



1st Workshop „RAPIDO
"Rural Areas, People & Innovative Development"
Centro Don Orione Artigianelli, Venice, Italy - 29th-30th November 2007

**EXPERIENCES FROM AGRIENVIRONMENTAL
SCHEMES IN VENETO (IT)**
Meeting multiple environmental targets

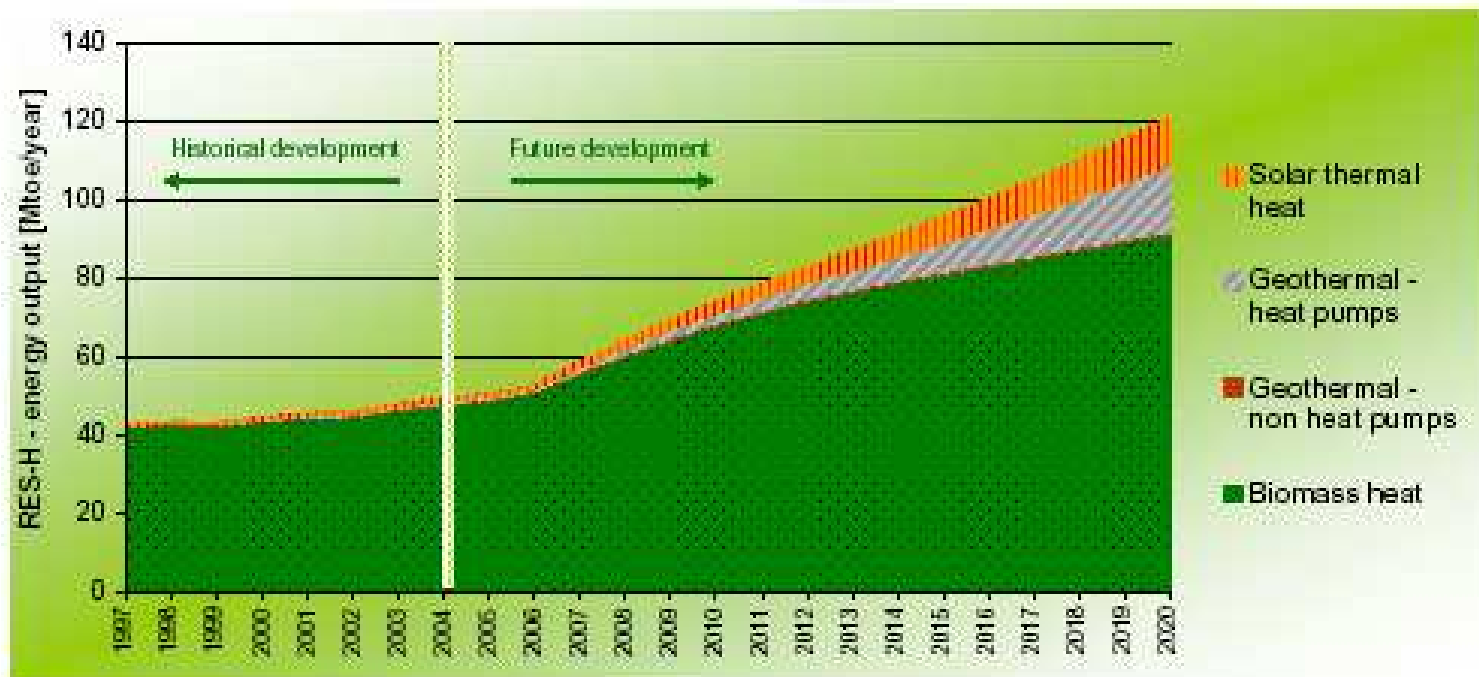
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CONTENT

- Biomass in the European energy system
- Local initiatives for the use of Biomass Energy Systems (BES) in rural area of Veneto
- Agrienvironment measures: past experiences and prospects
- Concluding remarks

PROSPECTS FOR BIOMASS IN THE EUROPEAN ENERGY SYSTEM

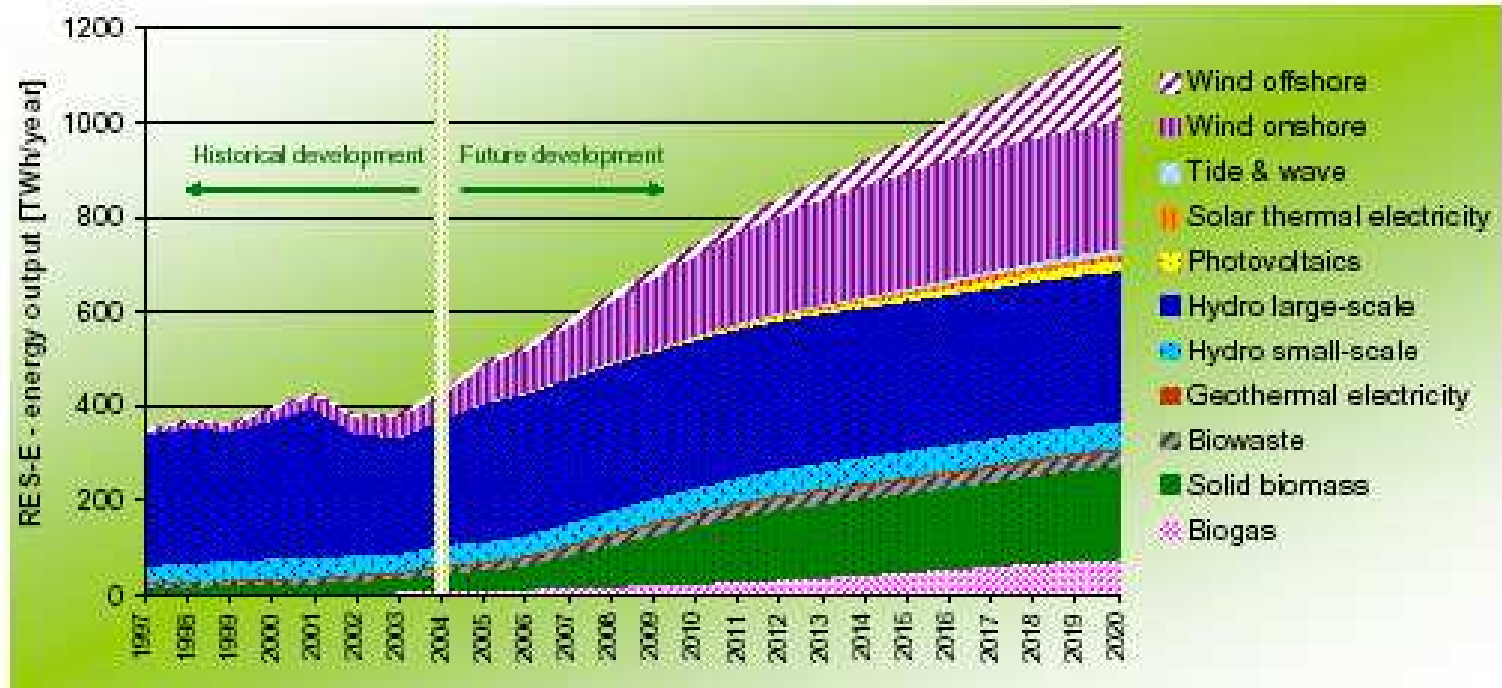
4.4. Renewables Growth: Heating and Cooling Projections up to 2020



Source: European Commission, Renewables Roadmap

PROSPECTS FOR BIOMASS IN THE EUROPEAN ENERGY SYSTEM (2)

4.3. Renewables Growth: Electricity Projections up to 2020



Source: European Commission, Renewables Roadmap


CONVERSION OF BIOMASS AND EFFICIENCY

Conversion	Final Energy	Efficiency
Combustion	Heat	85-90%
Combustion+Steam /Gas	Electricity	25-30%
Fermentation/Este rification	Transport fuels	40-50%
Anaerobic fermentation (biogas)	Heat, electricity, Transport fuels	-

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Anaerobic fermentation (biogas)	Heat Transport	

- Biomass is adaptable concerning production, conversion and utilisation
- 85% of bioenergy comes from wood products (EU25)
- Biomass is used primarily for heat (66%) - (EU25)



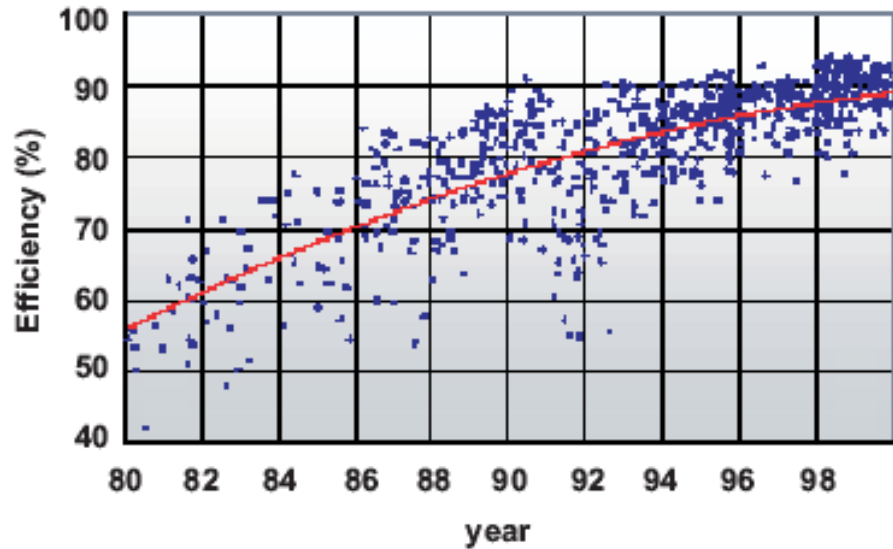
BIO-ENERGY FOR FOSSIL FUEL SUBSTITUTION

- Primary biomass potential is estimated to be technically available without harming the environment, but the interactions between bio-energy production, food self-sufficiency and other environmental objectives need to be further explored
- The bio-energy options are materialising in most MS as a response to energy policy targets (→ EU Renewable Energy Roadmap) and to some other incidental reasons
- Increasing competitiveness on land use at the expenses of more environmentally oriented land use seem to be the likely effects of these new energy options
- QUESTION: The likely increase of renewable energy (and less likely reduction of CO₂ emissions) can compensate the environmental impact on land, water resources and biodiversity?

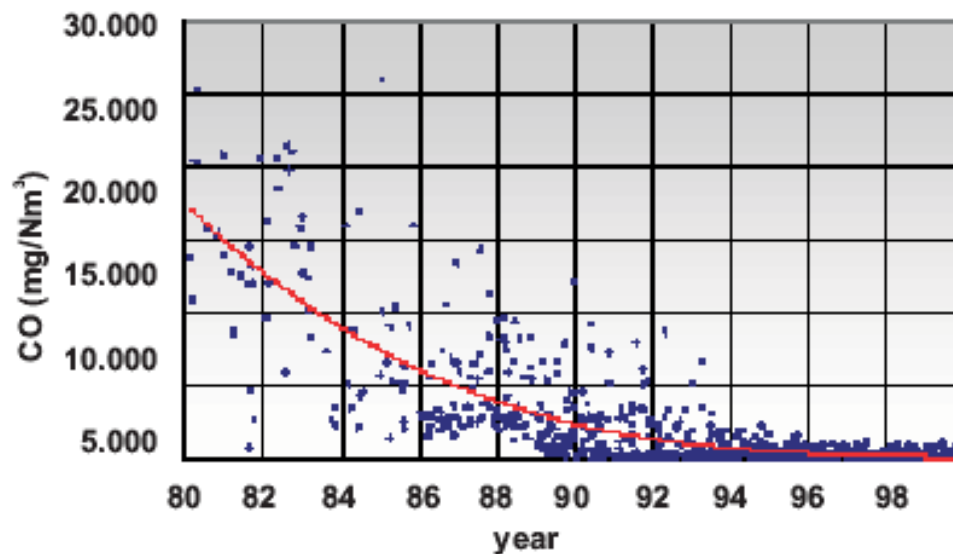
HEAT SECTOR

- Promising results seem to come from the heat and/or heat+power sector. Biomass is a proven and competitive solution
- District heating has big chances in many European regions
- So far no European policy. Different approaches among Member States
- In Italy only indirect support through high taxes on heating oil
- Biomass heat grows slowly (in comparison to other RES) because of the lack of an European legislation on renewable heat

TECHNICAL PROGRESS FOR HEAT GENERATOR



Increasing the caloric efficiency



Abatement of CO₂ and particulate emissions

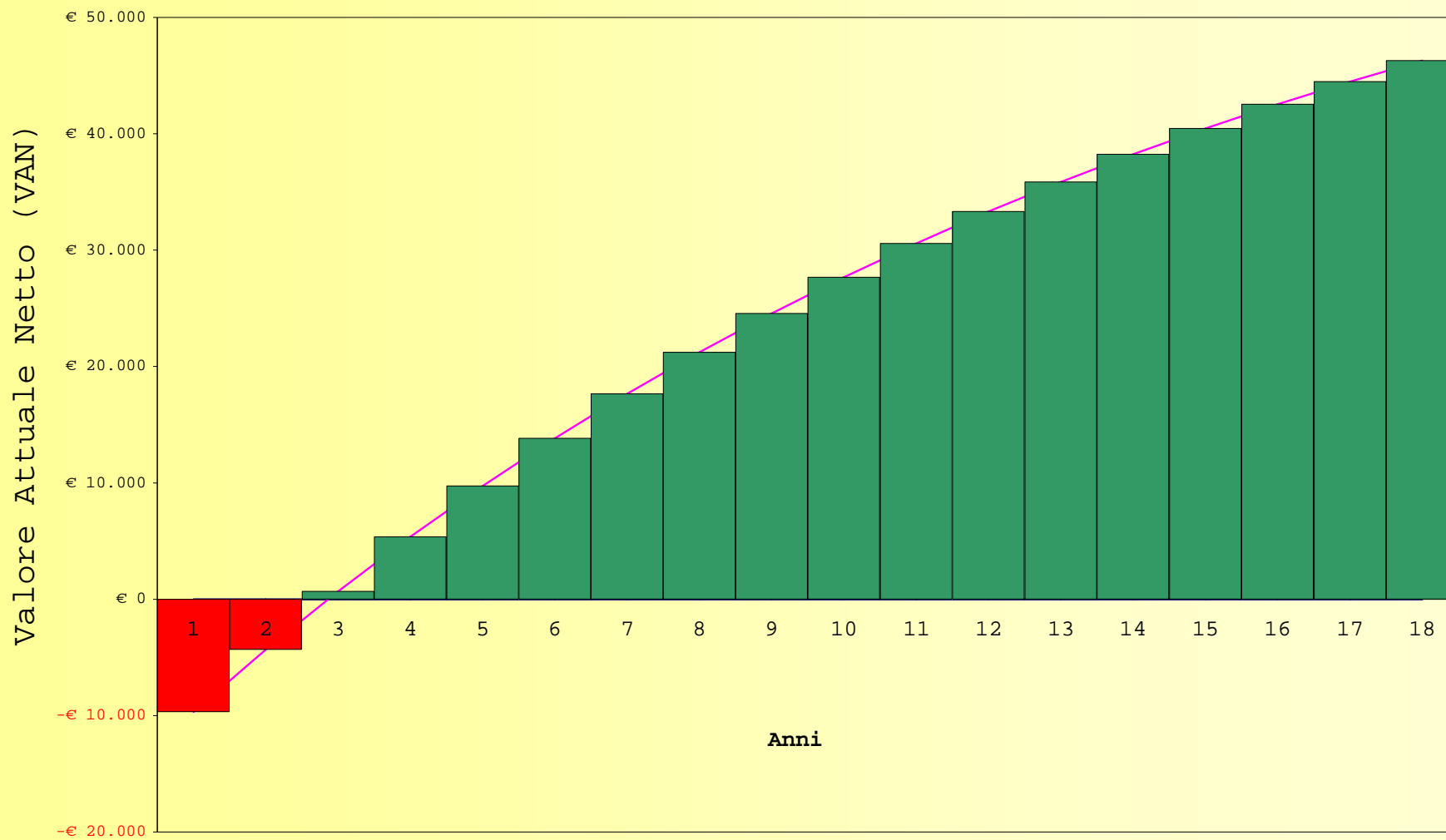
LOCAL INITIATIVES FOR THE USE OF BES IN RURAL AREAS OF VENETO

- Three examples provided by AIEL (Italian Association for Agroforestry Energy)



AZIENDA AGRICOLA PAOLO REFFO – DOLO (VE)





Azienda agrituristica Bettella autoconsumo a CIPPATO

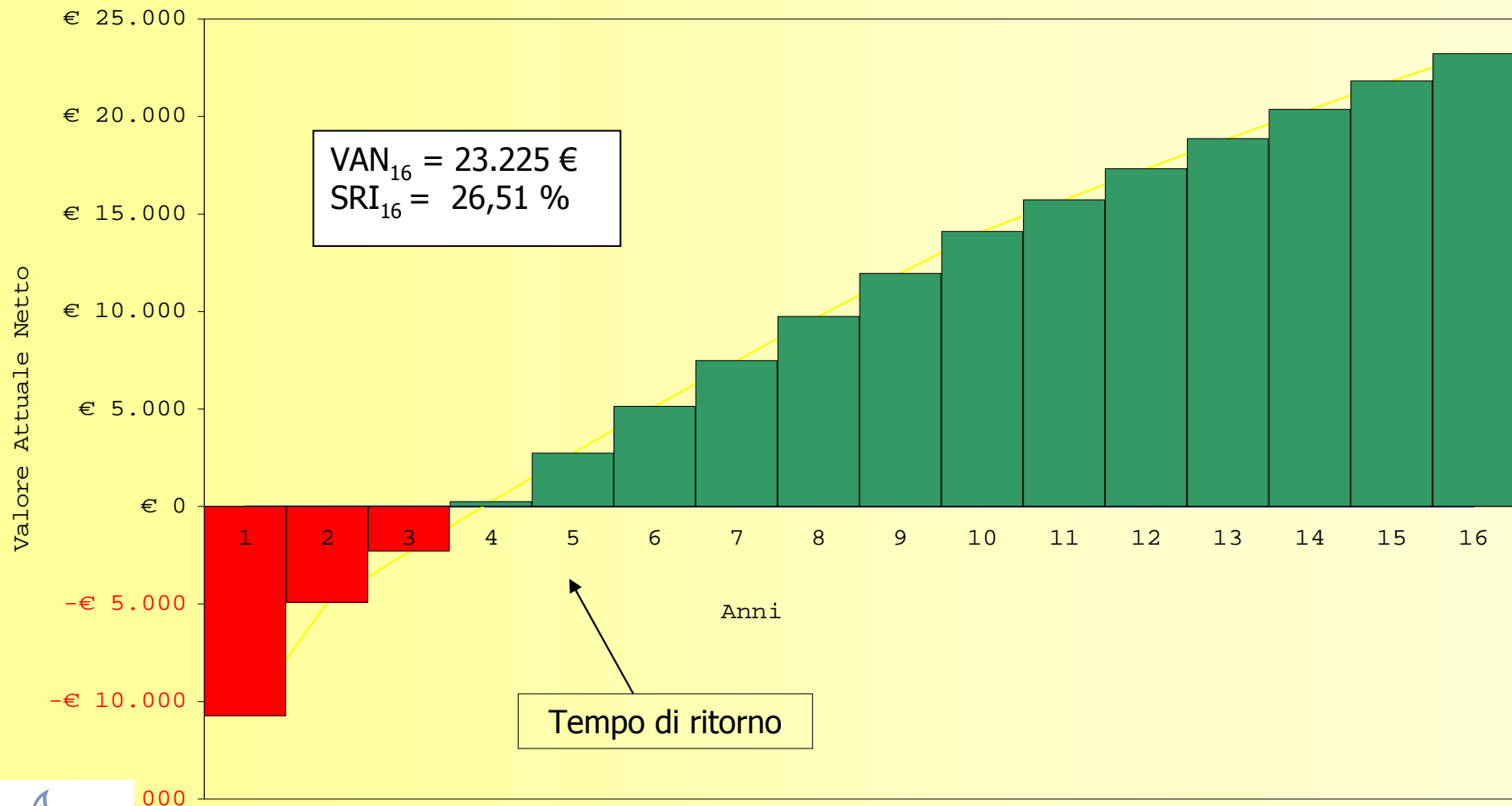
Potenza caldaia: 55-65 kW – Consumo annuo cippato: 27,5 t

Volume riscaldato: 680 m³ – Volume accumulo termico: 3000 l.



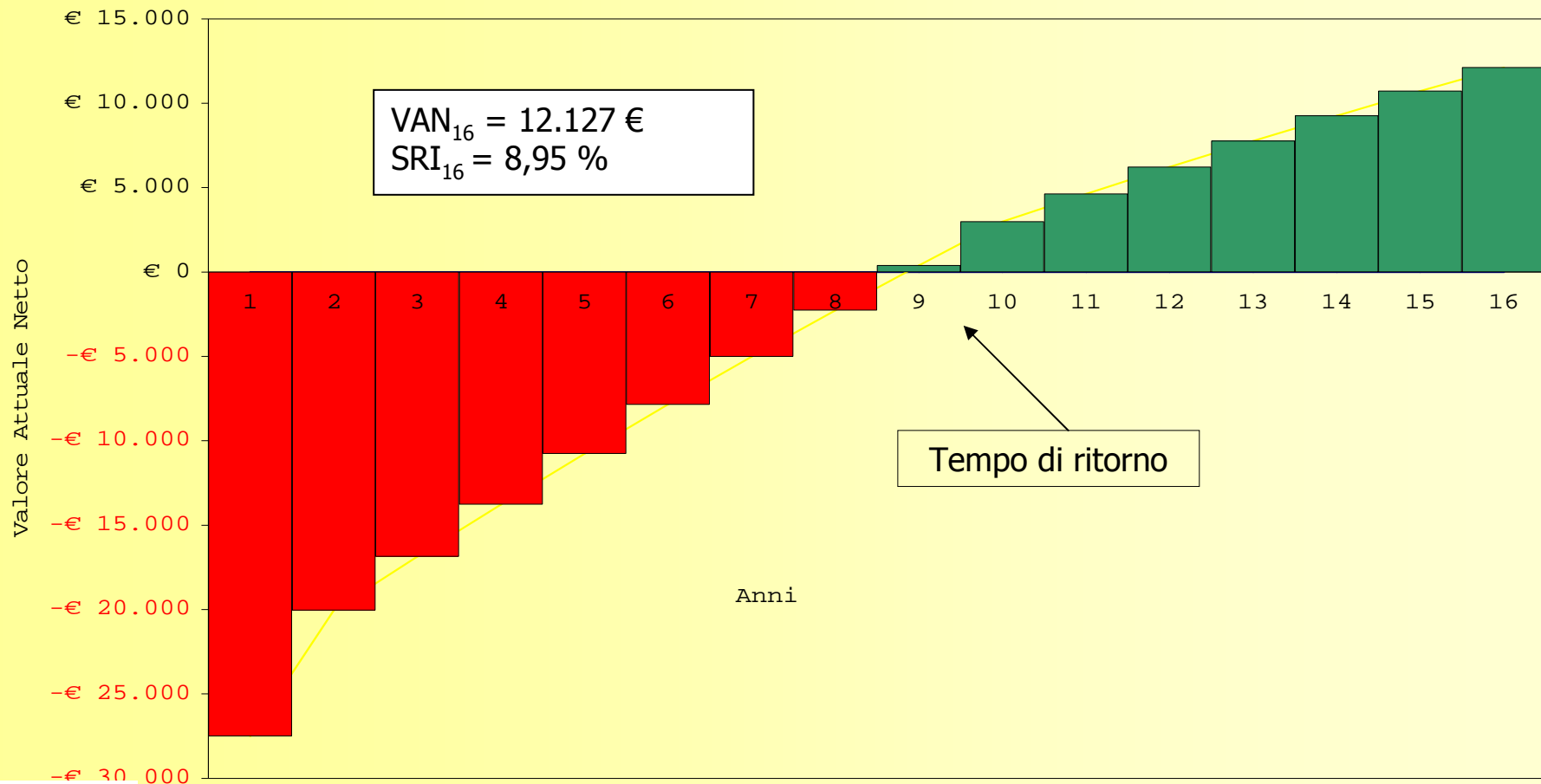
L'INVESTIMENTO NEL TEMPO

Ipotesi reale: 50% contribuzione



L'INVESTIMENTO NEL TEMPO

Caso ipotetico: senza contribuzione



Azienda agrituristica Gargan

Autoconsumo a CIPPATO e vendita del calore

Potenza caldaia: 45 kW – Consumo annuo cippato: 32,5 t

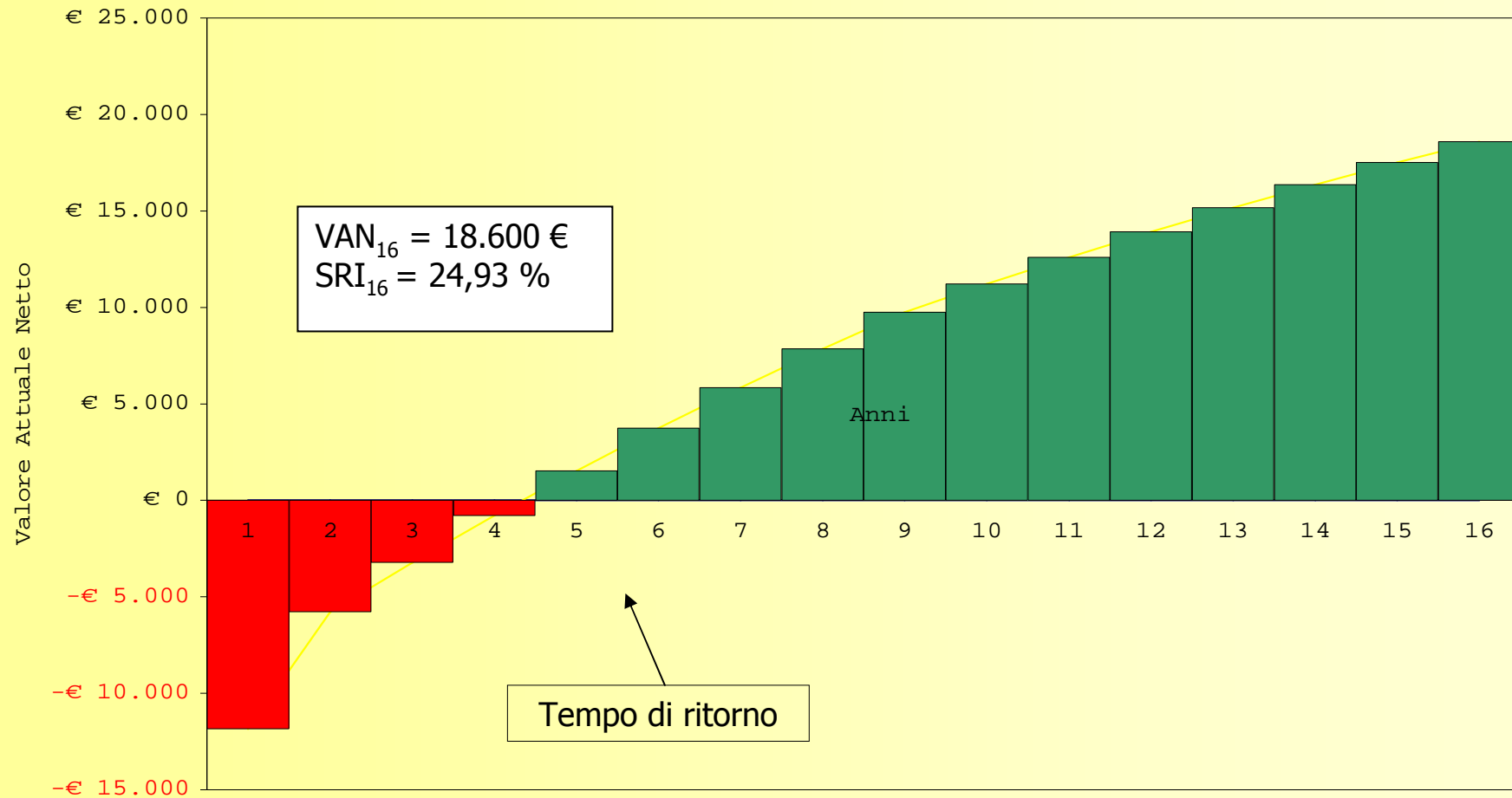
Volume riscaldato: 1560 m³ – Accumuli termici: 1300 l.

Rete distribuzione: 120 metri, 3 utenze - Prezzo energia venduta: 40 €/MWh er.



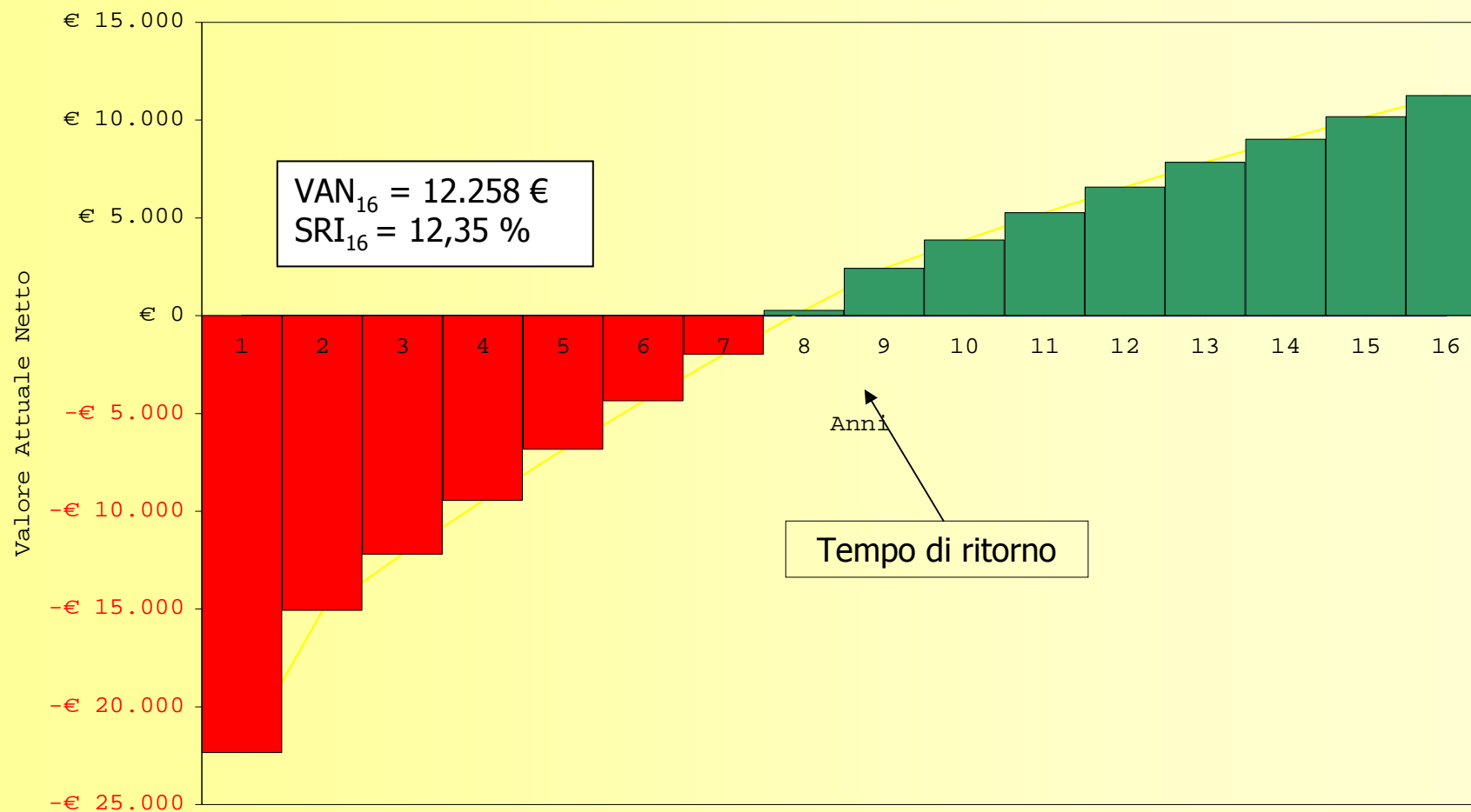
L'INVESTIMENTO NEL TEMPO

Ipotesi reale: 38,6% contribuzione



L'INVESTIMENTO NEL TEMPO

Caso ipotetico: senza contribuzione





AGRIENVIRONMENT MEASURES: PAST EXPERIENCES AND PROSPECTS

- The diffusion of "buffer strips" along waterways began in 1989 in the Veneto region, based on the R&D activities of Veneto Agricoltura (Regional Agricultural and Rural Development Agency, public body)
- From 1990-1994 there was a period of intense awareness and lobbying of the Consorzi di Bonifica ("Drainage Authorities") of the region, based on information, technical assistance and the carrying-out of pioneering work.
- The use of hedges as buffer strips is spreading through the plains of northern Italy, thanks to reg.2078/92 and Agenda 2000 financial provisions
- Further development is expected with the new Rural Development Plans

WHO ARE THE ACTORS?

- Farmers / Forest owners and entrepreneurs:
 - new income opportunity
 - new multifunctional role
- Technical Services Agencies (Veneto Agricoltura as public body; AIEL as private body):
 - intermediate role of aggregation of the supply
 - distribution of information and technical knowledge
- Local/Regional Governments:
 - creation of interest
 - financial provision for supporting specific actions

CONCLUDING REMARKS

- The raising of oil price could have created the premise for more cost effective measures in biomass production sector
- Full life-cycle assessment is needed to account the whole CO₂ balance of land use changes and the impact on water protection, land conservation and biodiversity decline
- The increase of RES should be (at least) neutral in terms of environmental impact but the presence of positive environmental side-effect might guarantee some specific support additional to the ones provided by energy policy
- BES are sustainable (even from an economic point of view) when the implementation of the plants takes into account the carrying capacity of the local territory to provide the needed biomass