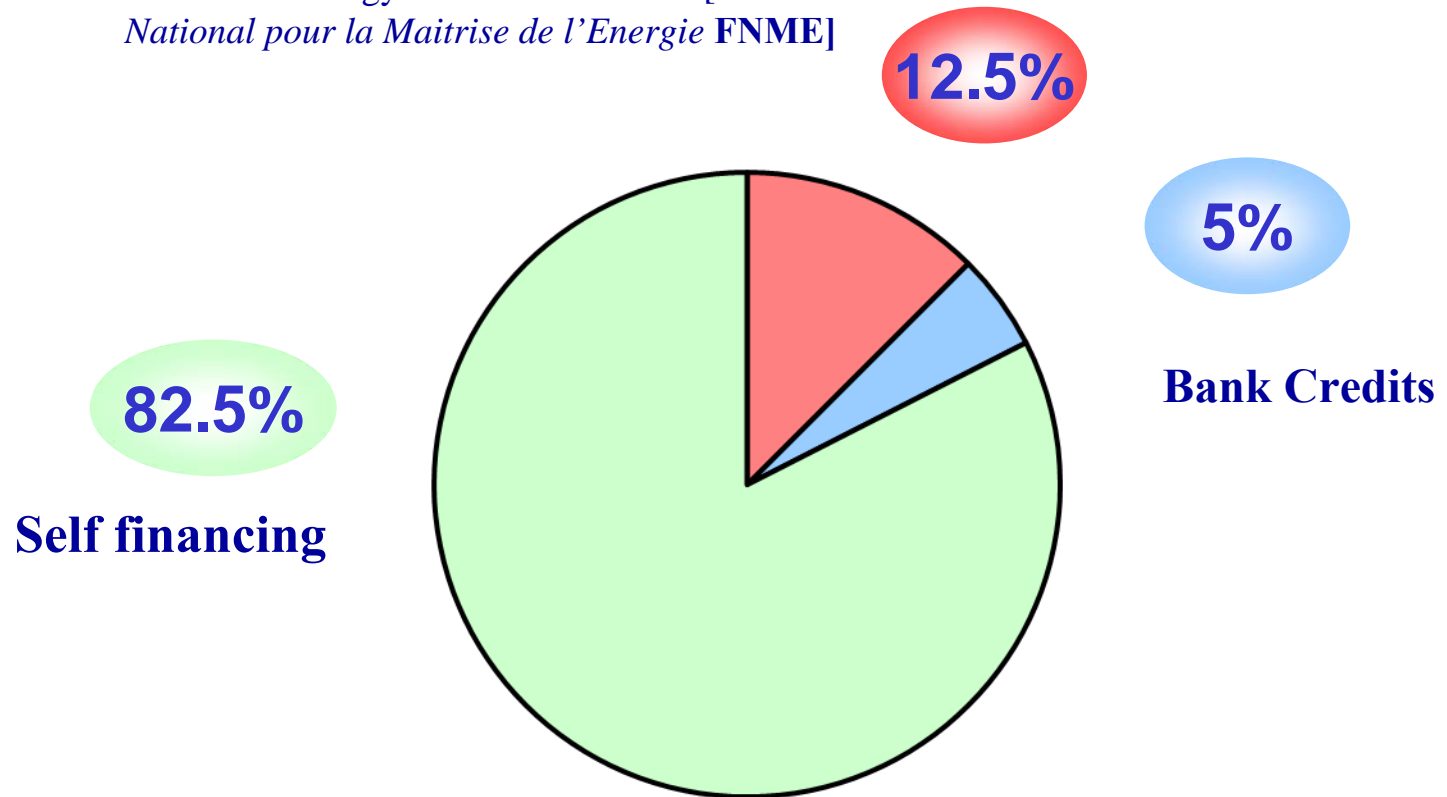
(*) 232 mtep of which comes from the LCBs, that is, the equivalent of 930 GWH (2/3 of the annual production of the Sousse steam plant)

II- II- Financing Projects in the Industrial Sector 2005-2007

II-1 Spreading the sources of financing

Total investment made: 124 MDT

National Energy Conservation Fund [*Fonds National pour la Maitrise de l'Energie FNME*]



II-2 Main findings

The role of the banking sector in financing energy savings is very limited compared to that of project owners (82.5%), despite the size and profitability of that sector, especially because of:

- The excessive requirement for guarantees and the reluctance of financial institutions to grant loans given their lack of knowledge in the area of energy savings**

II-2 Main findings (continued)

➤ **Difficulty in accessing loans to finance projects through energy service companies [*entreprises de services énergétiques* ESCOs] that guarantee results.**

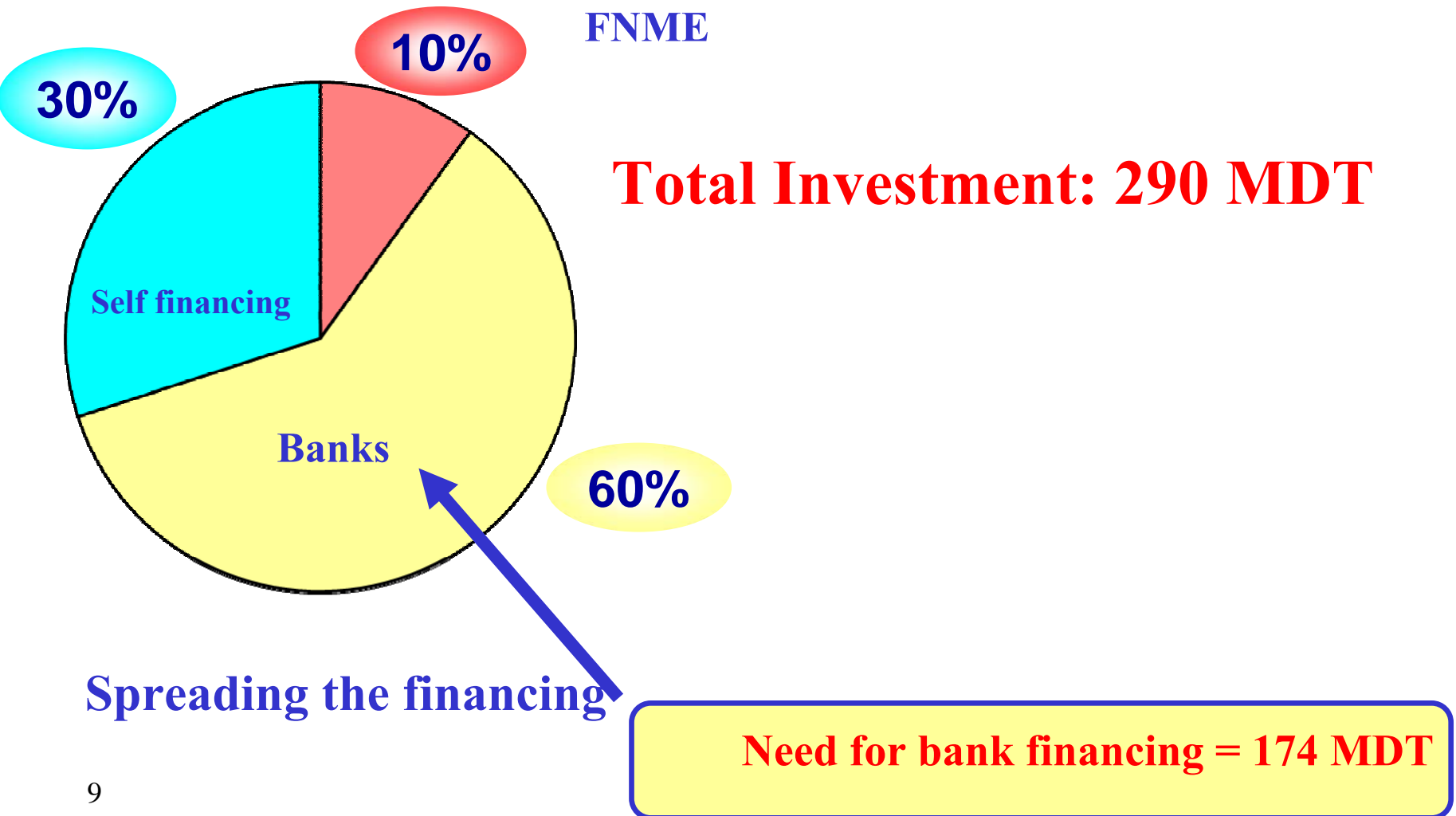
II- Financing Projects in the Industrial Sector during the Four-Year Program 2008-2011

II-3 Total Investment

❖ Overall investment in the four-year program increases to 1.1 billion dinars (290 MDT of this invested in the industry)

II- II- Financing Projects in the Industrial Sector during the Four-Year Program 2008-2011

II-4 Financing Projects in the Industrial Sector



II- II- Financing Projects in the Industrial Sector during the Four-Year Program 2008-2011

II-5 Mobilization of International Resources

- ❖ In order to respond to the identified financing needs, an amount of 120 MDT has been mobilized through a foreign line of credit from the French Development Agency [*Agence Française de Développement* AFD] and the World Bank.

1) Establish AFD line of credit

Value = 40 M€

Partner Banks = BIAT, UBCI, BT

Eligible Areas = The environment and energy conservation

Duration of Loan = from 5 to 12 years

Grace Period = 2 or 3 years

Interest Rate = 7.5% (5.5% after a 2% interest subsidy by the European Commission)

II- II- Financing Projects in the Industrial Sector during the Four-year Program 2008-2011

II-5 II- Financing Projects in the Industrial Sector (continued)

2) Establish World Bank line of credit (project in progress)

Value = 50 M\$

❖ Complete project from the line of credit, end 2008

❖ Eligible Areas

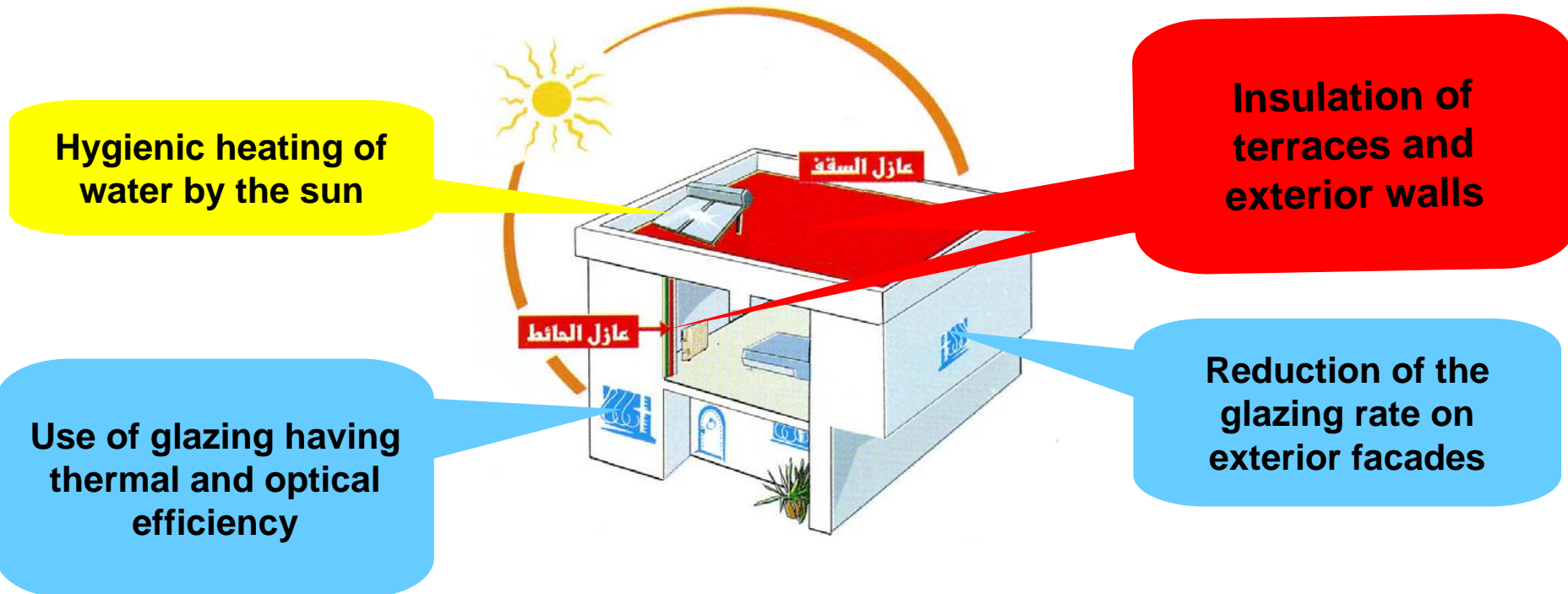
✓ Energy Efficiency in industry

✓ Cogeneration

Building Sector :

Improvement in the thermal efficiency of the exterior facade:

Evaluation of demonstration operations (46 operations) : Main improvements made:



=> These operations facilitate savings :

- 20 to 30% of heating and cooling requirements.
- 70% of water heating requirements.

Building Sector: Refrigerators: General Facts

- This is the main user of electrical energy in the residential sector at a rate of **40%**.
- Annual consumption estimated at **1120 GWH**, that is, $\frac{3}{4}$ of the annual production of Sousse steam plants.
- Increase in the market share of energy efficient refrigerators **(3)** from 11% to **48%**.

Refrigerators: The program

- Gradual ban on the marketing of EnergyGuides consuming energy as follows:
- Since **early July 2006** ban on the marketing of EnergyGuide **(8) and (7)**.
- EnergyGuide **(5) et (6)** end 2007.
- EnergyGuide **(4)** in April 2009.

Evolution of the refrigeration certification program over the period (2003-2006)

EnergyGuide Refrigerators	Trend in refrigerators marketed according to their energy efficiency	
	2003 (%)	2007 (%)
(2) + (1)	0	3
(3)	11	48
(4)	46	29
(6) + (5)	24	20
(8) + (7)	19	0

Building Sector:

Low Consumption Bulbs: Objectives

- The program (2005-2007) resulted in savings of **115.000** TEP in 2007.
- The program (2008-2011) will facilitate savings of **232.000** TEP in 2011, that is, approximately 930 GWH (**2/3 the annual production of the Sousse thermal plant**) and the reduction of **103** MDT of State subsidy during said period.
- Installation of **8 million** energy-saving light bulbs at the rate of **2 million** per year.
- Increase in the rate of coverage for main light sources from **41%** in 2007 to **90%** in 2011.

Thank you for your
attention