

ITALIAN PV MARKET

WORKSHOP ON PV INCENTIVE PROGRAMS

Rome, March 8th 2004

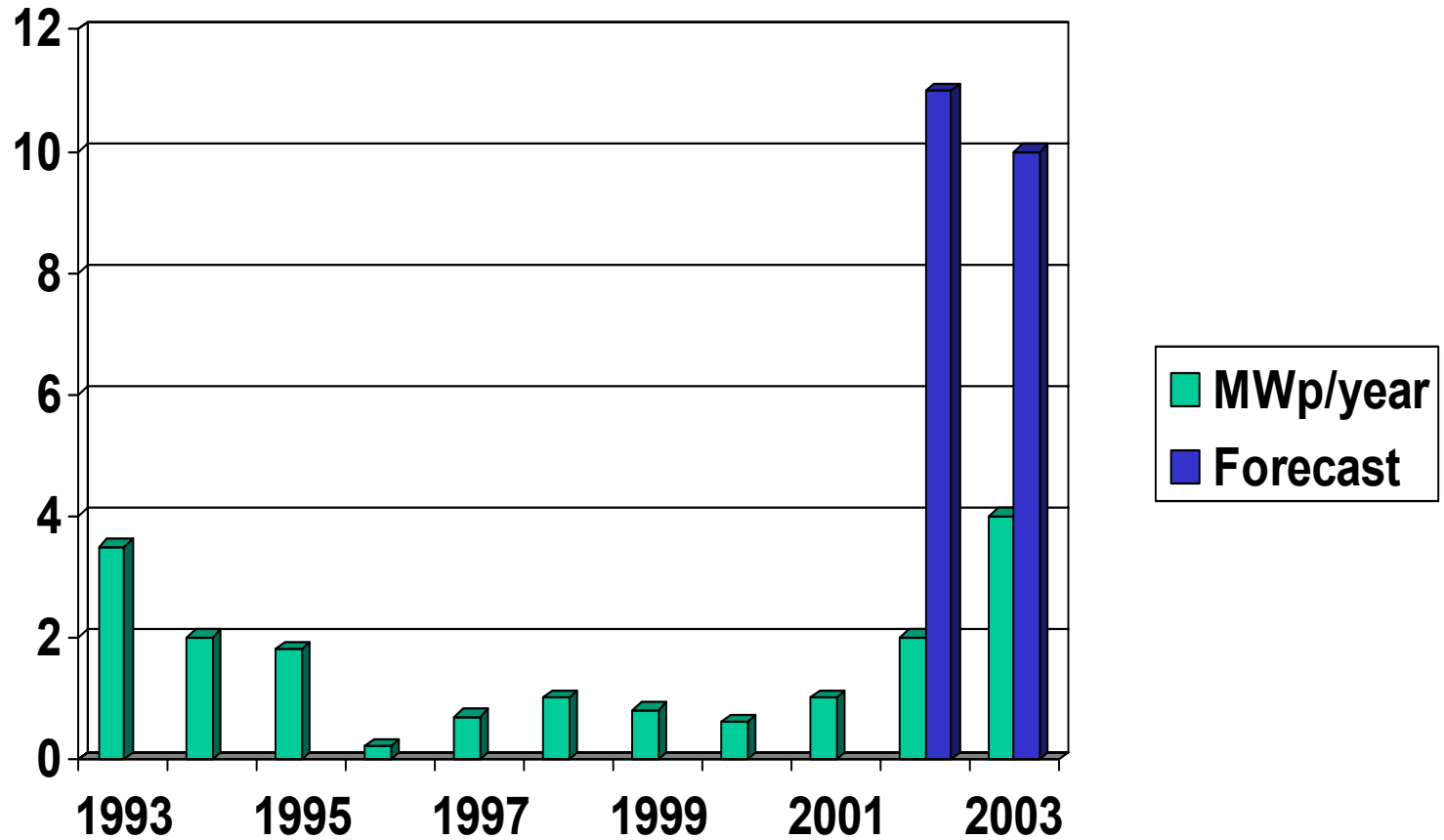


THE ITALIAN PV MARKET

- **A Young Market**
 - **Net Metering permitted only since Dec. 2000**
- **Subsidy Programme launched in 2001**
 - **Managed by Min.Env./ Regions**
 - **Grants up to 75% of Investment Costs**
 - **Max PV Price fixed (7,25 – 8,00 €/W)**
- **No Installations made in 2001**
- **First Installations in 2002**
- **New Subsidy Programme launched in 2002**



PV PLANTS INSTALLED IN ITALY



REASONS FOR SLOW GROWTH

- **Limited Interest by Government & Institutions**
- **Funds for Renewable Energies diverted towards Traditional Energies**
- **Delay in Launching Funding Programmes**
- **Bureaucracy in Funding Implementation**
- **No ambitious Medium Term Plans / Goals**
- **Prejudices towards Renewable Energies**
- **Limited Support by Utility Companies**
- **Low Quality/Price Level of PV offer**

BUT

The Scenario is Changing

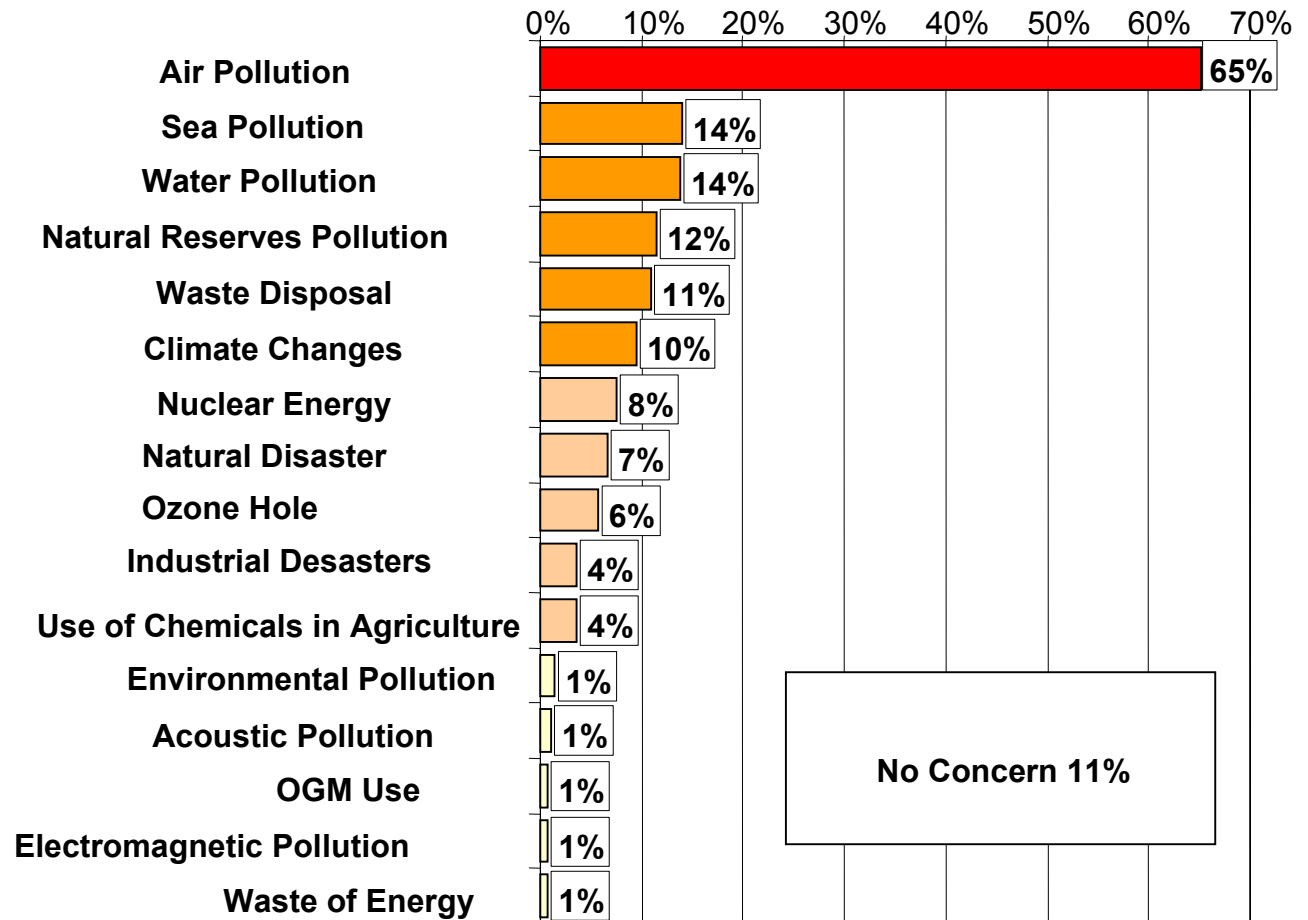


CHANGE OF SCENARIO

- **Concern towards Environment Growing**
 - Air Pollution is the Main Concern
 - Renewable Energies are Most Wanted
 - Willingness to Pay Higher Electricity Bill
- **Government Approach is Changing**
 - No more Funds to Traditional Energies
 - Strong Support by Whole Parliament to REs
 - Specific Tariff for PV
 - Minimum Power to be Guaranteed
- **Feed-in Tariff expected by 3Q of 2004**



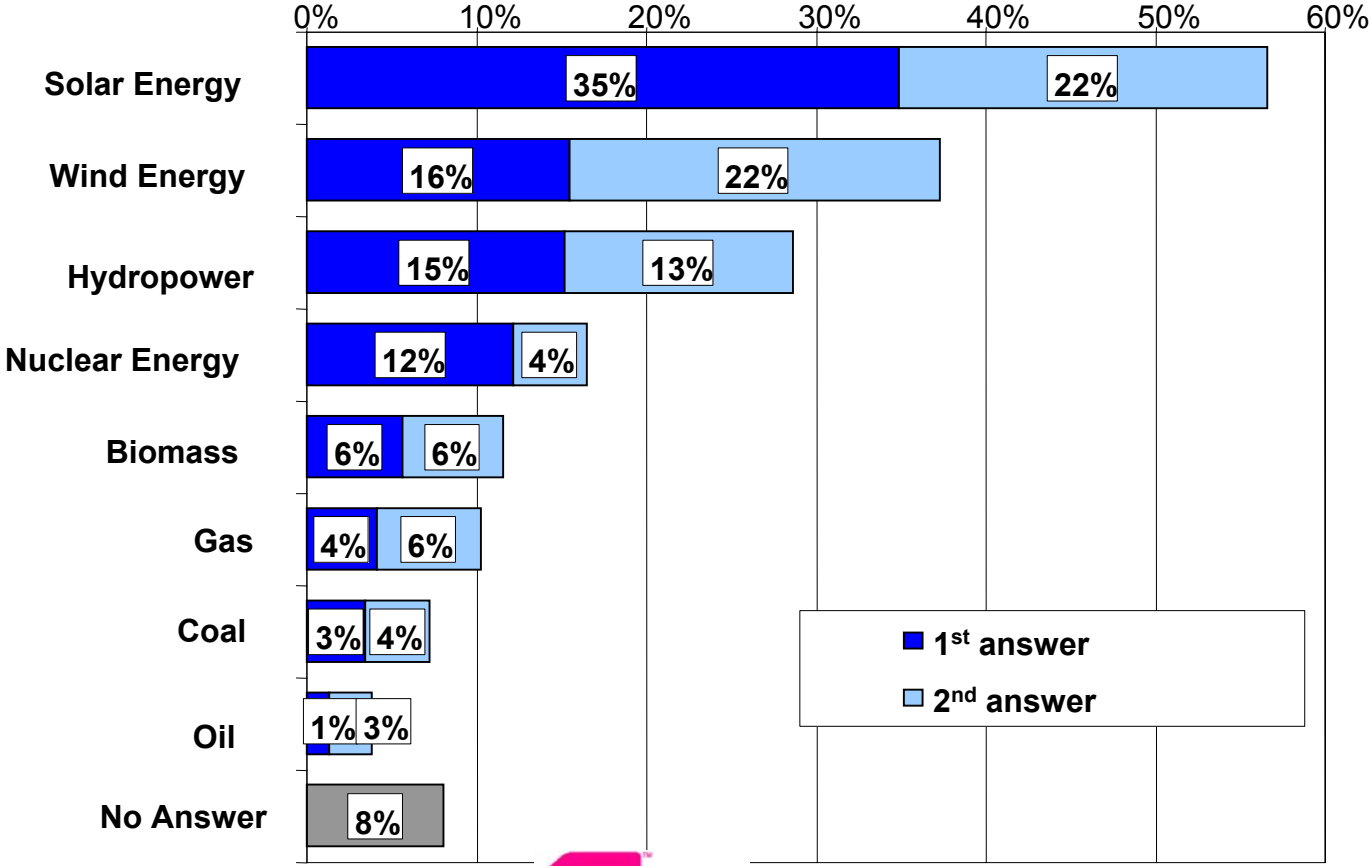
Air Pollution Main Concern of Italians



Base casi:1001



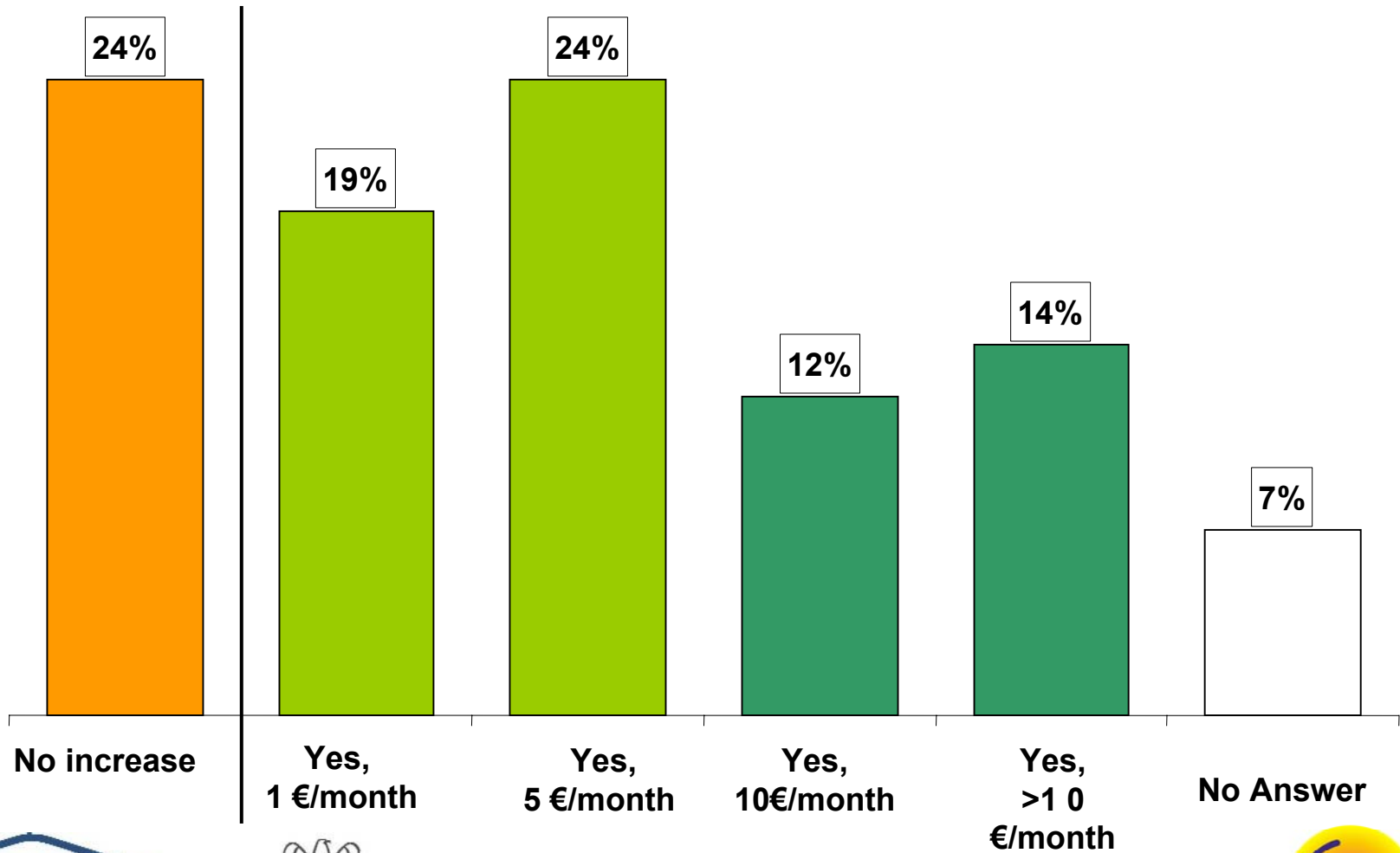
Renewable Energies Most Wanted



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Willingness to pay Higher Bill for Green Electricity



ADVANTAGES OF FEED-IN TARIFF

- **Appropriate Tool to stimulate Industrial Investments**
- **Adequate Return on employed Capital**
- **No Financial Burden for Government**
- **No Bureacratic constraints**
- **Clear Financing Rules**
- **Easy Access to Credits / Bank System**
- **One unique set of rules for Whole Market**
- **Plant Performance becomes Driving Force**
- **Financial burden transfered**
 - * **From National Budget → to Electricity Tariff**
 - * **Impact on Tariff much smaller than curret CIP6**



Lobbying Actions of GIFI for Feed-in-Tariff

- **GIFI Expectations presented to Ministry for Industry and for Environment and Energy Authority in 2002**
- **EU Directive on RE requires Acknowledgement by National Parliament**
- **First Draft of Italian Bill includes PV Feed-in-Tariff**
- **Final Draft does NOT mention Feed-in-Tariff**
- **GIFI Presentation to Chamber of Deputies**
- **GIFI suggestions accepted by Parliament**
- **Feed-in-Tariff included in Final Draft of Law**
- **Law approved on Dec 29th 2003**
- **Implementation of Directive by Ministry for Industry expected by August 15th 2004**



Main Items of New RE Law

- Share of Electricity from RE increased
 - 2.35%/y from 2004
- No more subsidies to Energy from “Assimilabili” Sources
- Less Bureaucracy in Government Authorizations
- Net Metering for any RE Plants up to 20 kW
- “Special Tariff for PV plants which allows adequate RCE of investment costs”
- Implementation of Directive by Ministry for Industry expected by August 15th 2004

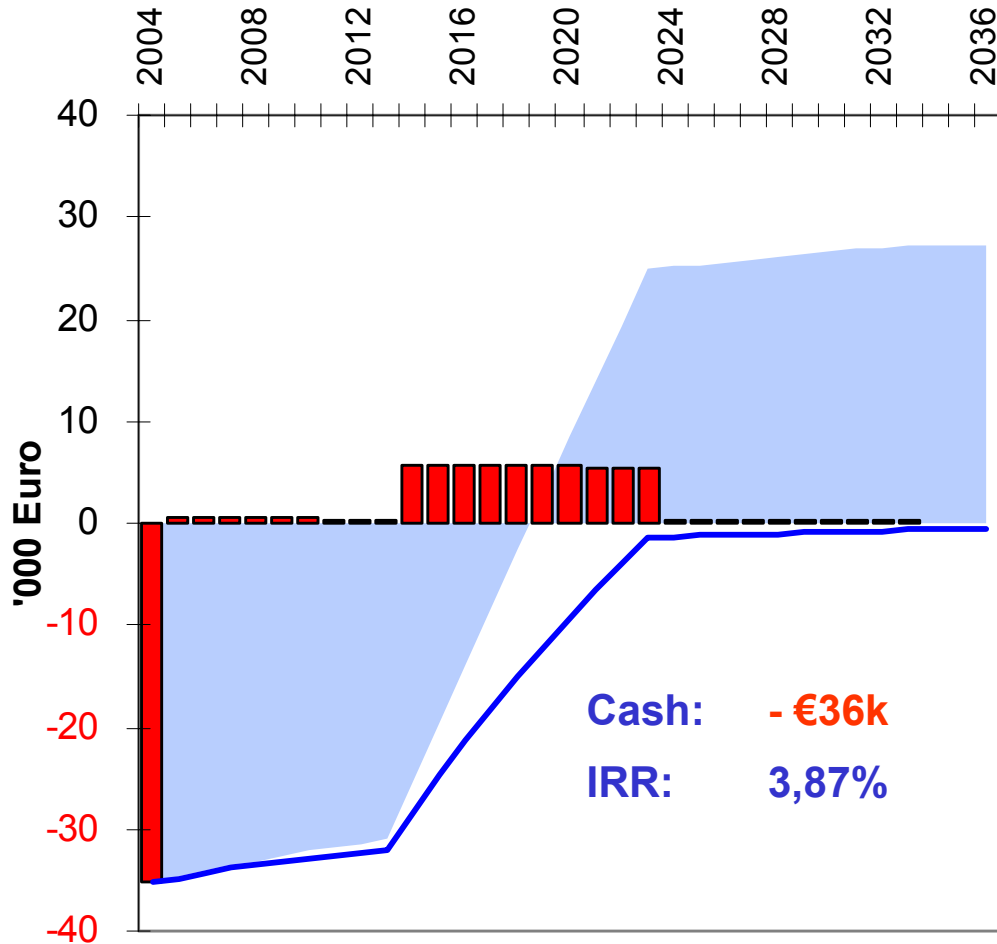


What does GIFI expect from the Ministerial Implementing Directive

- **Tariff and Duration should allow fair remuneration of PV Investment and possibility of recurring to project financing.**
 - **0,60€/kWh for 20 years (better 0.95 €/kWh for 10 years)**
- **What is better: One unique tariff rate for all PV – or different rates depending on application?**
 - **BIPV should be favoured**
- **Gradual Reduction in Coming Years**
 - **1% in 2nd Year - 5% at the end**
- **Maximum Capacity as per Italian White Book on REs**
 - **300 MW by 2008 with possibility of being increased afterwards**
- **Grid interface Requirements should be reasonable and fair**
- **No Limits on Nominal Power**
- **Status of Implementation to be Monitored by Task Force**



Cash Flow Analysis - 0,6 €/kWh - 20 years



Size pf PV Plant	10 kWp
Investment Cost, €:	69.000 +VAT
Feed-In Tariff:	0,6 €/kWh
Duration:	20 years
Energy Cost:	0,08 €/kWh
kWh/kWp/year:	1100
Efficiency Reduction:	0,5% /year
Maintenance Cost:	0,7% /year
System Lyfe:	30 years
Inflation Rate:	4%
Loan:	40.000 €
Duration:	10 years
Interest Rate:	6%

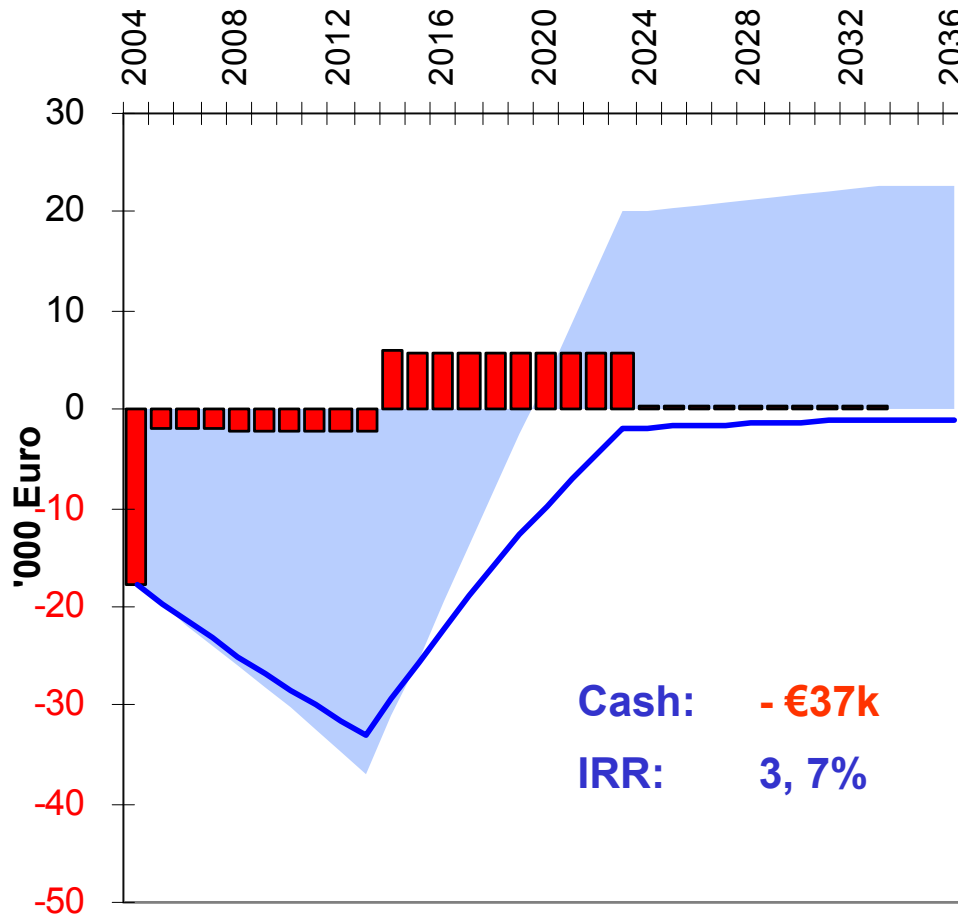
■ Cumulative Cash Flow

■ Cash Flow

— Present Net Value



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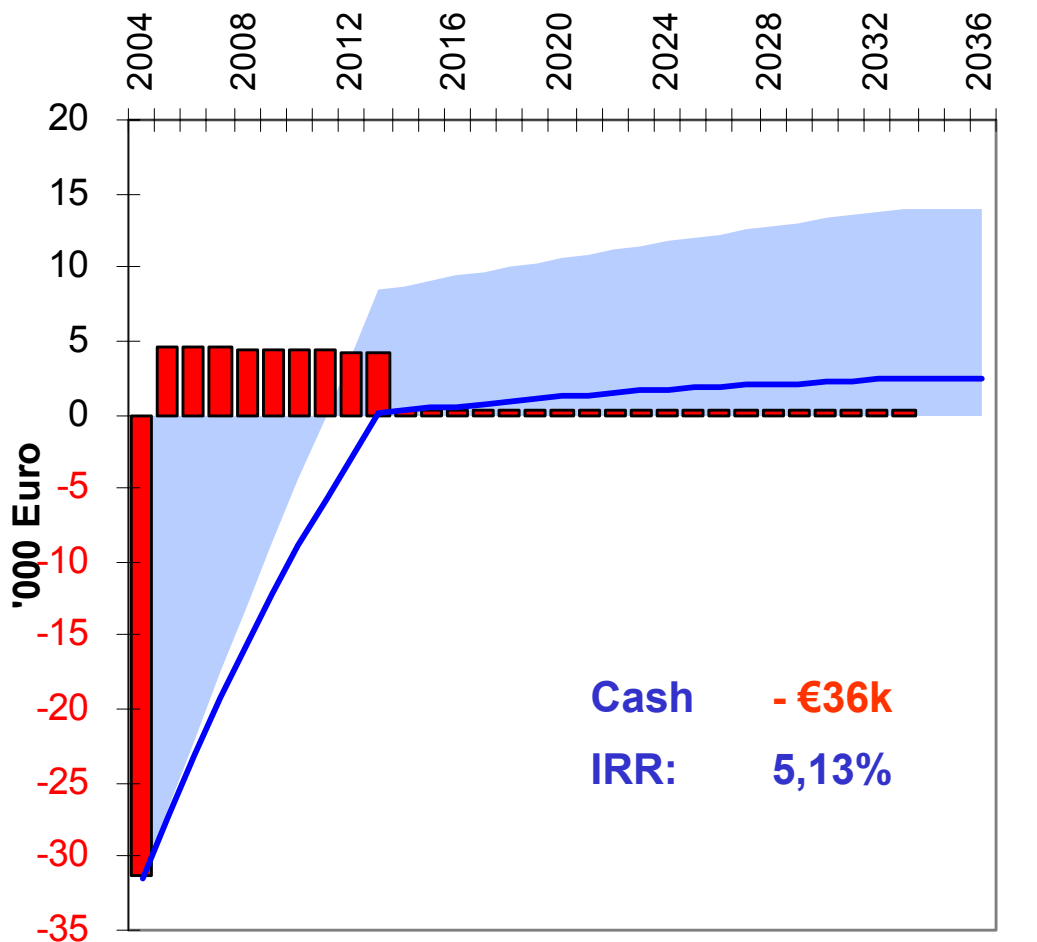
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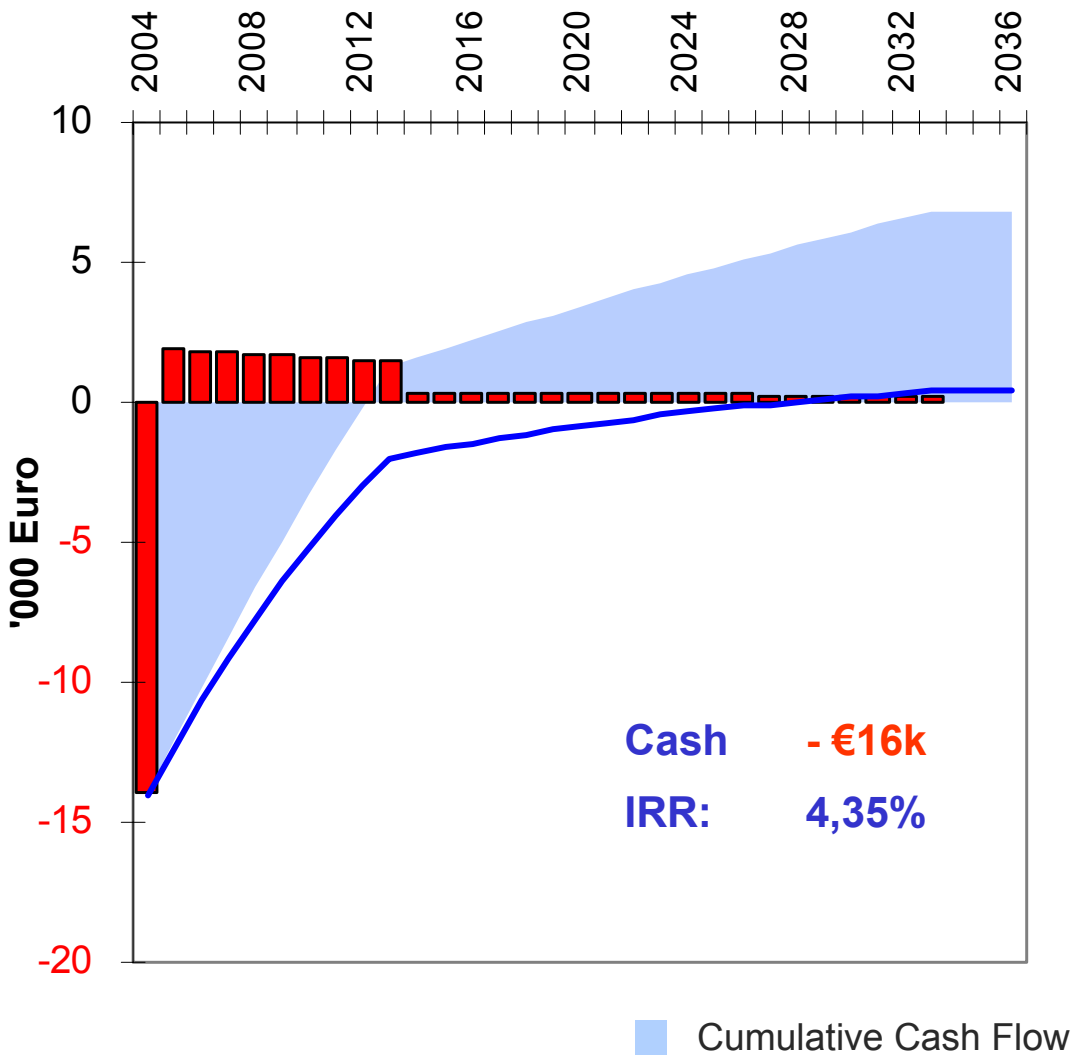
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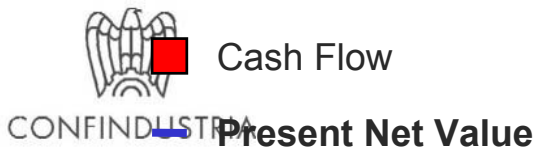
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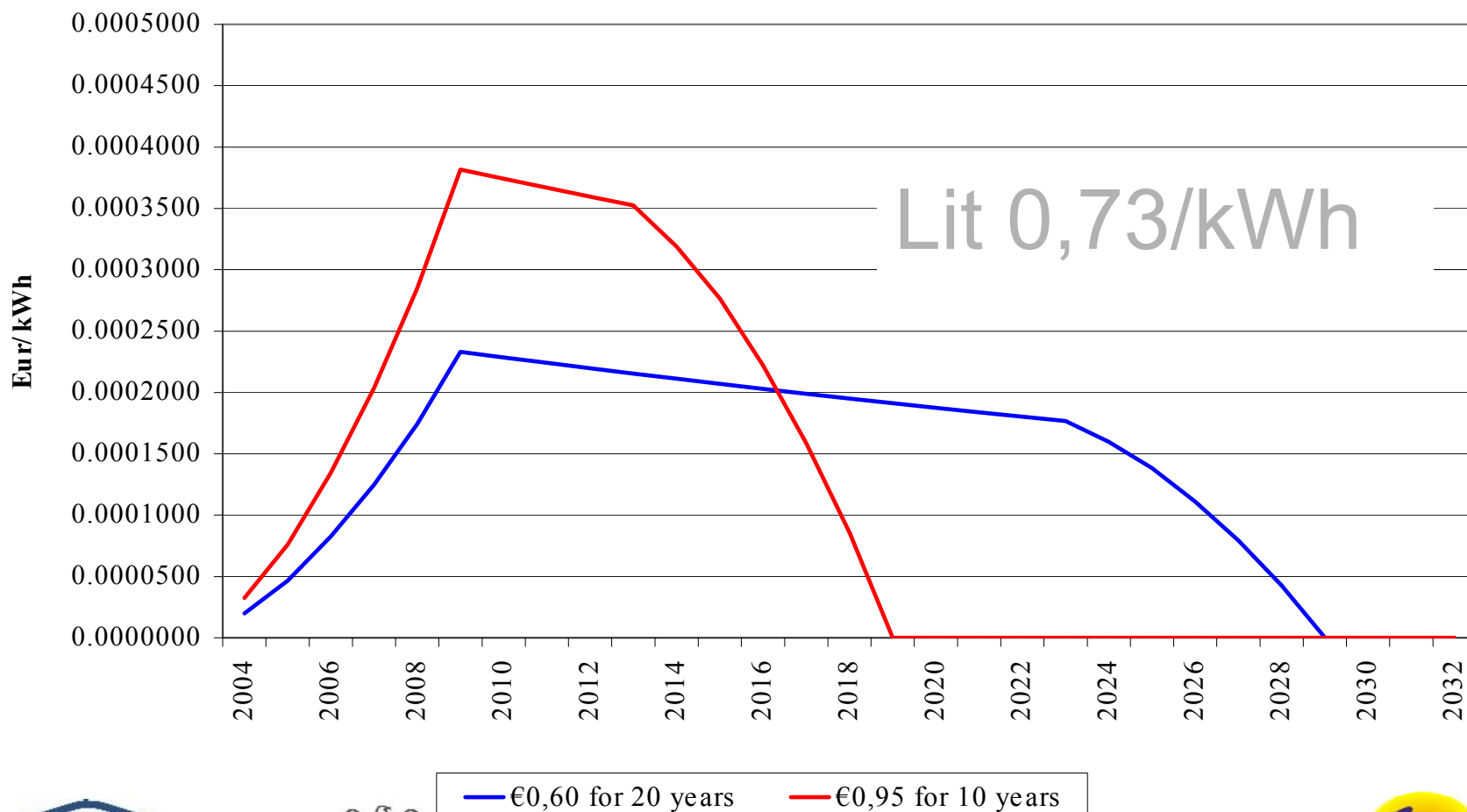


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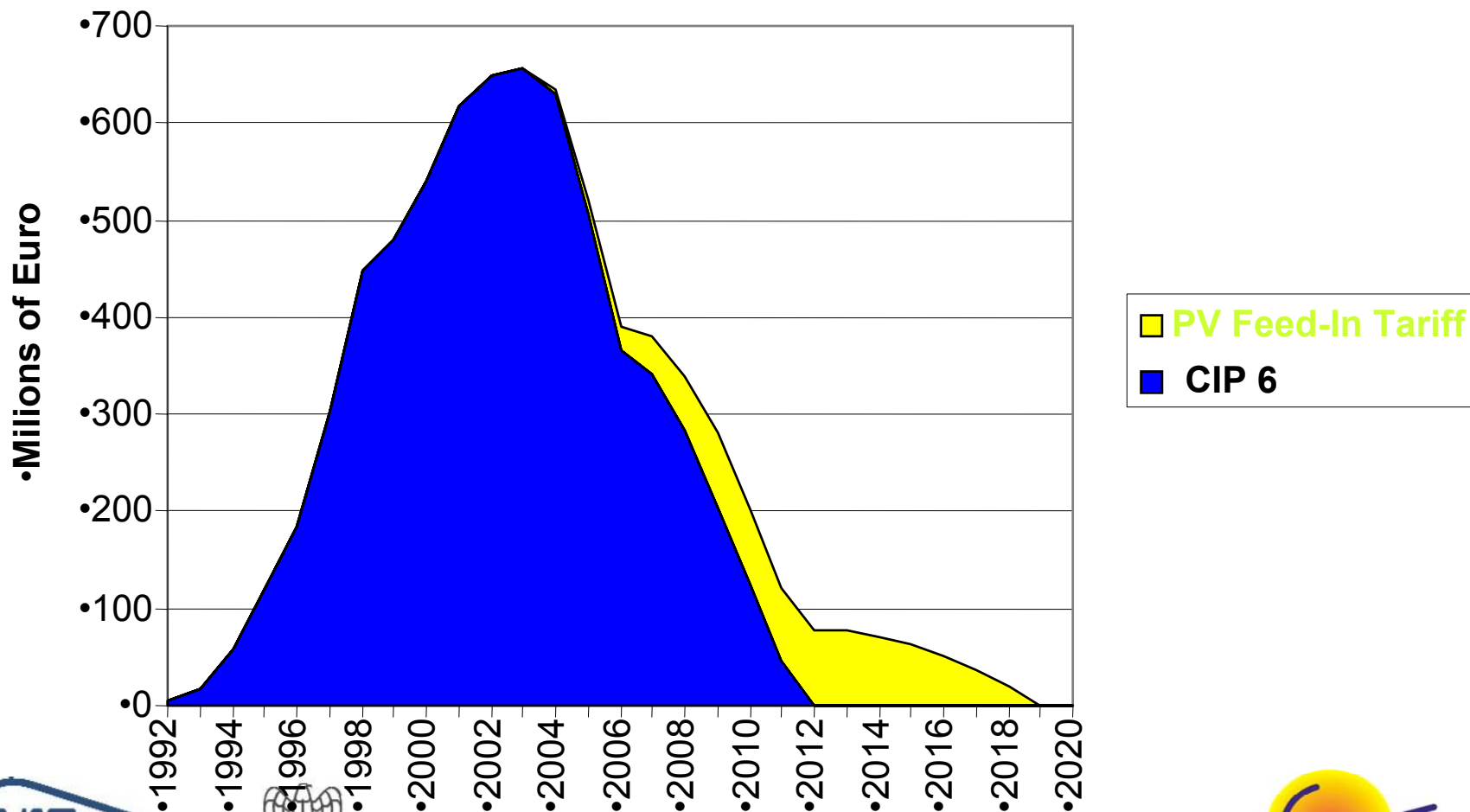


Impact on tariff:

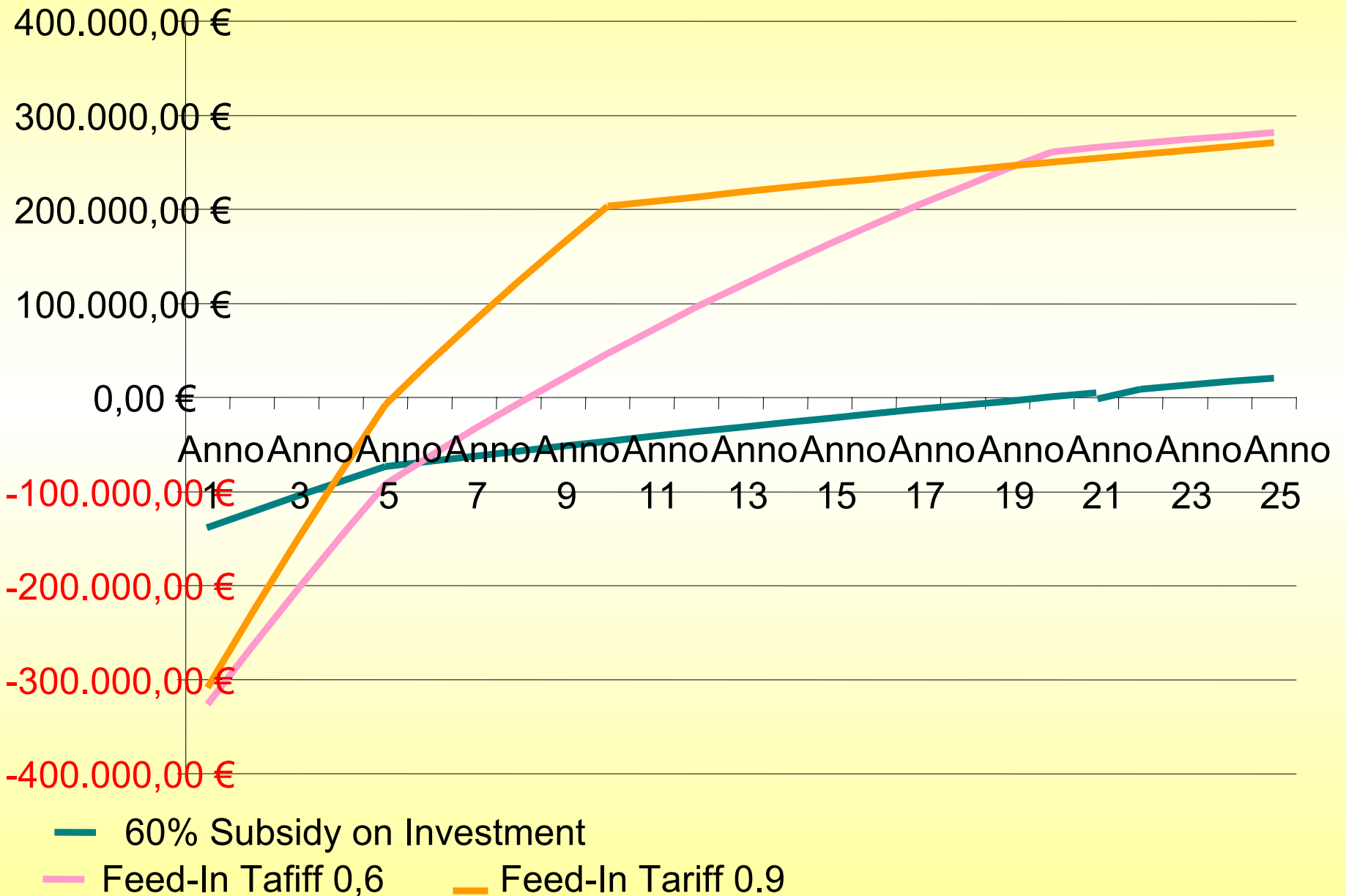
€0,6 for 20 years and €0,95 for 10 years



Resources Needed to Finance Feed-In Tariff Much Lower than CIP6 Natural Reduction



Economics

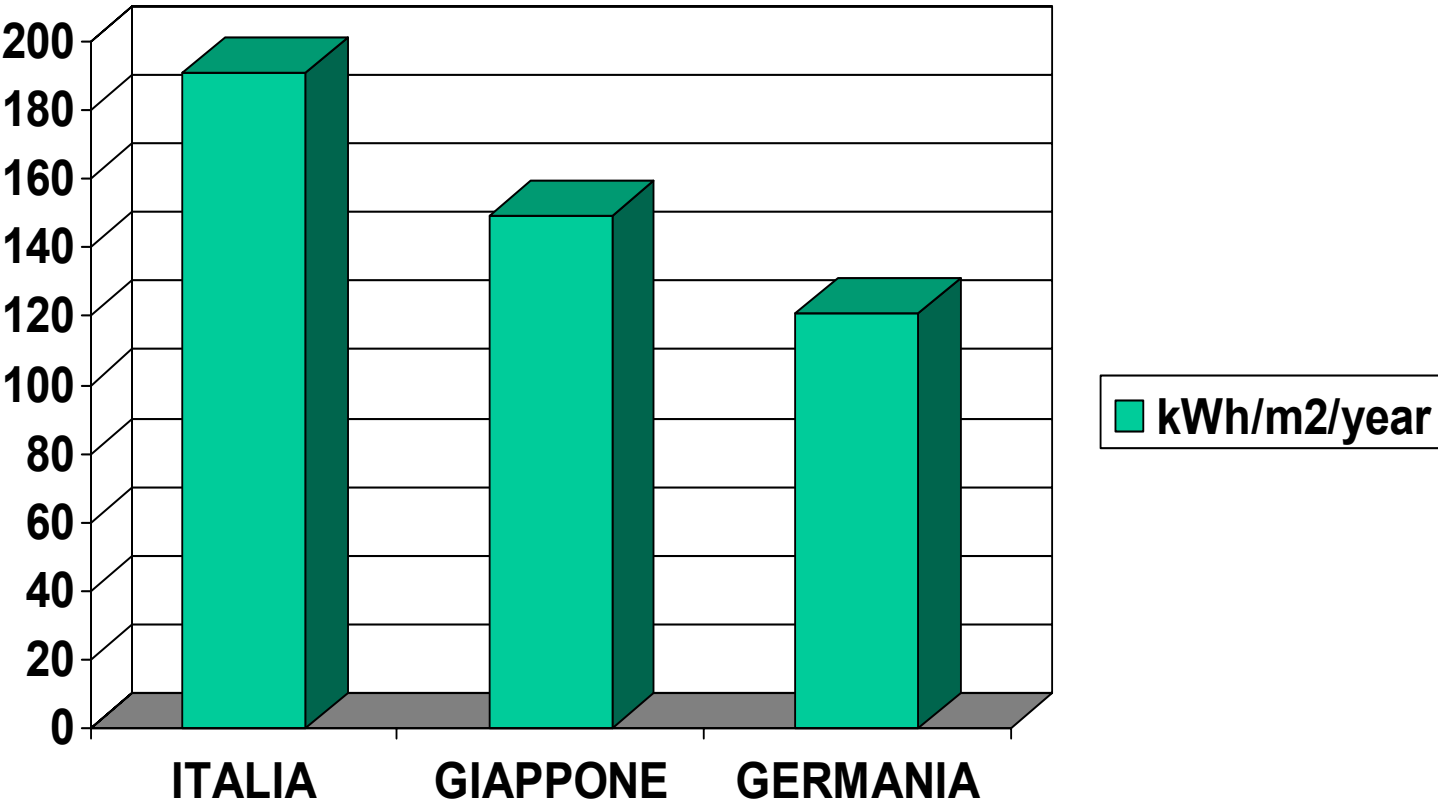


STRENGTH OF ITALIAN PV MARKET

- **High Level of Solar radiation**
- **Large Population**
- **Need of meeting White Paper Targets**
- **Consumers and SME's wish to get engaged and to act in favour of environment / climate**



Solar radiation in Italy, kWh/m²/year



FEED-IN TARIFF DRIVING FORCE FOR FUTURE OF PV IN ITALY-(1)

- **Opportunities Generated by PV**
 - **Environment Minded**
 - **Technology Innovation/Industrial investment**
 - **Direct & Indirect Manpower Increase**
 - **1500 More Employed in 1st year**
 - **Economic Development in Italy's Sunny South**
 - **Growth of Export**
 - **Focal Point vs. Mediterranean Market**
 - **Dependence from Oil imports Reduced on medium terms/Diversification of Energy Sources**



PV = INVESTMENT in the FUTURE (2)

- PV will play a fundamental role for Italian economy in 2020
- GIFI is ready to play his role in this game
- Cooperation of all involved Actors mandatory
 - National & Local Governments
 - PV Operators
 - Industries
 - Building Association

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Future of PV depends on us

IT IS NOW TIME TO TAKE ACTION

