SCENARIOS FOR 2030: GROWTH OF RENEWABLES AND DEMAND AND ENERGY EFFICIENCY?

Ao. Univ. Prof. Dr. DI.

Reinhard HAAS

Institut für Elektrische Anlagen und Energiewirtschaft, TU Wien

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SURVEY

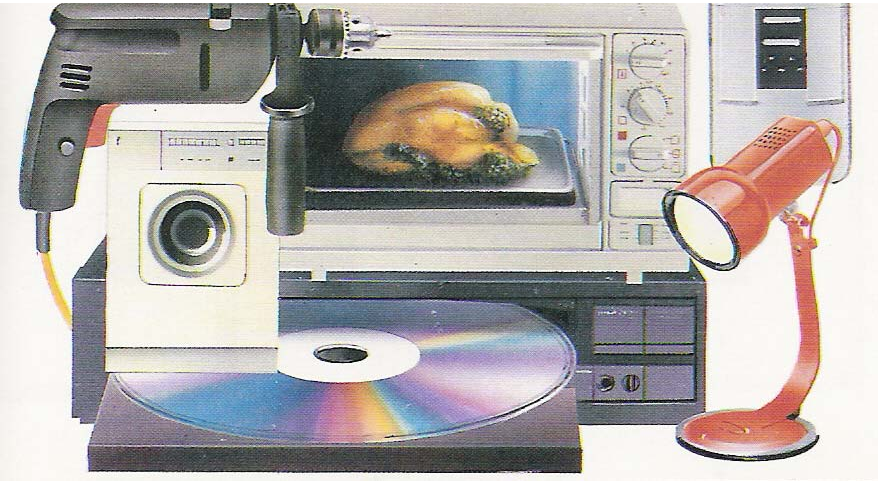
1. Introduction
2. Worldwide trends of RES and energy consumption
3. Developments in the EU and Austria
4. Why is energy consumption increasing?
5. Future perspectives
6. Conclusions

1. INTRODUCTION

Why are we here today?

- Energy is the fundament of our standard of life today
- Every second of our life – even in deep sleep – we „consume“ energy

- Dramatic increase in energy consumption in recent years!
- Dramatic increase in energy consumption in the next decades expected!

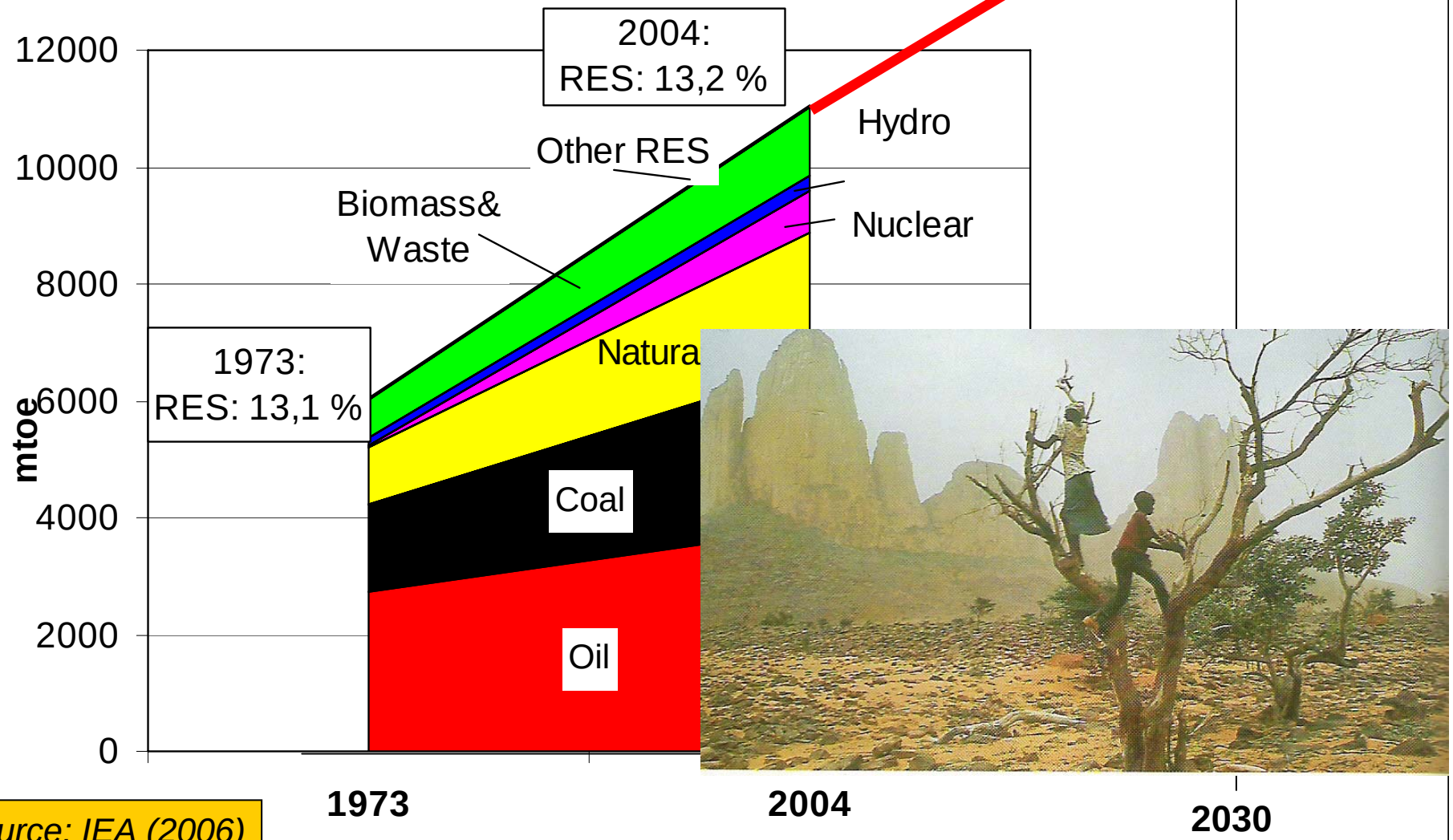


The basic concept of providing energy services

- There is no interest to consume energy. There is a demand for energy services: clean shirts, warm and bright rooms, cold beer, hot coffee.

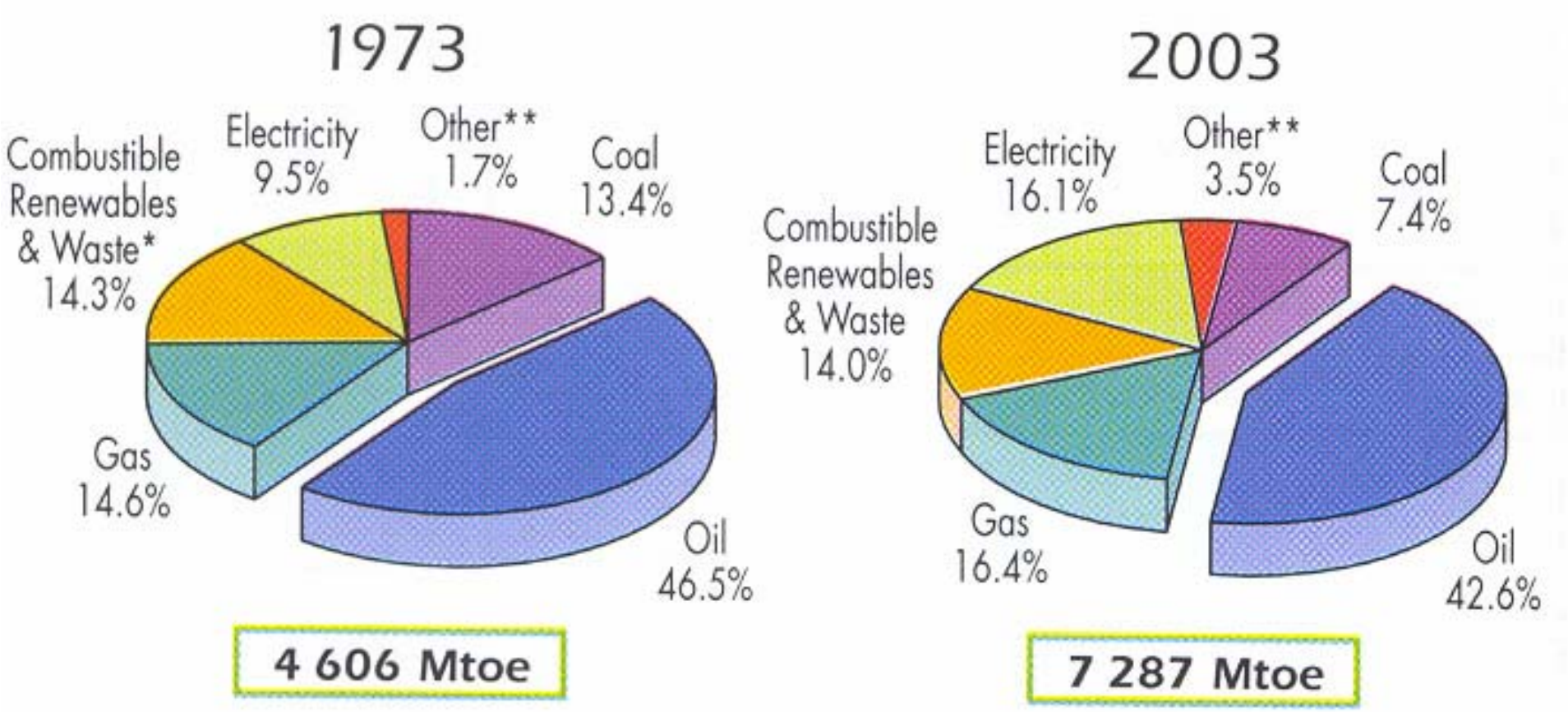
2. WORLD-WIDE TRENDS:

PRIMARY ENERGY CONSUMPTION

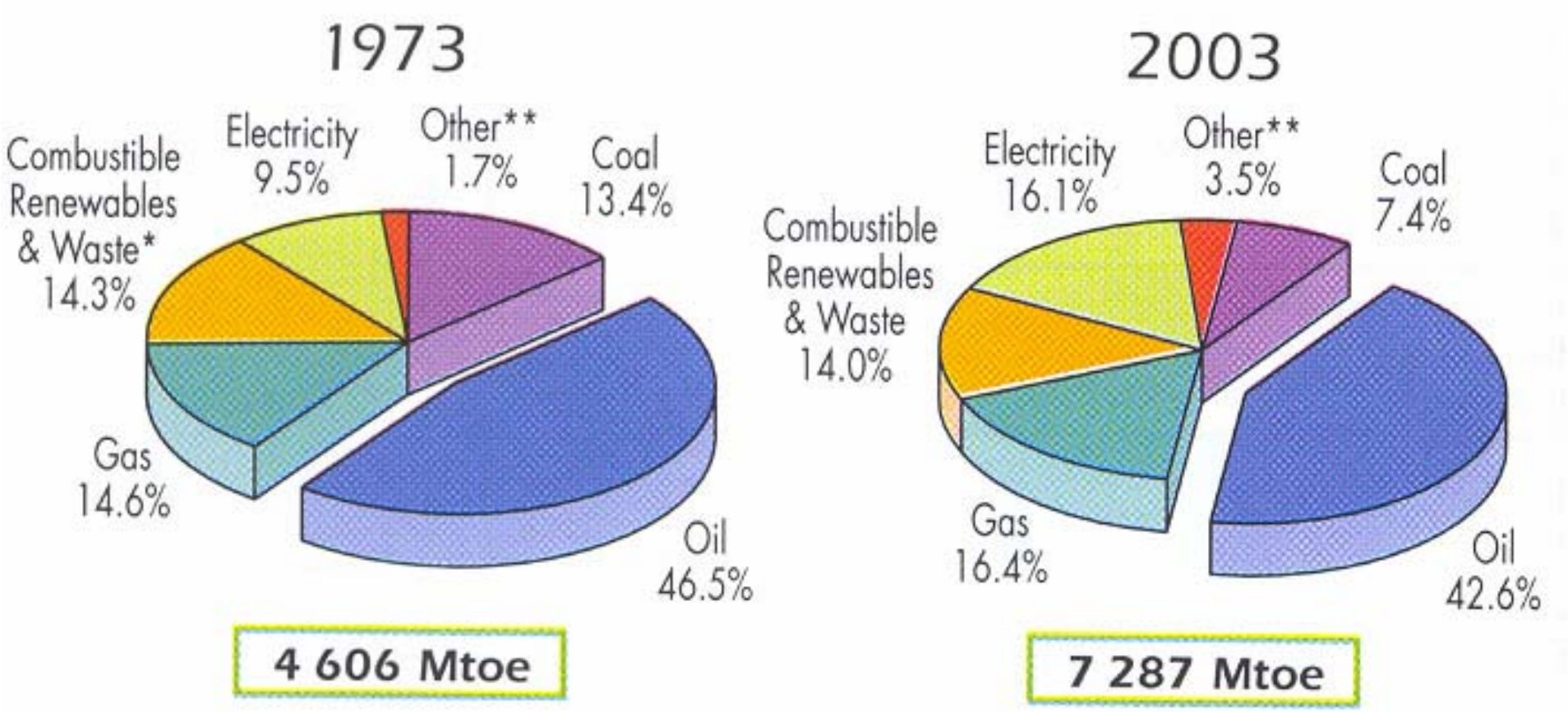


Source: IEA (2006)

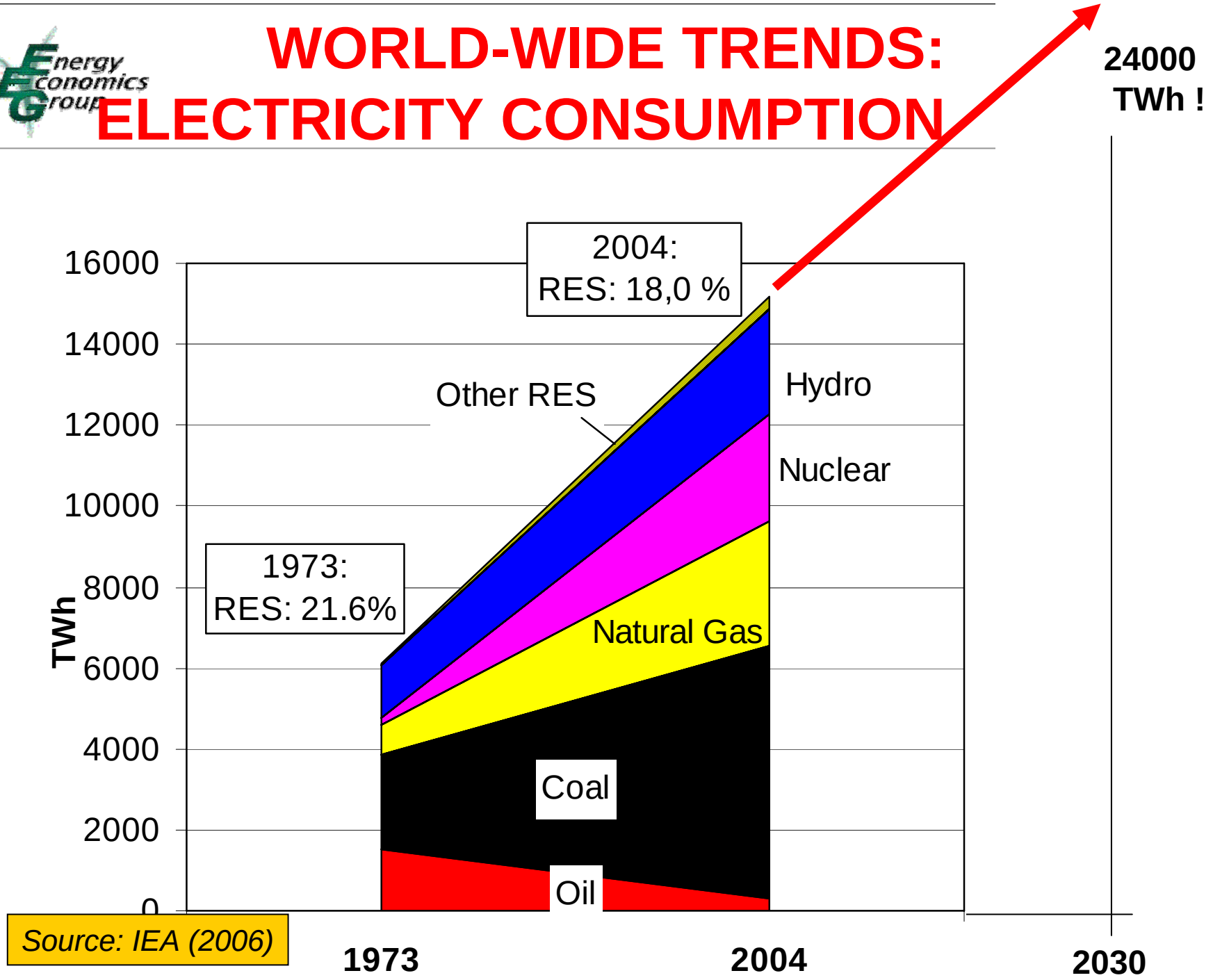
World: Final energy



World: Final energy

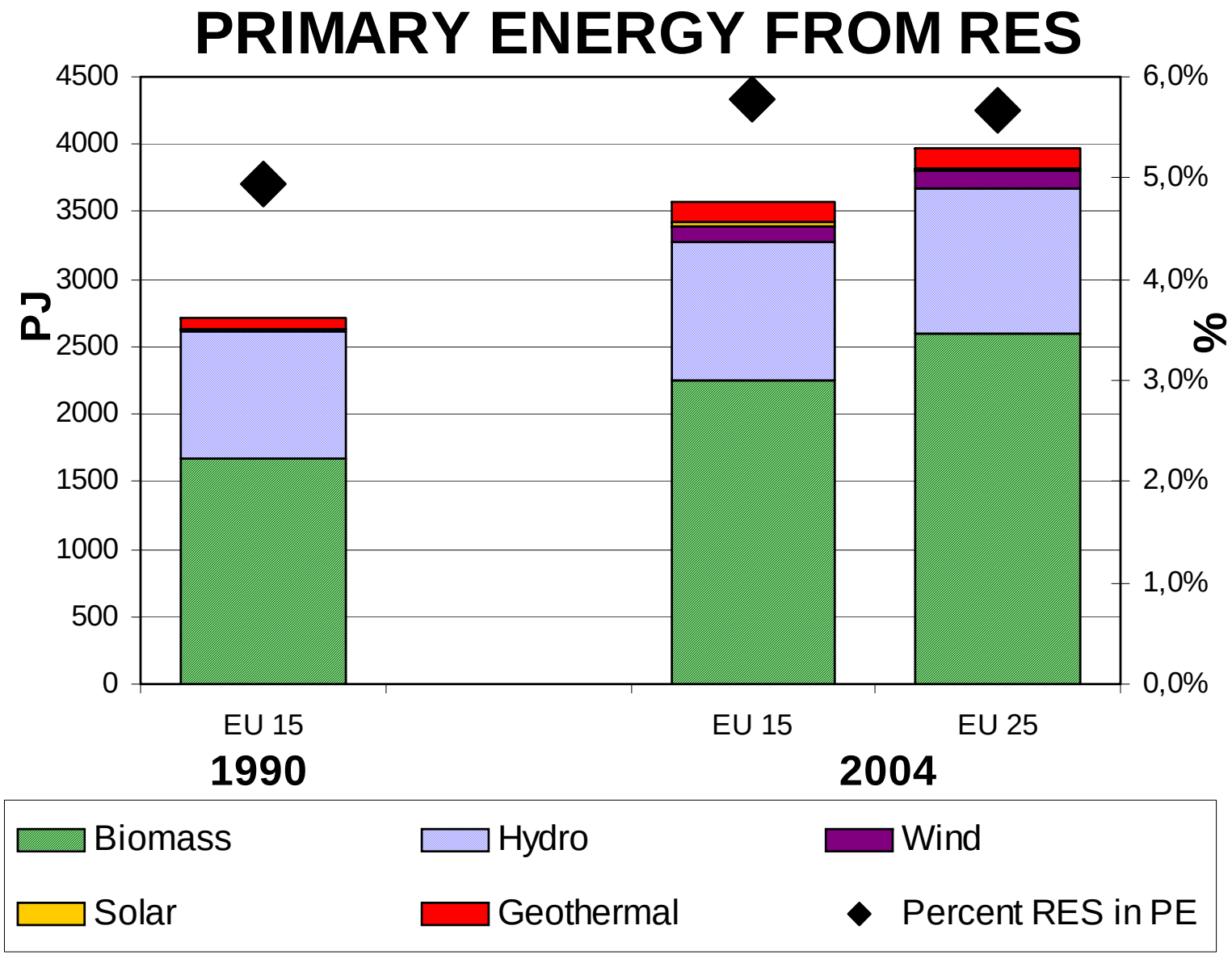


WORLD-WIDE TRENDS: ELECTRICITY CONSUMPTION



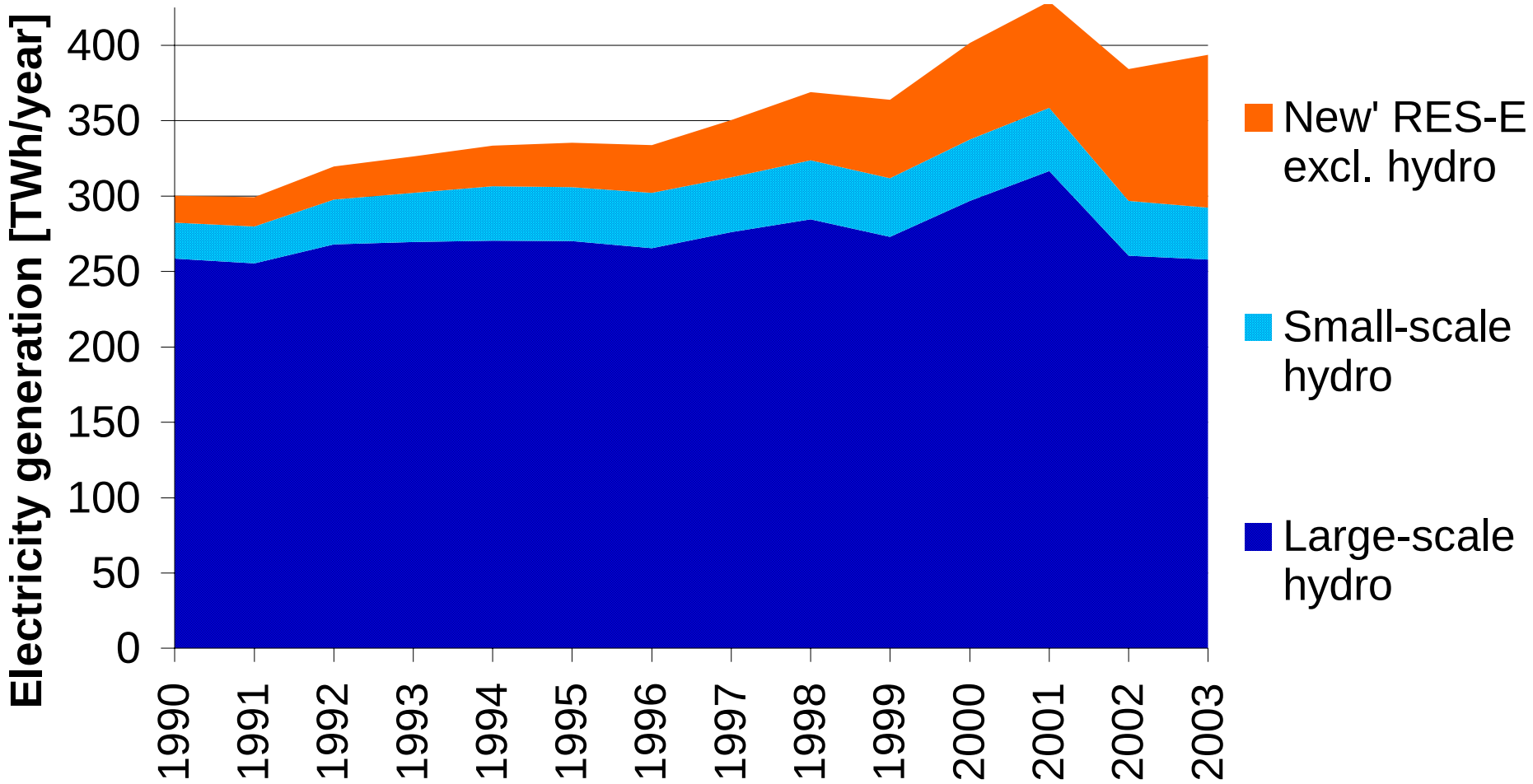
Source: IEA (2006)

3. TRENDS IN THE EU AND AUSTRIA

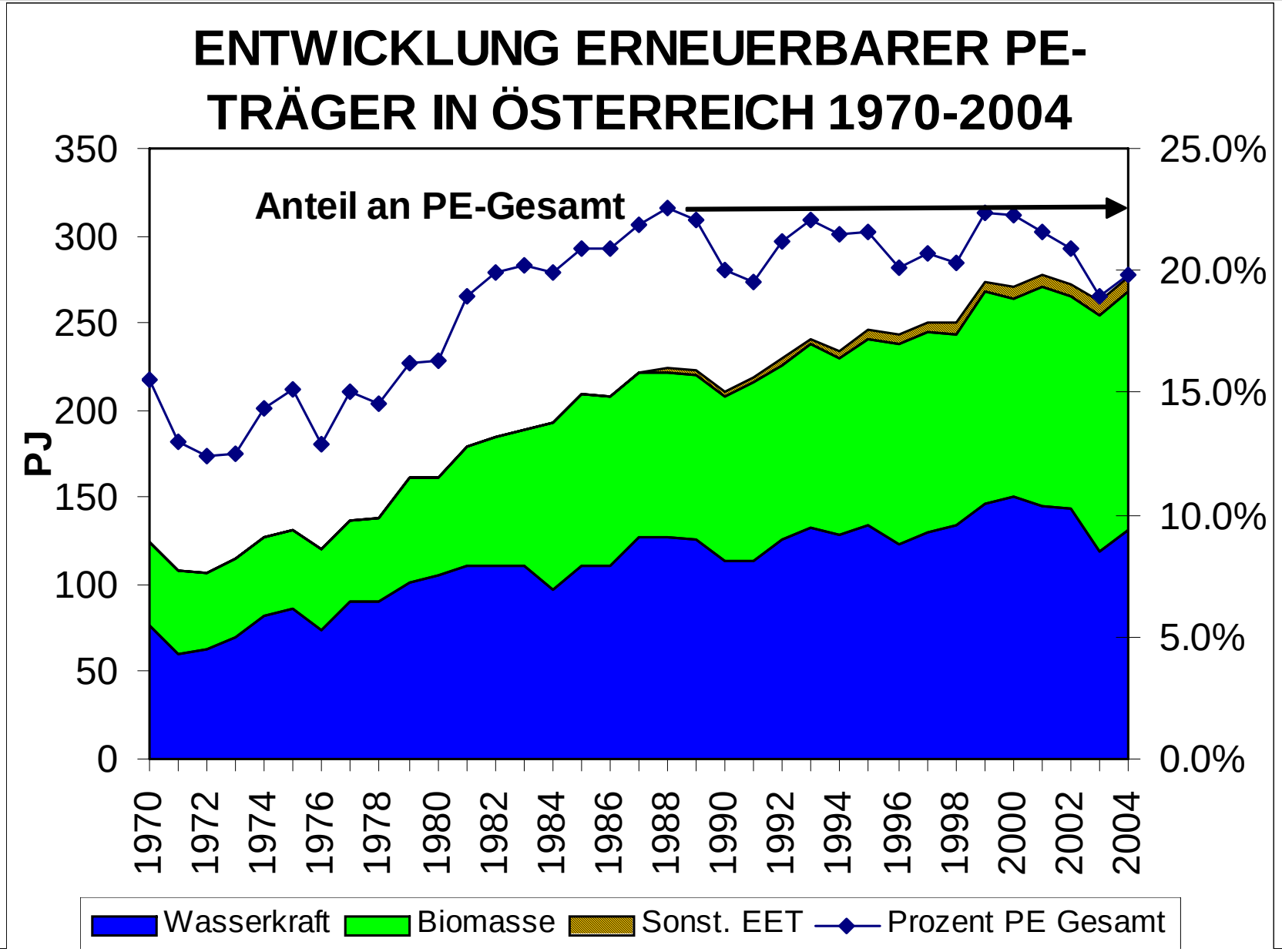


EU-25: ELECTRICITY FROM RENEWABLES

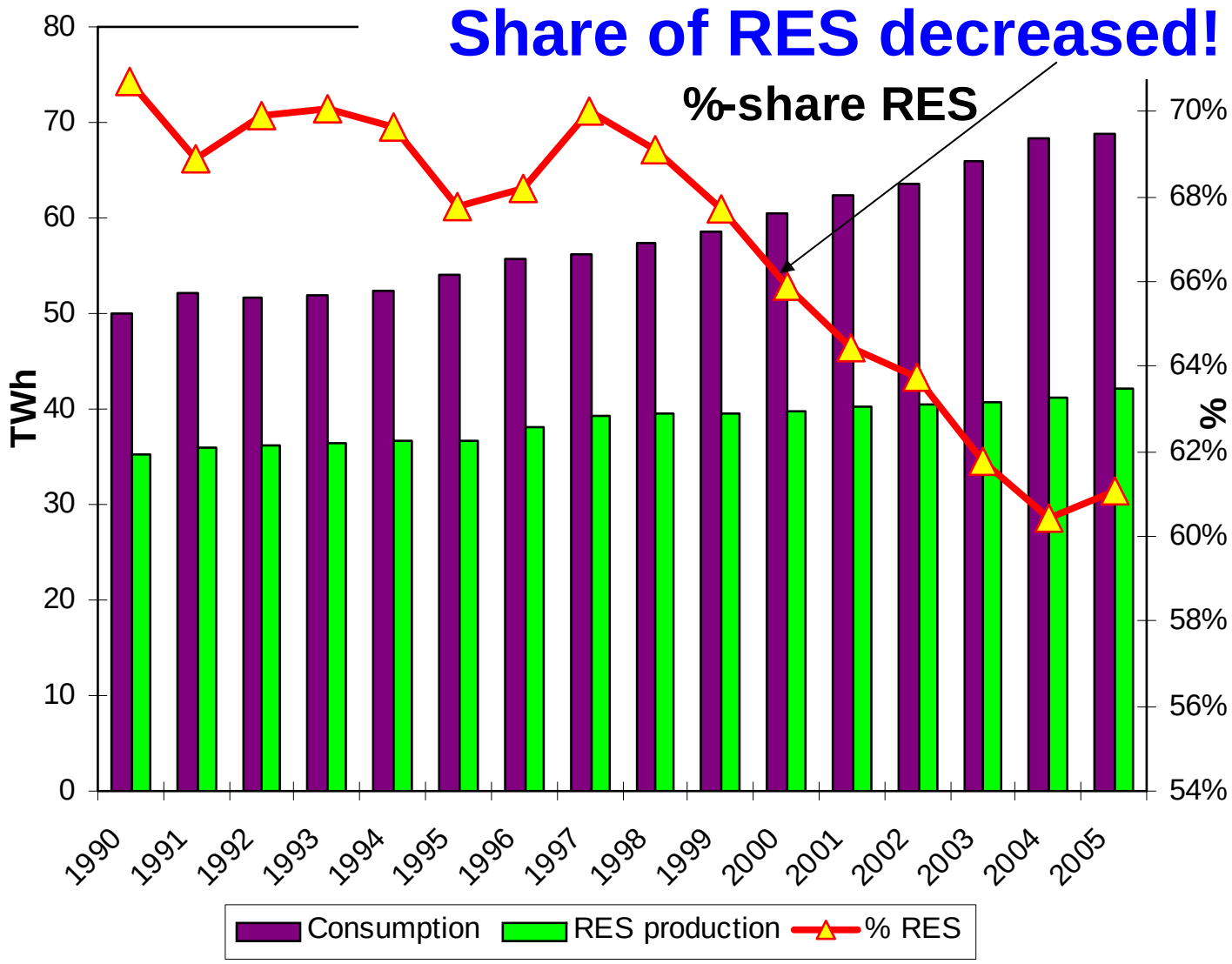
1997:11%, 2004: 14%



4. AUSTRIA


ENTWICKLUNG ERNEUERBARER PE-TRÄGER IN ÖSTERREICH 1970-2004
Anteil an PE-Gesamt
PJ
350
300
250
200
150
100
50
0
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
Wasserkraft
Biomasse
Sonst. EET
Prozent PE Gesamt

AUSTRIA: ELECTRICITY CONSUMPTION AND GENERATION FROM RES



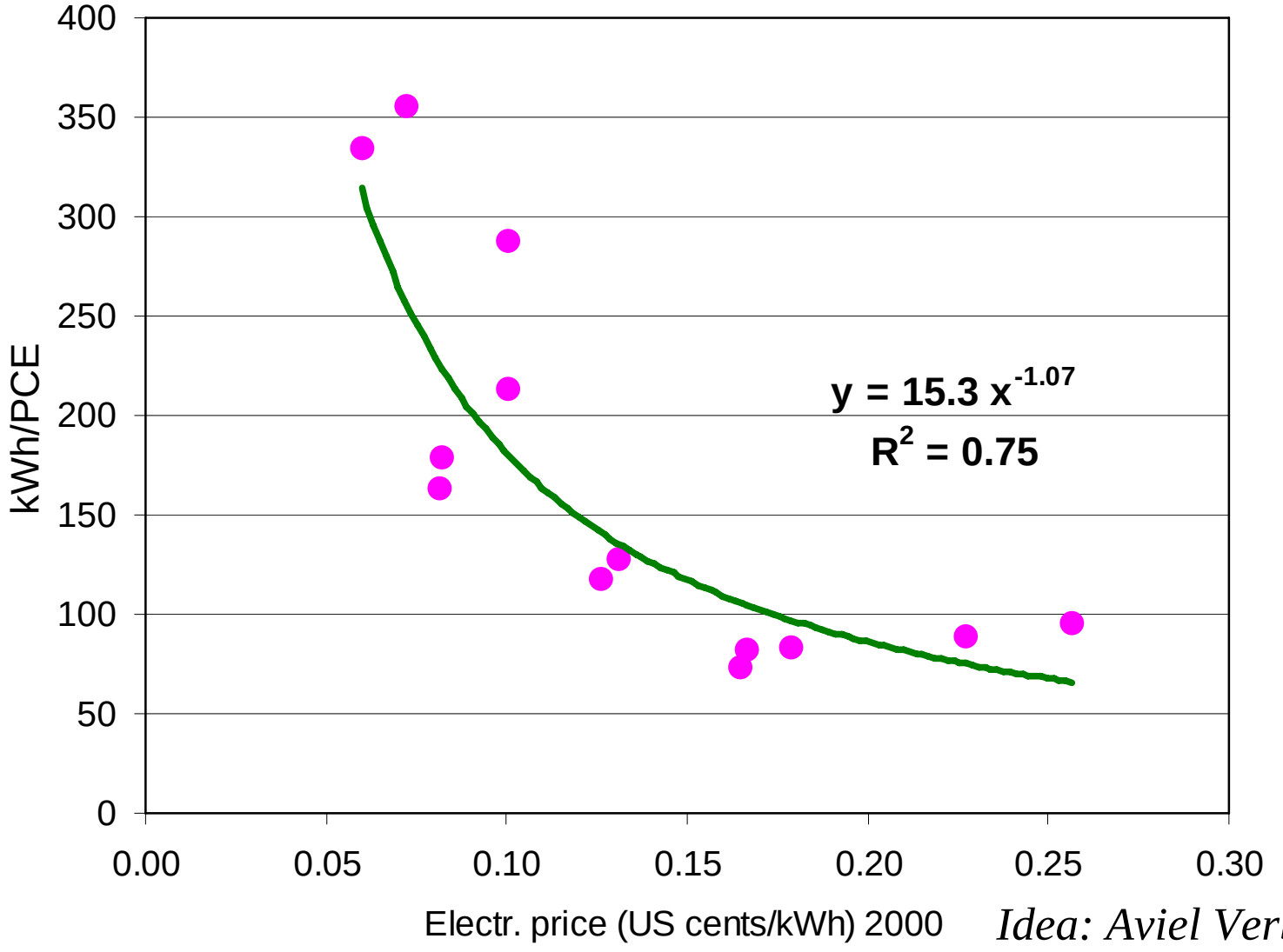
Indictors Austria
income vs Energy price

- **Real prices at the level of 1970 but income has tripled!**

-> This makes it much harder for efficiency to compete!

Source: Nakicenovic/Haas (2005)

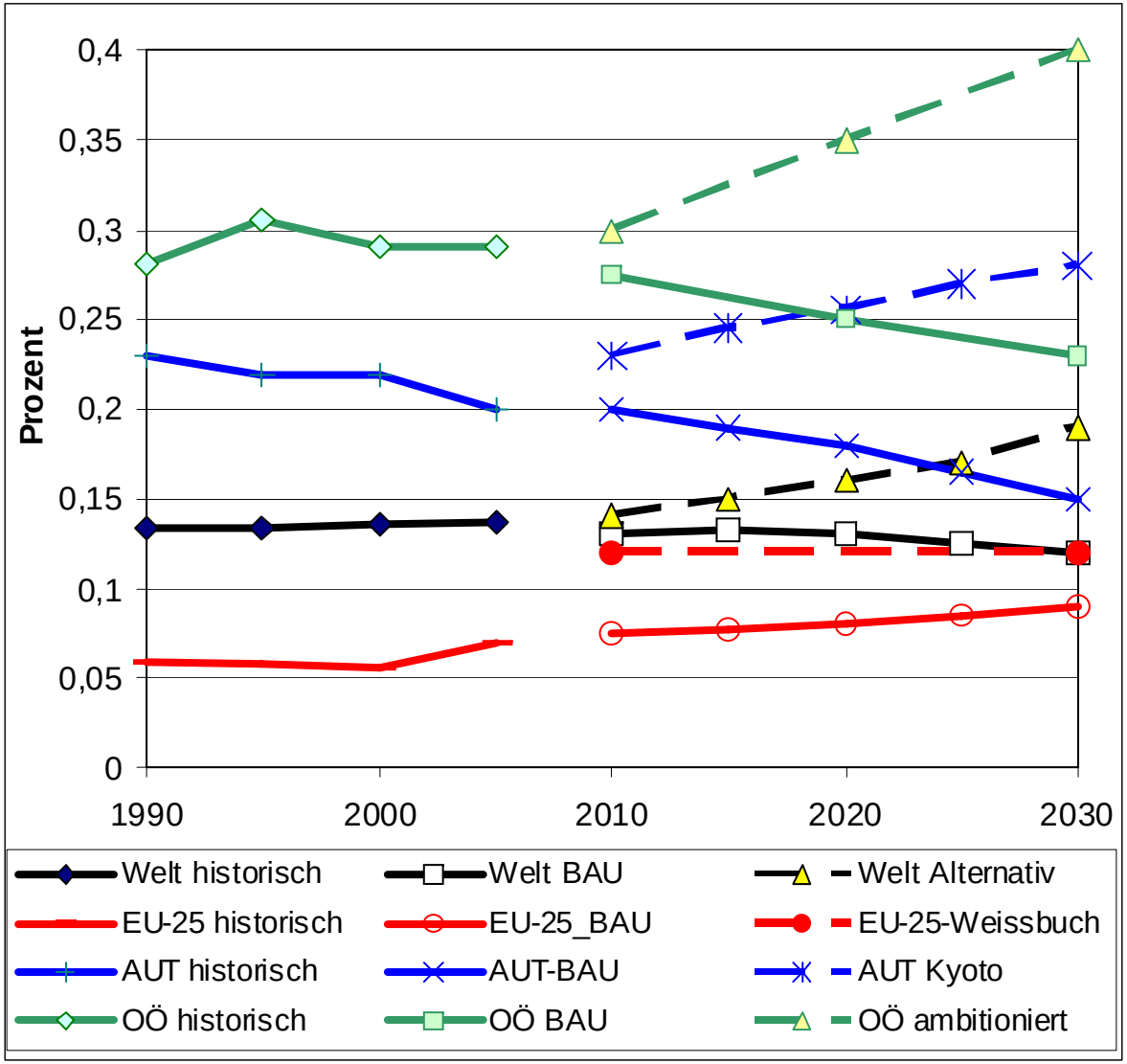
ELECTRICITY DEMAND PER INCOME VS PRICE



Idea: Aviel Verbruggen

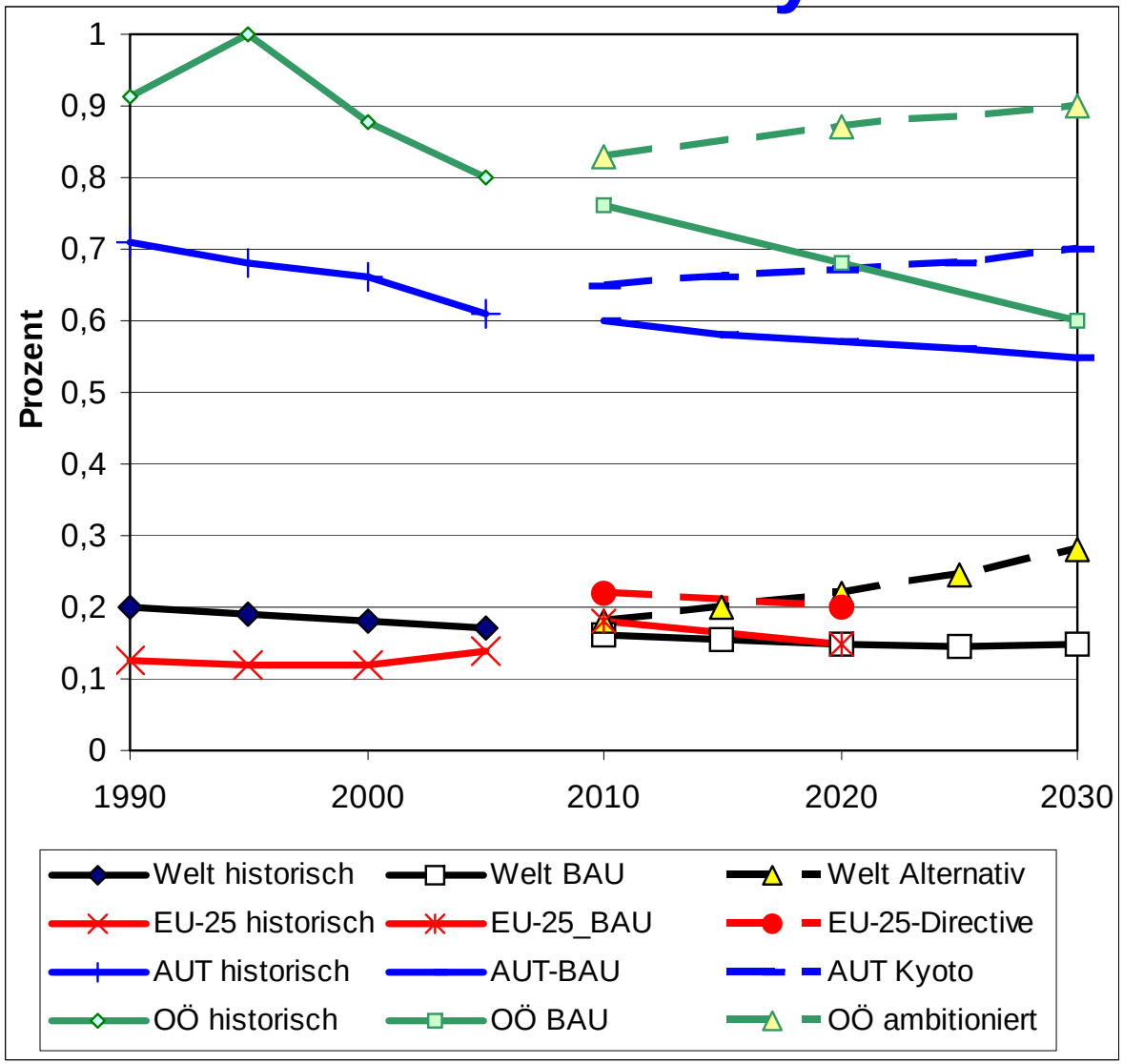
5. WHAT ARE THE FUTURE PERSPECTIVES?

(Shares of RES in primary energy consumption



5. WHAT ARE THE FUTURE PERSPECTIVES?

(Shares of RES in electricity consumption)



6. CONCLUSIONS

TOWARDS SUSTAINABILITY:

1. Increase (demand-side) energy efficiency) = technological progress = local economic value creation by:

   Introduce severe standards for all new electric appliances and gadgets (Best: on EU-level, on world-wide level!

   Forbid sale of bad technologies (Lighting, grid connection devices…)

6. CONCLUSIONS

TOWARDS SUSTAINABILITY:

Make smart electricity consumption watchers and managers mandatory in every building!

Introduce significant energy tax!

FOR FURTHER INFORMATION:

- **Homepage:**
  www. eeg . tuwien . ac . at

- **E-Mail :**
  Reinhard.Haas @ tuwien . ac . at