



The Abdus Salam
International Centre for Theoretical Physics



**ICTP Experts Meeting on "Science & Renewable Energy"
January 15 - 18, 2007**

Venue: ICTP Adriatico Guest House - Lundqvist Lecture Hall

310/1905

"The Italian Engagement on Renewables"

F. Fabbri

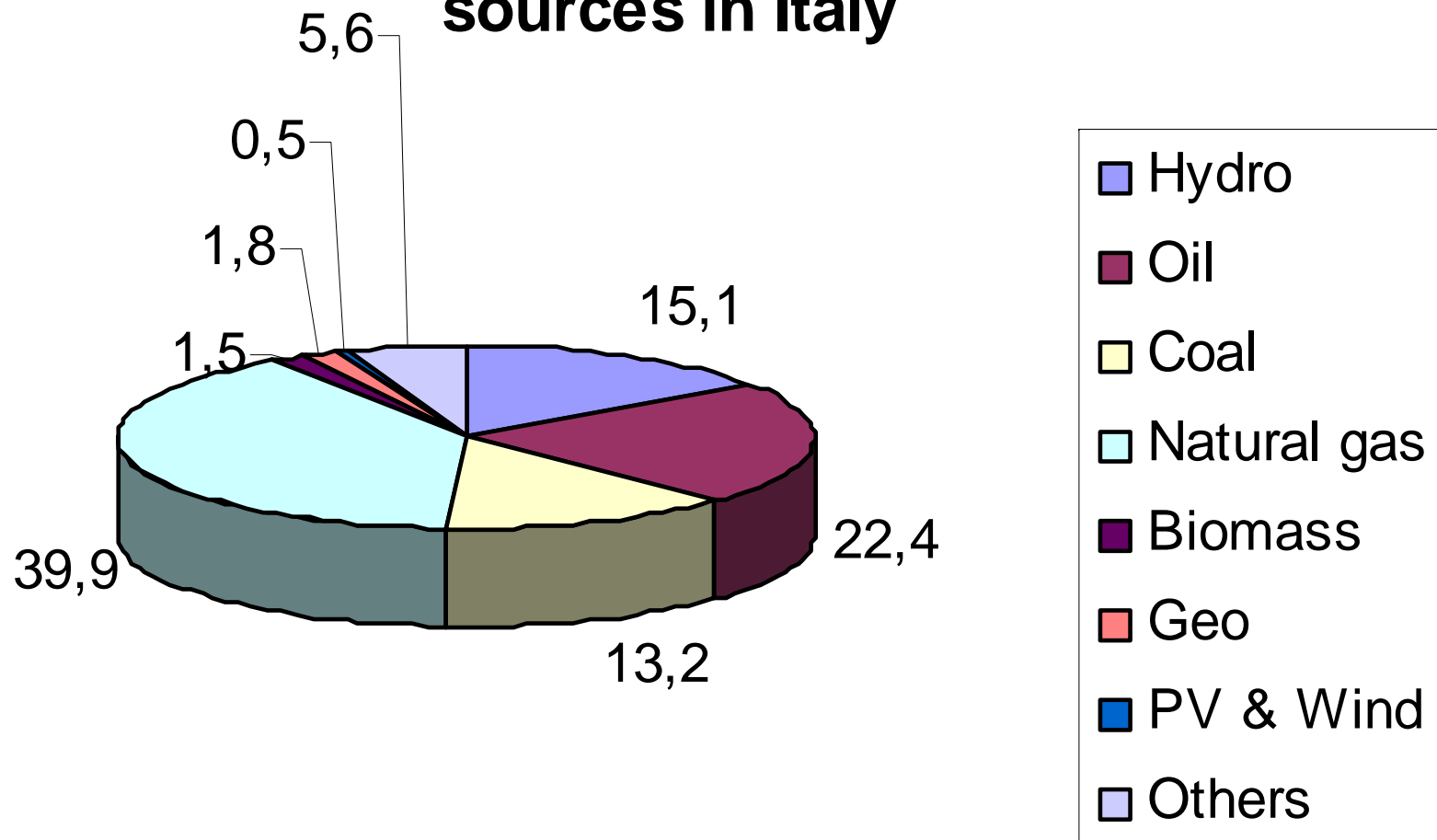
Italian Ministry of the Environment, Land & Sea

ITALIAN ENGAGEMENT ON RENEWABLES

Dr. Fabrizio Fabbri
Minister's Head Technical Secretary's Office
Ministry of Environment, Land and Sea

Trieste, 15-18 January 2007

% share of electricity production by sources in Italy

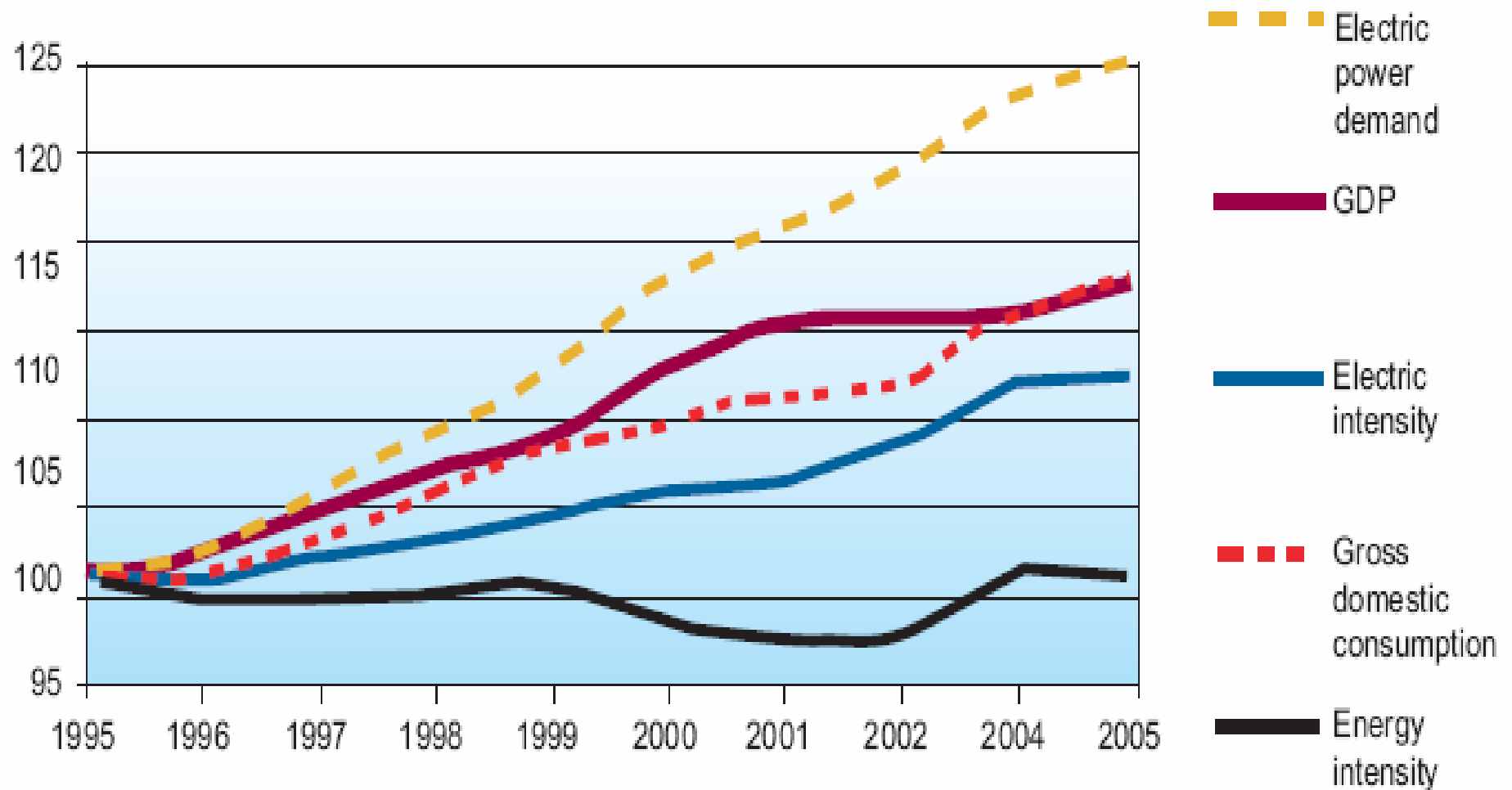


OIL PRICE



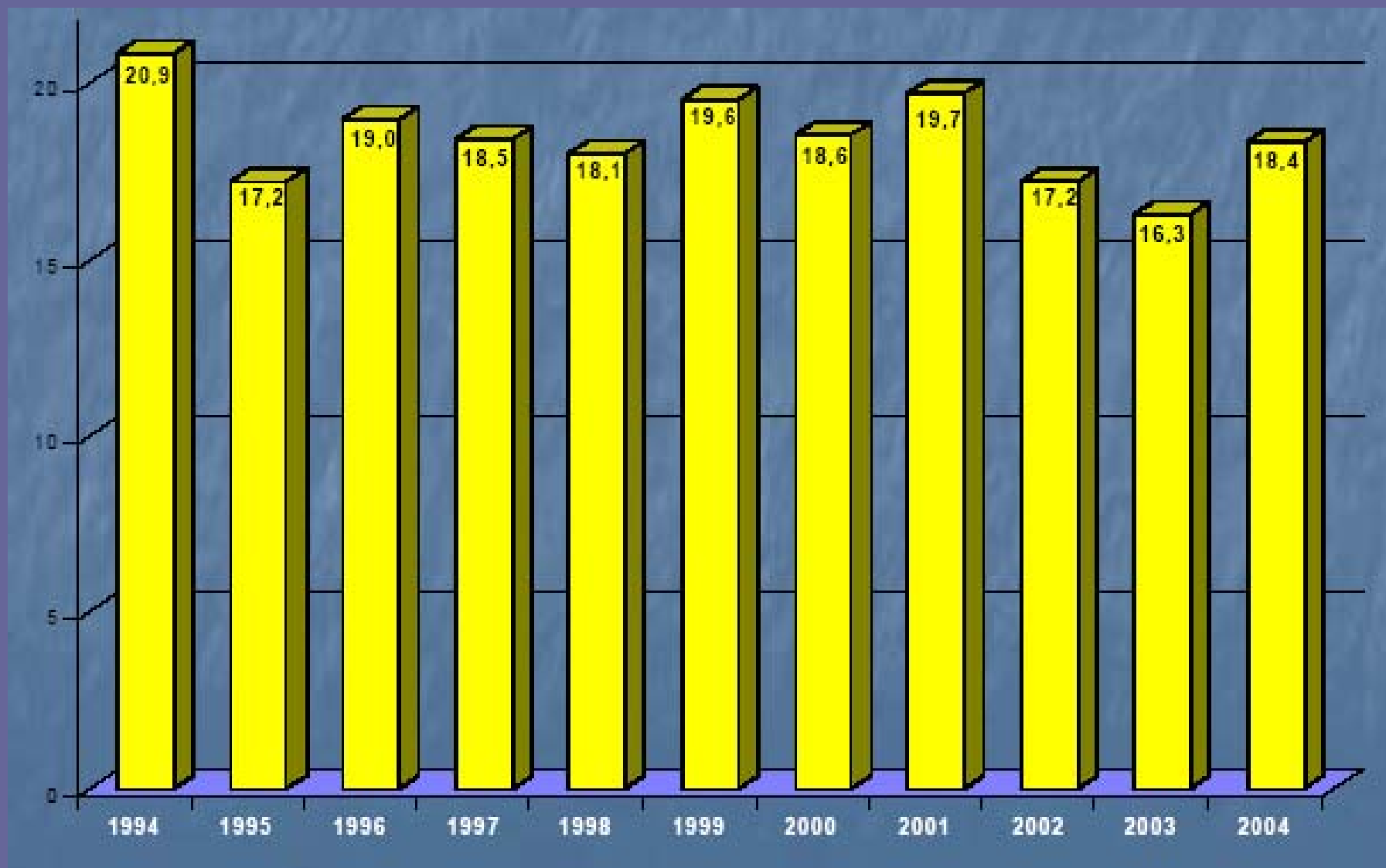
Source: ENEA processing on DOE and IEA data

ENERGY INTENSITY



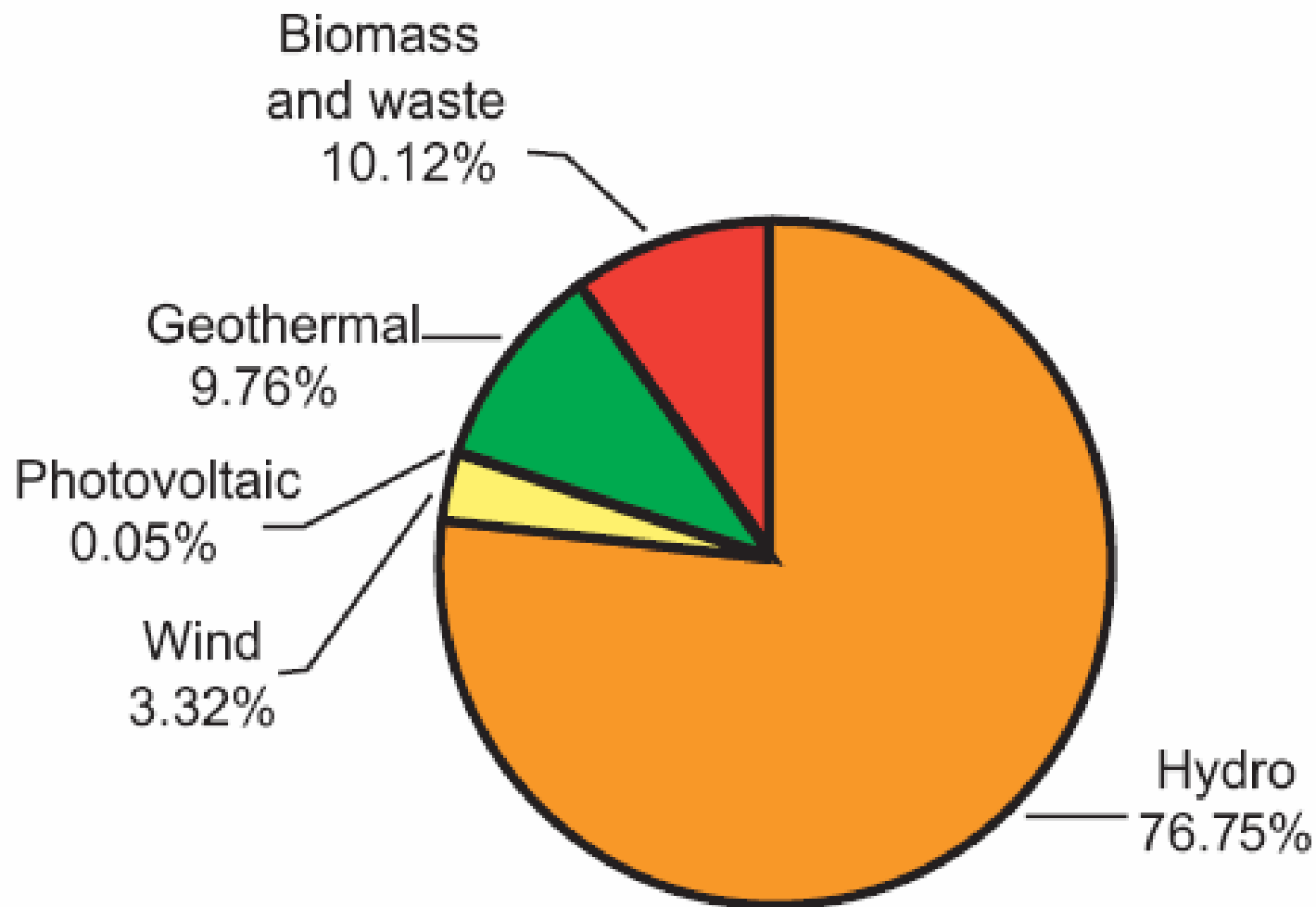
Source: ENEA processing on MAP data

RENEWABLES VS TOTAL ENERGY PRODUCTION (% RATIO)



Source: ENEA processing on MAP data

SHARES BY SOURCES IN RENEWABLE NRG PRODUCTION



GEOGRAPHIC DISTRIBUTION OF RENEWABLES IN ITALY (GROSS INSTALLED POWER)

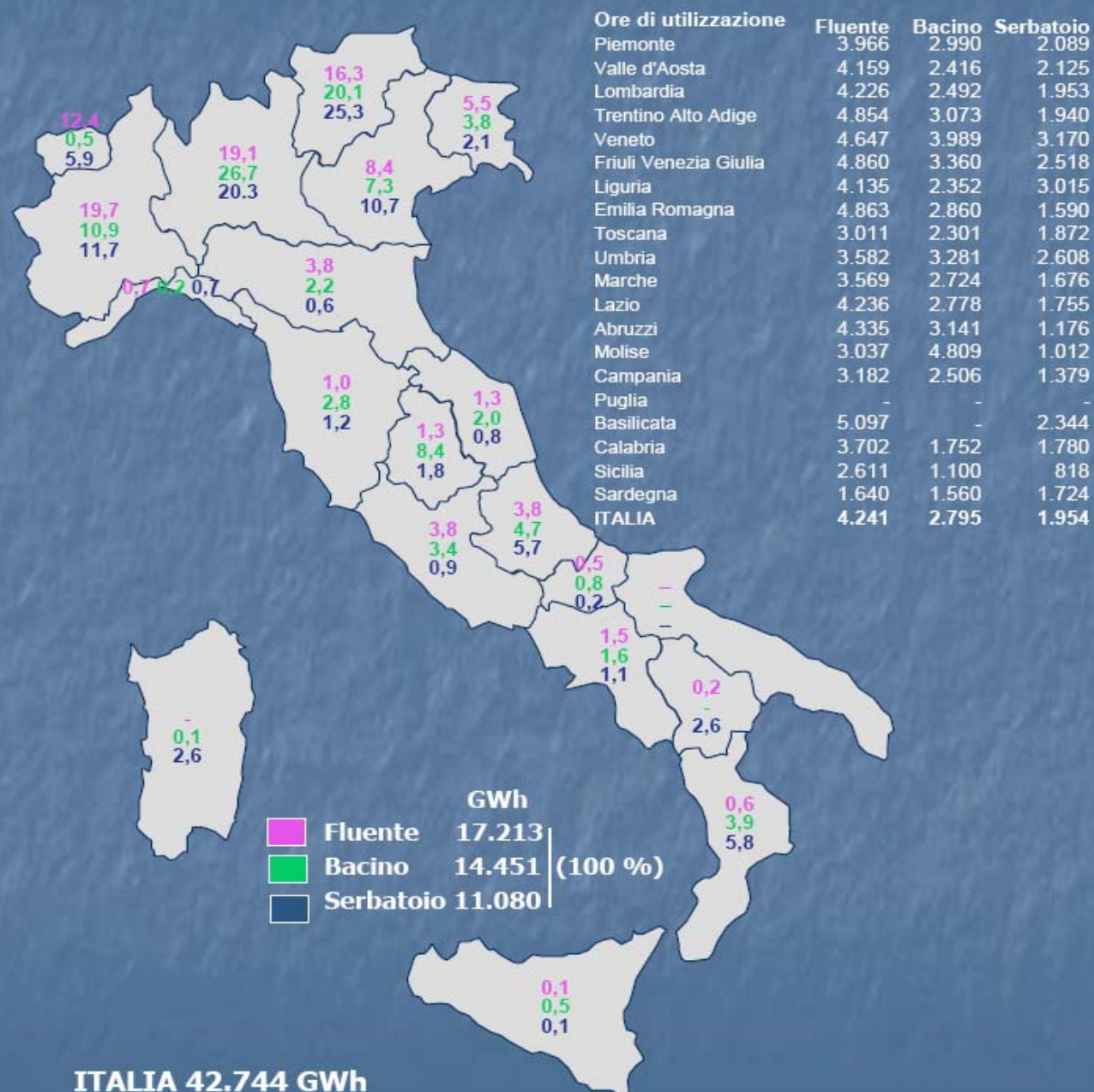
■ Idrica
■ Biomasse e rifiuti
■ Eolica
■ Geotermica

Potenza totale		
Regione	MW	Quota
Piemonte	2.251,4	11,1%
Valle d'Aosta	850,9	4,2%
Lombardia	5.171,3	25,6%
Trentino Alto Adige	3.031,0	15,0%
Veneto	1.188,7	5,9%
Friuli Venezia Giulia	472,8	2,3%
Liguria	237,1	1,2%
Emilia Romagna	480,9	2,4%
Toscana	1.090,9	5,4%
Umbria	532,0	2,6%
Marche	223,0	1,1%
Lazio	469,9	2,3%
Abruzzi	1.127,7	5,6%
Molise	139,2	0,7%
Campania	637,3	3,2%
Puglia	335,9	1,7%
Basilicata	211,5	1,0%
Calabria	814,3	4,0%
Sicilia	314,0	1,6%
Sardegna	642,2	3,2%
ITALIA	20.222,0	100,0%

% SHARE OF WIND NRG ON REGIONAL SCALE



% SHARE HYDRO GROSS PRODUCTION



% SHARE OF NRG FROM BIOMASS



ECONOMIC EVALUATION OF ELECTRICITY BY RENEWABLES

- WIND IS ALREADY COMPETITIVE WITH THE ONGOING COST OF OIL
- BIOFUELS ALMOST COMPETITIVE
- GEOTHERMAL IS COMPETITIVE WITH OIL AT 80 USD/BARREL
- MINI HYDRO COMPETITIVE WITH OIL AROUND 90 USD
- PV COSTS 10 TIMES THE ELECTRICITY FROM FOSSIL FUELS

THERMAL ENERGY FROM RENEWABLES

- THERMAL SOLAR ALREADY COMPETITIVE
- BIOFUELS SLIGHTLY COMPETITIVE
- GEOTHERMAL COMPETITIVE WITH OIL AT 80 USD/BARREL

INCENTIVES TO RENEWABLES

- GREEN CERTIFICATE FOR 8 YRS TO ELECTRICITY PRODUCED BY RENEWABLES
- SPECIFIC AIDING PROGRAMMES (THERMAL & PV SOLAR AT SCHOOL, SUN ON THE JAILS, 50% OF THE COST OF PLANT REIMBURSED TO LOCAL PUBLIC AUTHORITIES)

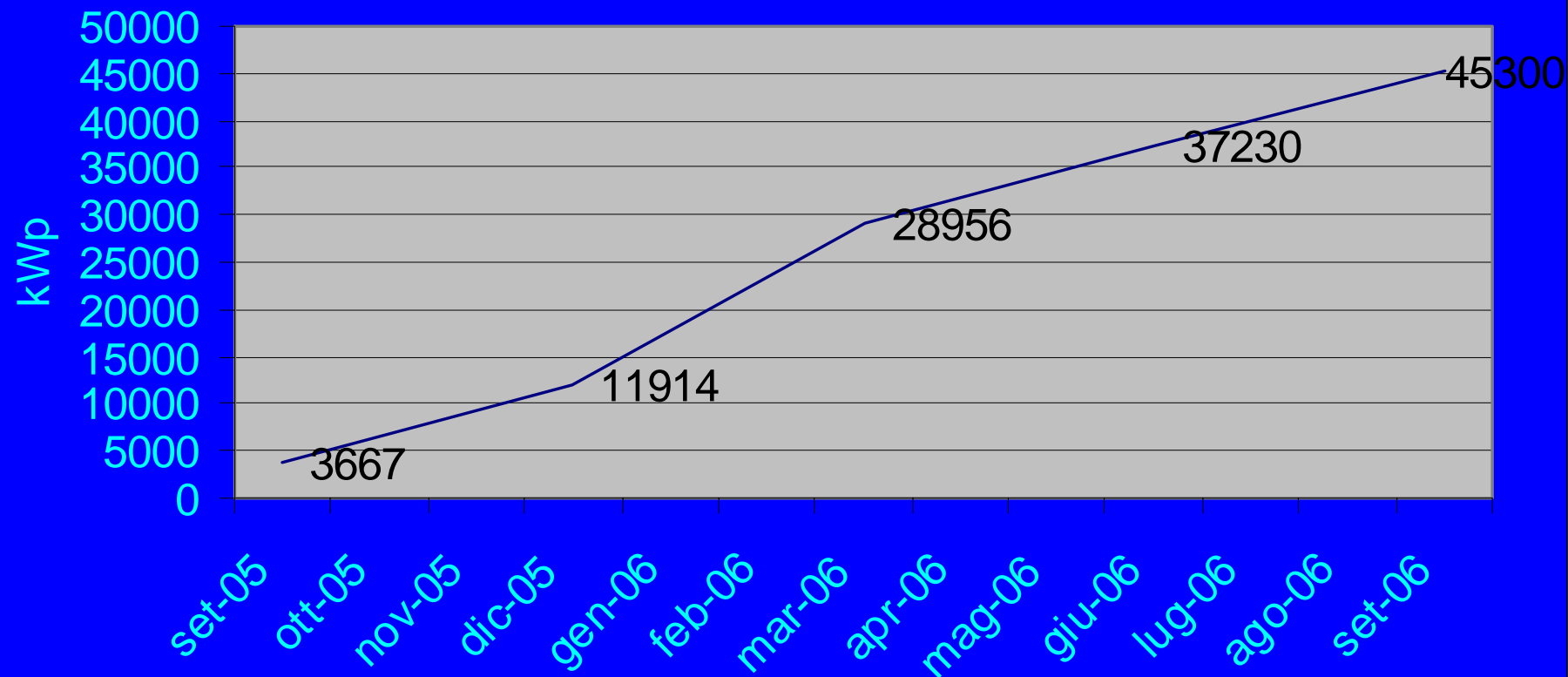
THE ITALIAN SYSTEM FEED IN TARIF FOR PV

- 1-20 kWp 0.445 c€/kWh NET METERING
» 0.46 FEED IN
- 20-50 kWp 0.46 FEED IN
- 50-1000 kWp 0.49 (AUCTIONING SYSTEM)
- 1,500 €/kWp AS GUARANTEE FOR PLANT OVER 50 kWp
- GRADING SYSTEM FOR APPLICANTS

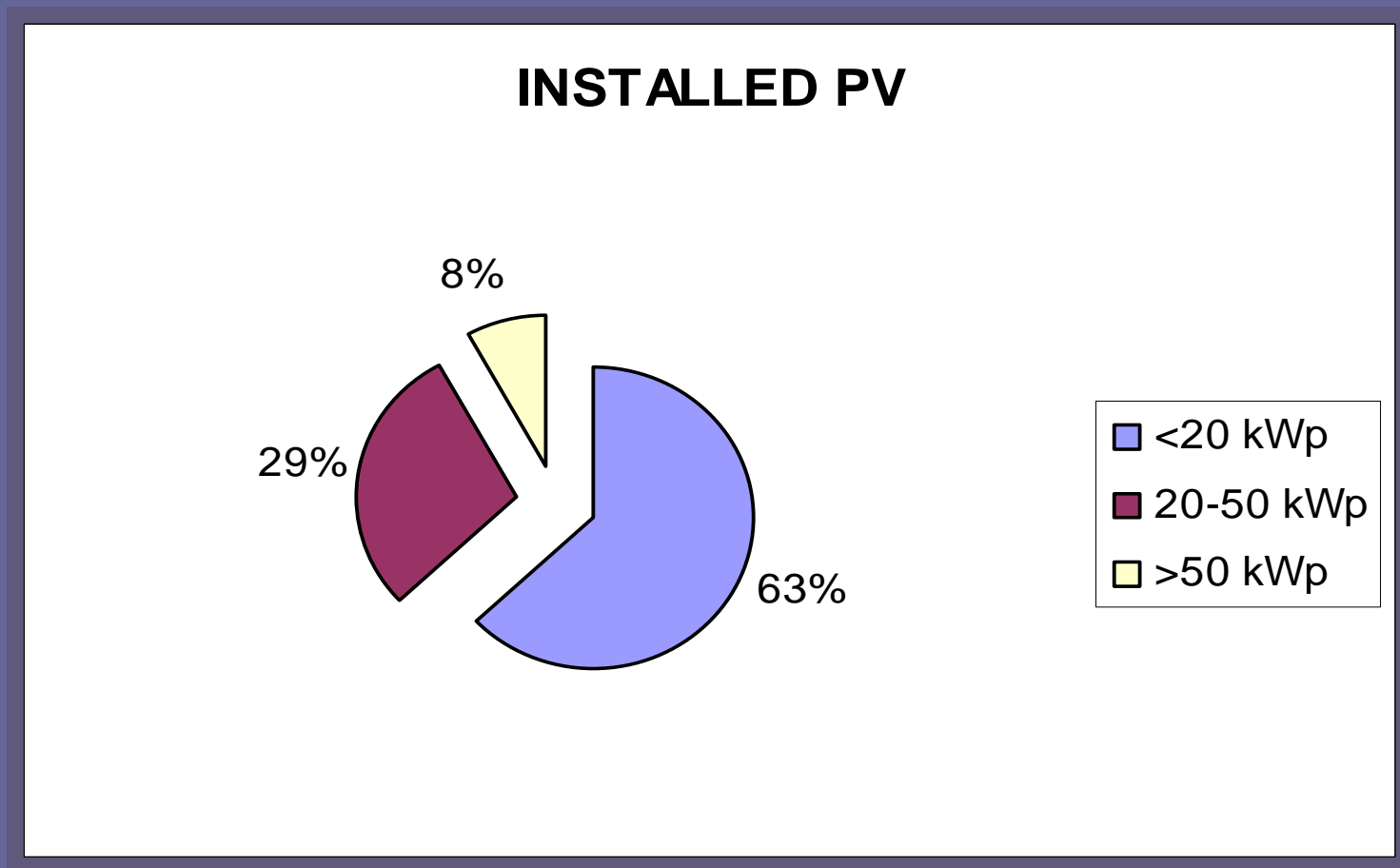
THE ITALIAN SYSTEM OF FEED IN TARIF FOR PV

- THE FIRST DECREE ALLOWED A MAXIMUM CUMULATE POWER OF 100 MW
- THE SECOND DECREE RAISED THE CUMULATE POWER TO 500 MW BY 2012 WITH A ANNUAL ALLOWANCE OF 85 MW (60 MW 1-50 kWp + 25 >50 kWp)

CUMULATIVE TREND OF APPLICATION TO FEED IN TARIF



- UP TO NOW 6.12 MW HAS BEEN INSTALLED
- BY 2007 IS EXPECTED TO RAISE TO 112.3 MW



NEW INCENTIVES TO RENEABLES

- NEW FEED IN TARIF SYSTEM WITH AN OVERALL GOAL OF 2,000 MW BY 2012 WITH A CUMULATIVE POWER ALLOWED OF 1,250 MW
- TARIFF AIMED AT PROMOTING THE SMALL INTEGRATED PV PLANTS
- NO OTHER CONSTRAINS

NEW INCENTIVES TO RENEABLES CONTAINED IN THE NATIONAL BUDGET LAW

- 55% TAX-DEDUCTIBLE OF COST FOR RENEWABLES APPLICATION AT HOME
- 200 M€/YR OVER 3 YRS TO BE GIVEN AS LOW PASSIVE INTEREST LOANS (ca 2%) TO SMALL PV PLANT
- 250,000 TONS OF BIOFUEL (20% OF FUEL TAX APPLIED)

CONCLUSION

- INTEGRATED POLICY TO REDUCE ENERGY DEMAND AND TO IMPROVE THE EFFICIENCY
- START THE DIFFUSE POWER GENERATION EVEN USING SOME FOSSIL FUEL (i.e. NATURAL GAS IN TRIGENERATIVE PLANT)
- INCENTIVATE THE R&D ON RENEWABLES
- USE ALL EXISTING POTENTIALITIES