



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

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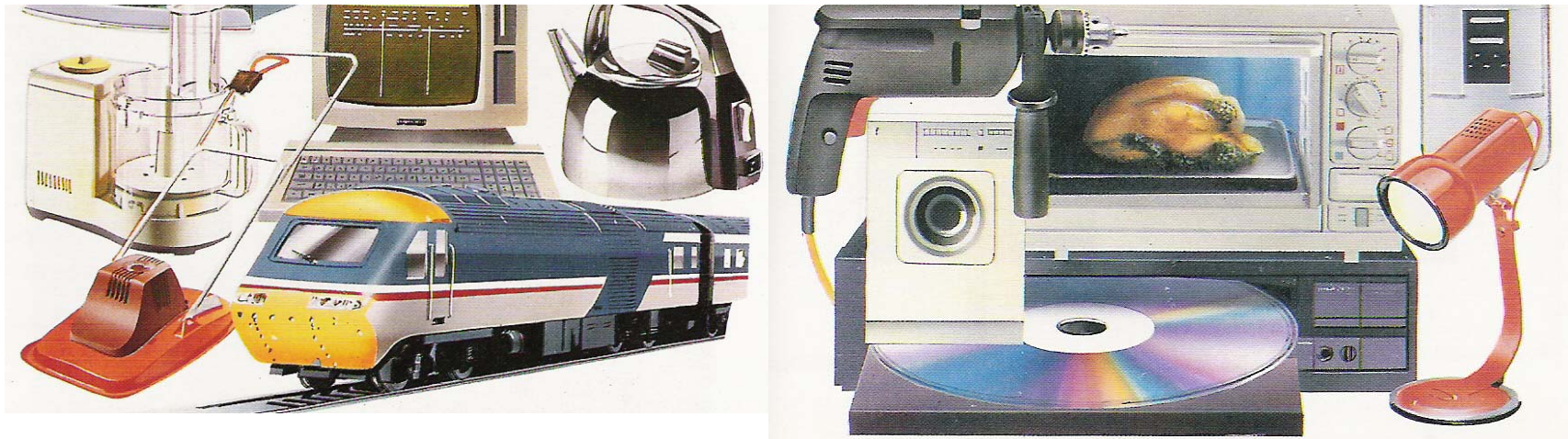
Wels, March, 2nd 2007

- 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!



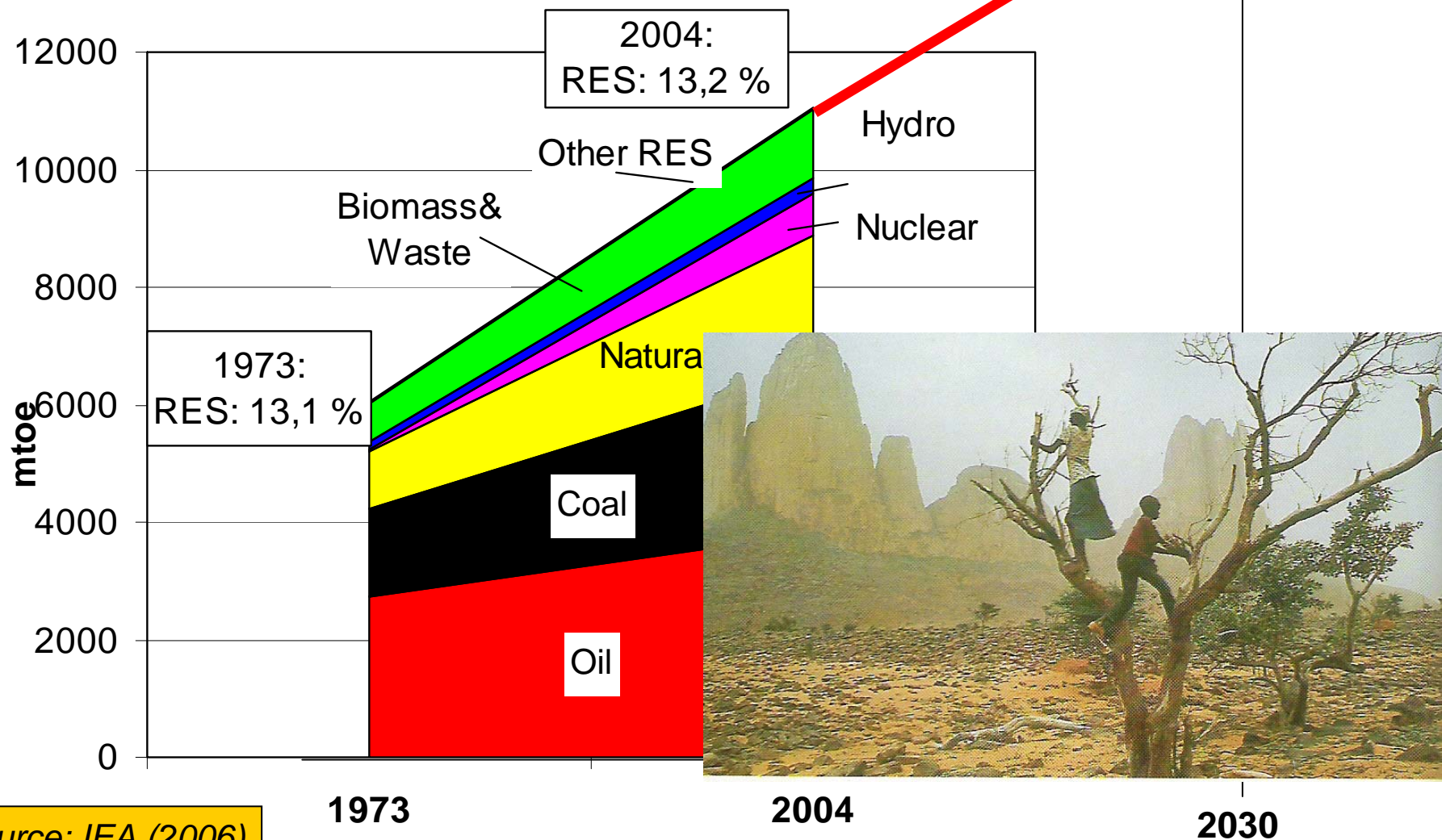
The basic concept of providing energy services

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

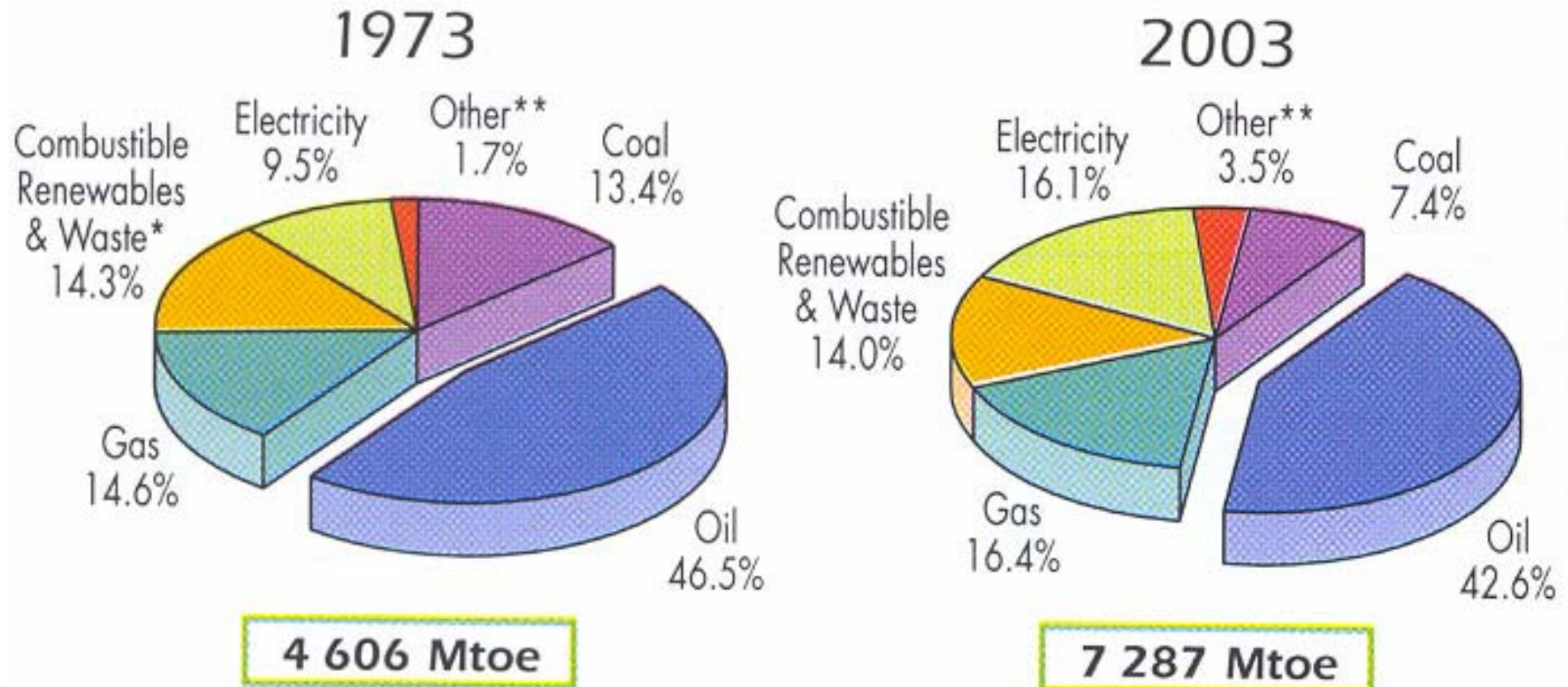
2. WORLD-WIDE TRENDS:

PRIMARY ENERGY CONSUMPTION

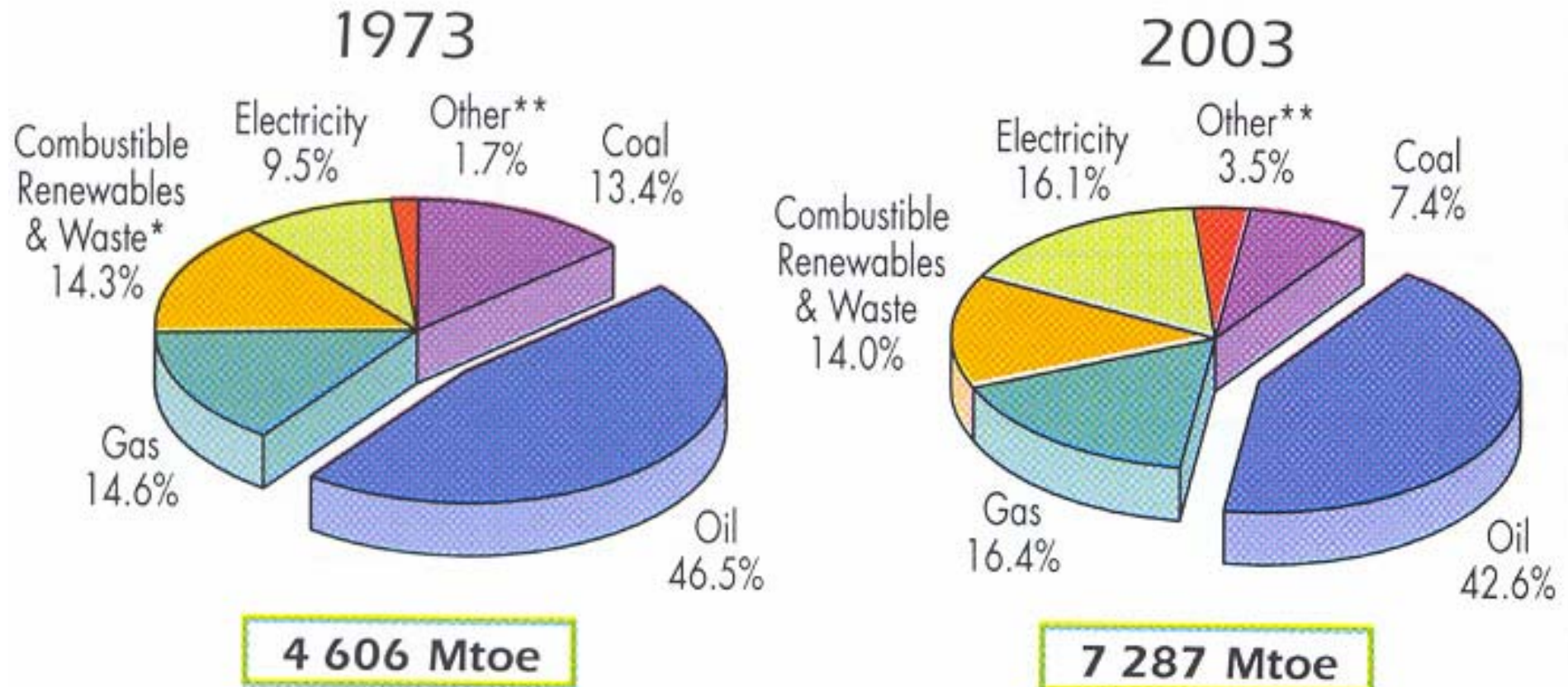
16000 mtoe!



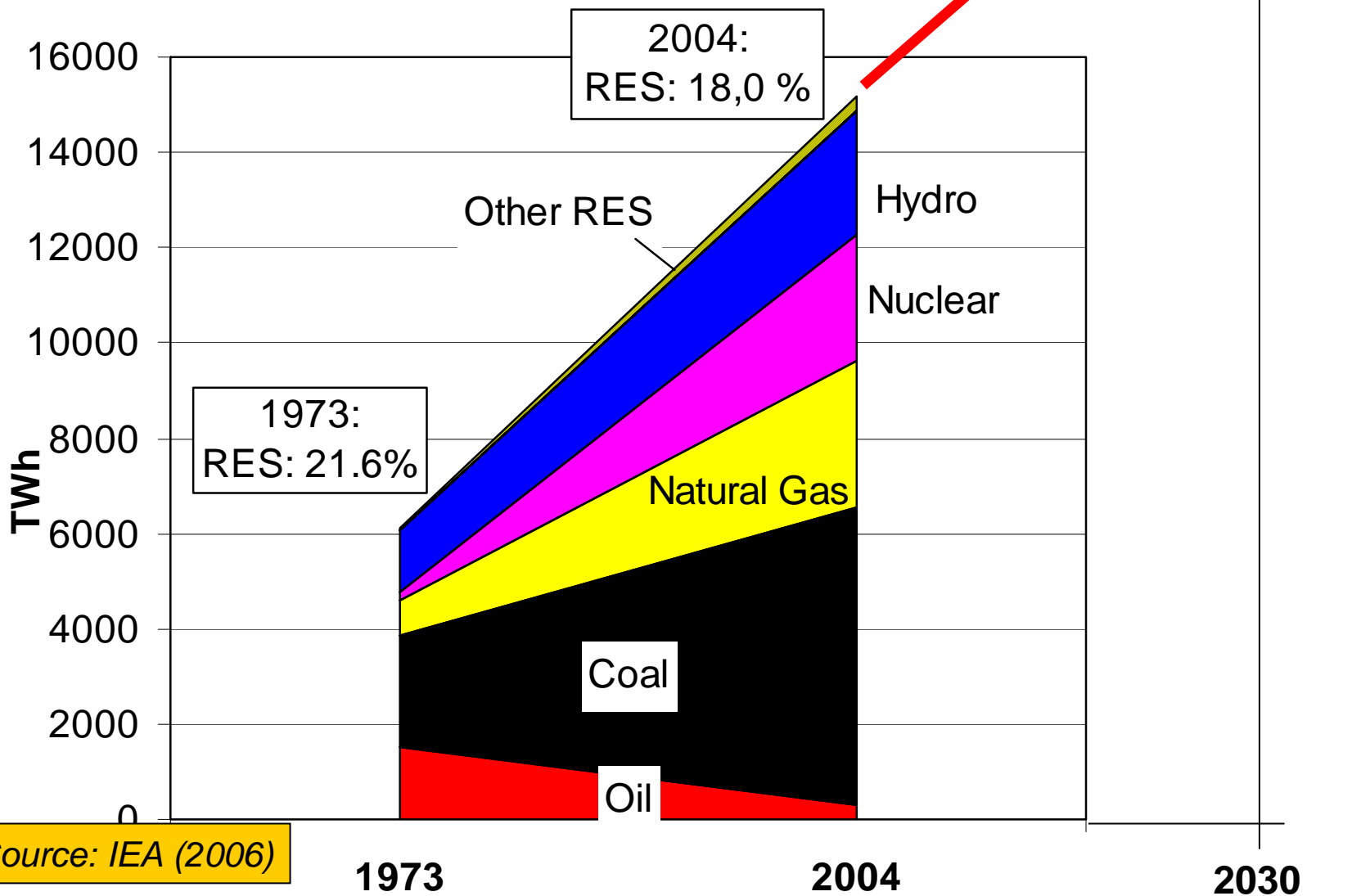
World: Final energy



World: Final energy



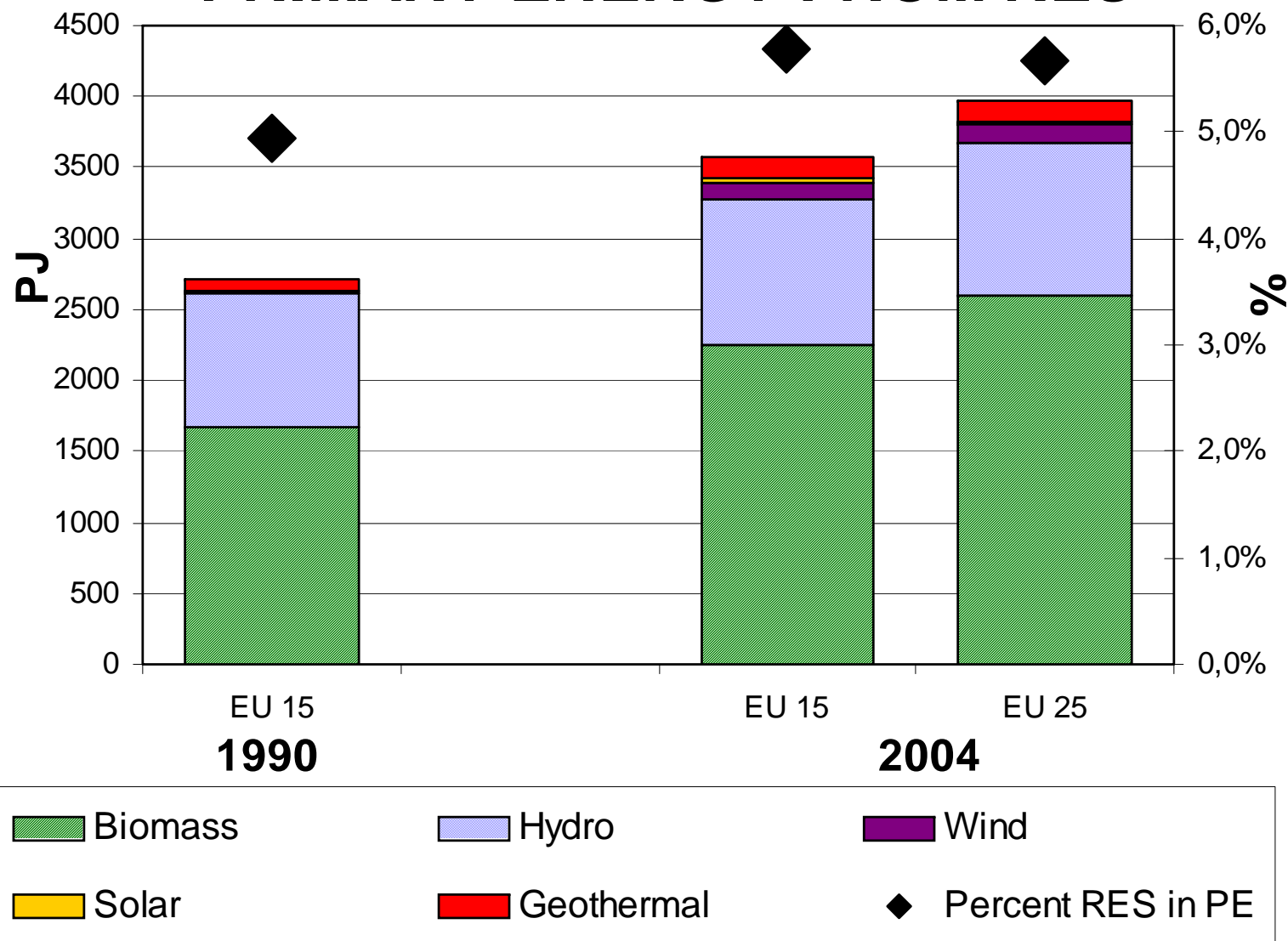
WORLD-WIDE TRENDS: ELECTRICITY CONSUMPTION



Source: IEA (2006)

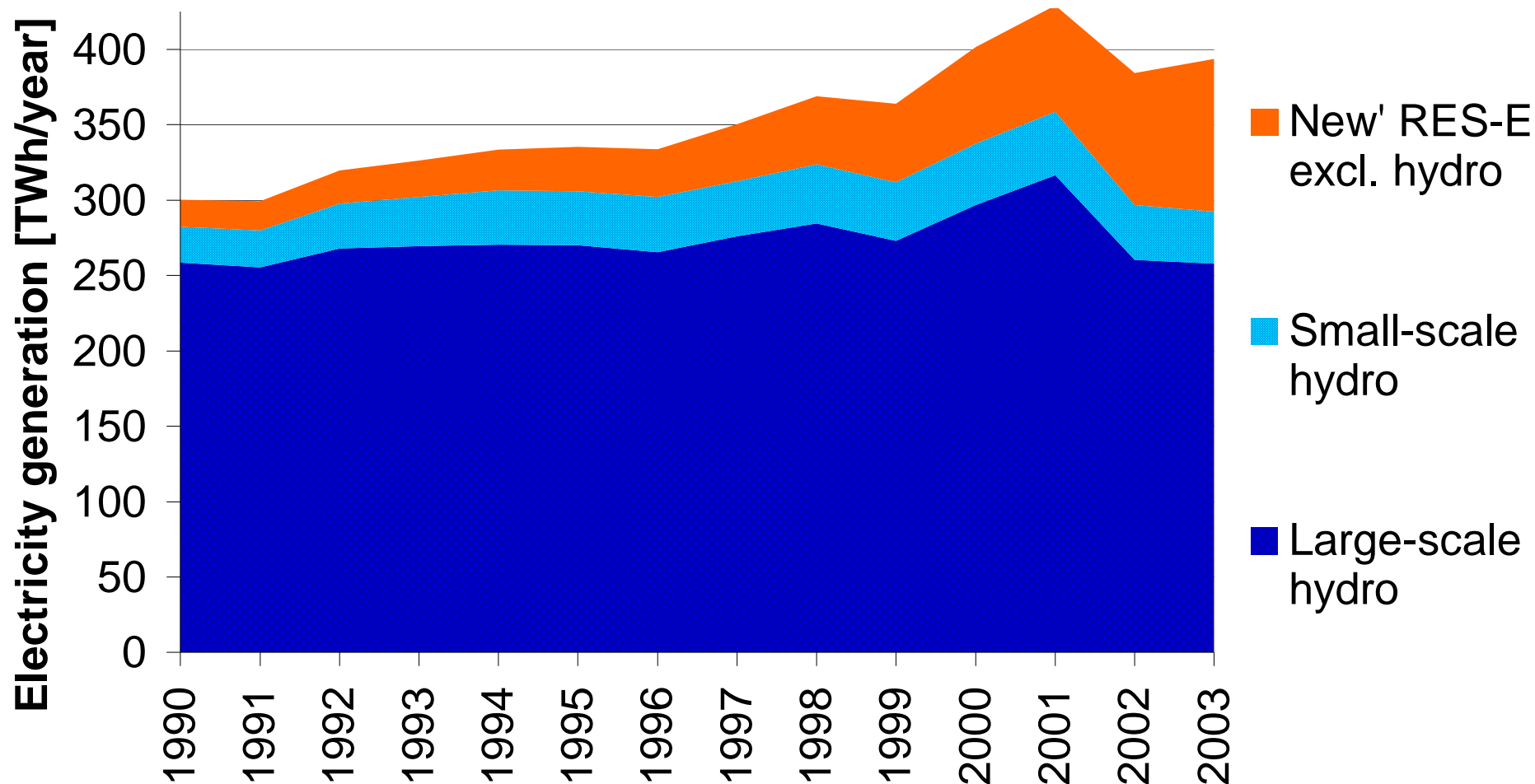
3. TRENDS IN THE EU AND AUSTRIA

PRIMARY ENERGY FROM RES



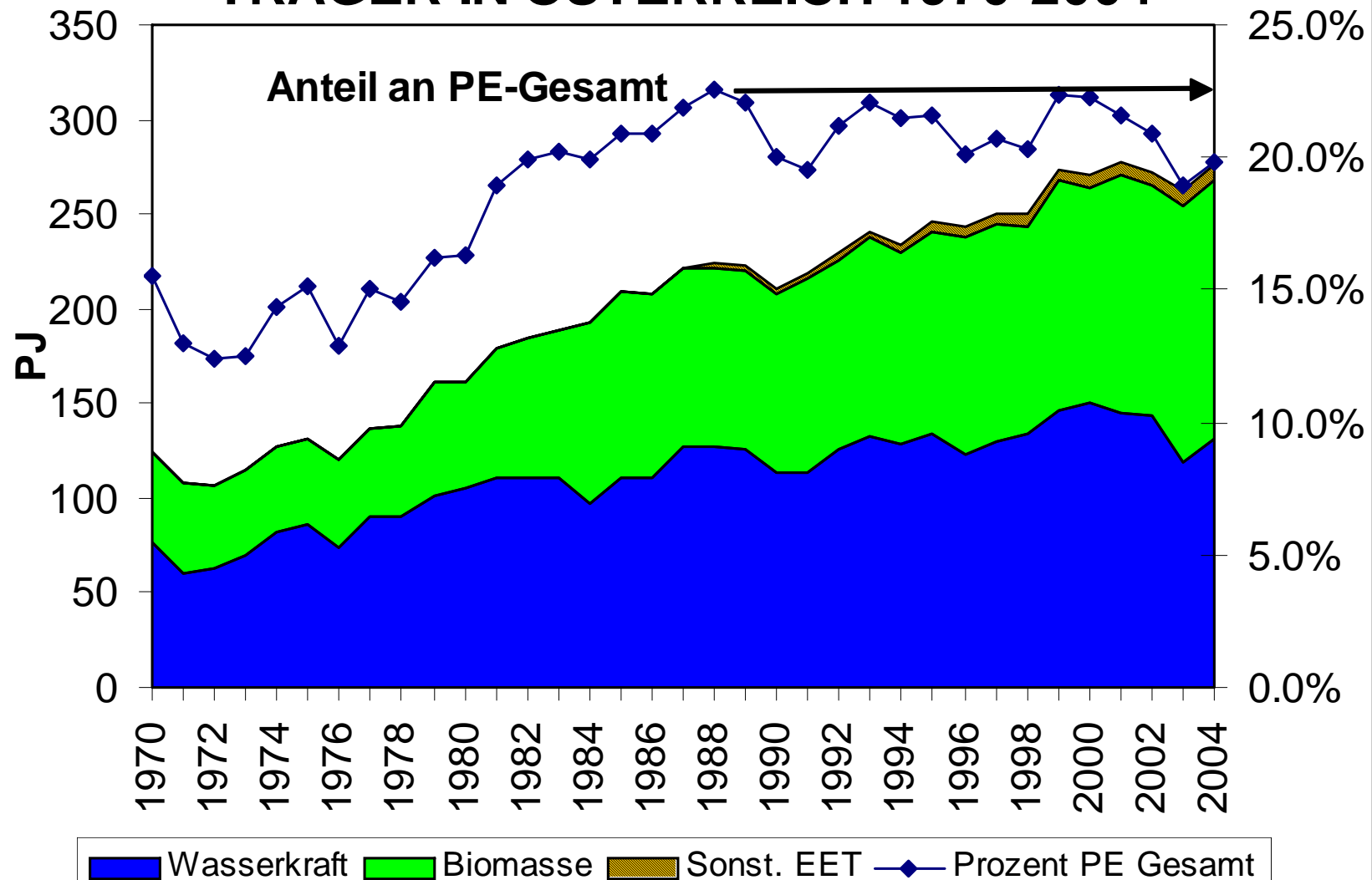
EU-25: ELECTRICITY FROM RENEWABLES

1997:11%, 2004: 14%

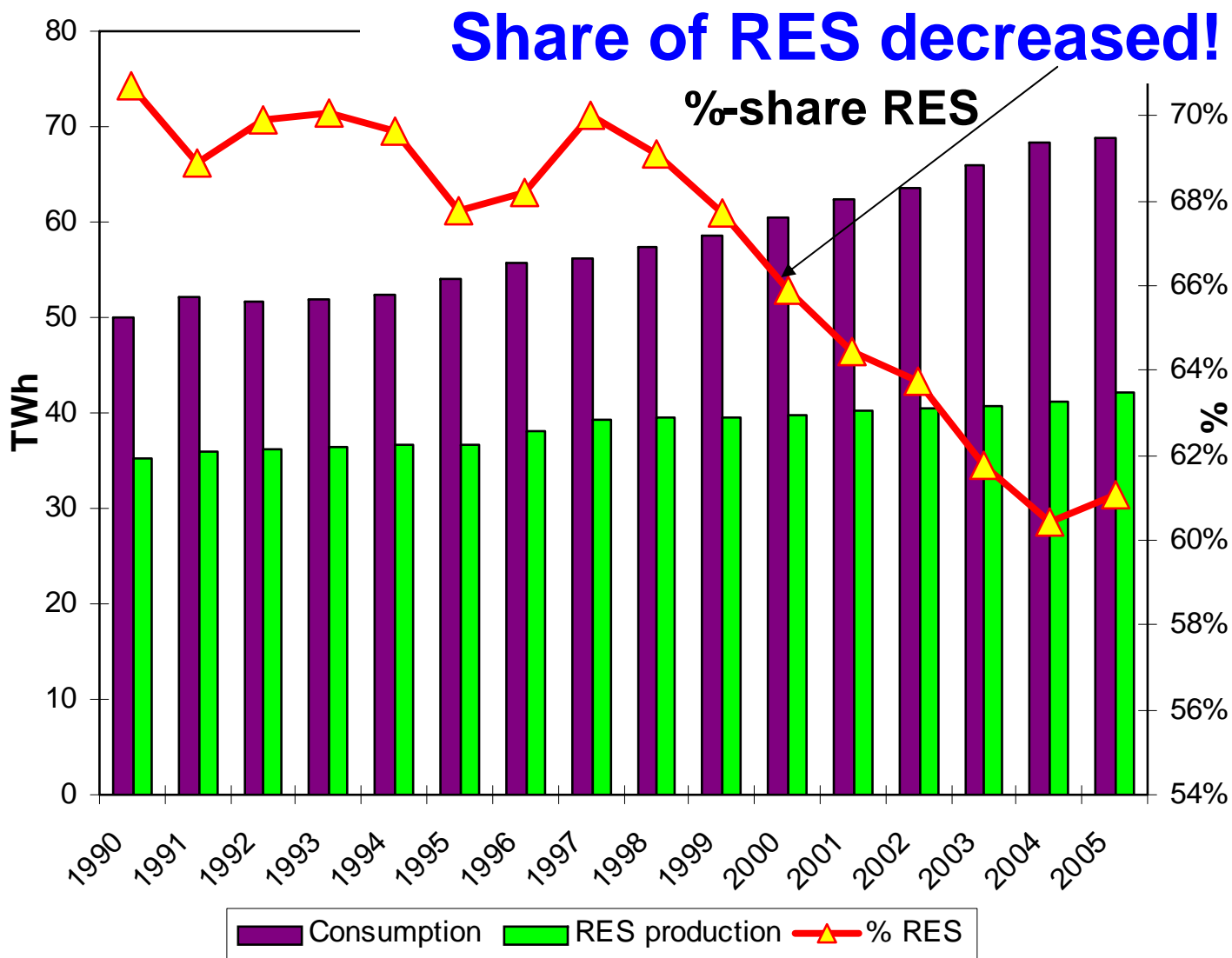


4. AUSTRIA

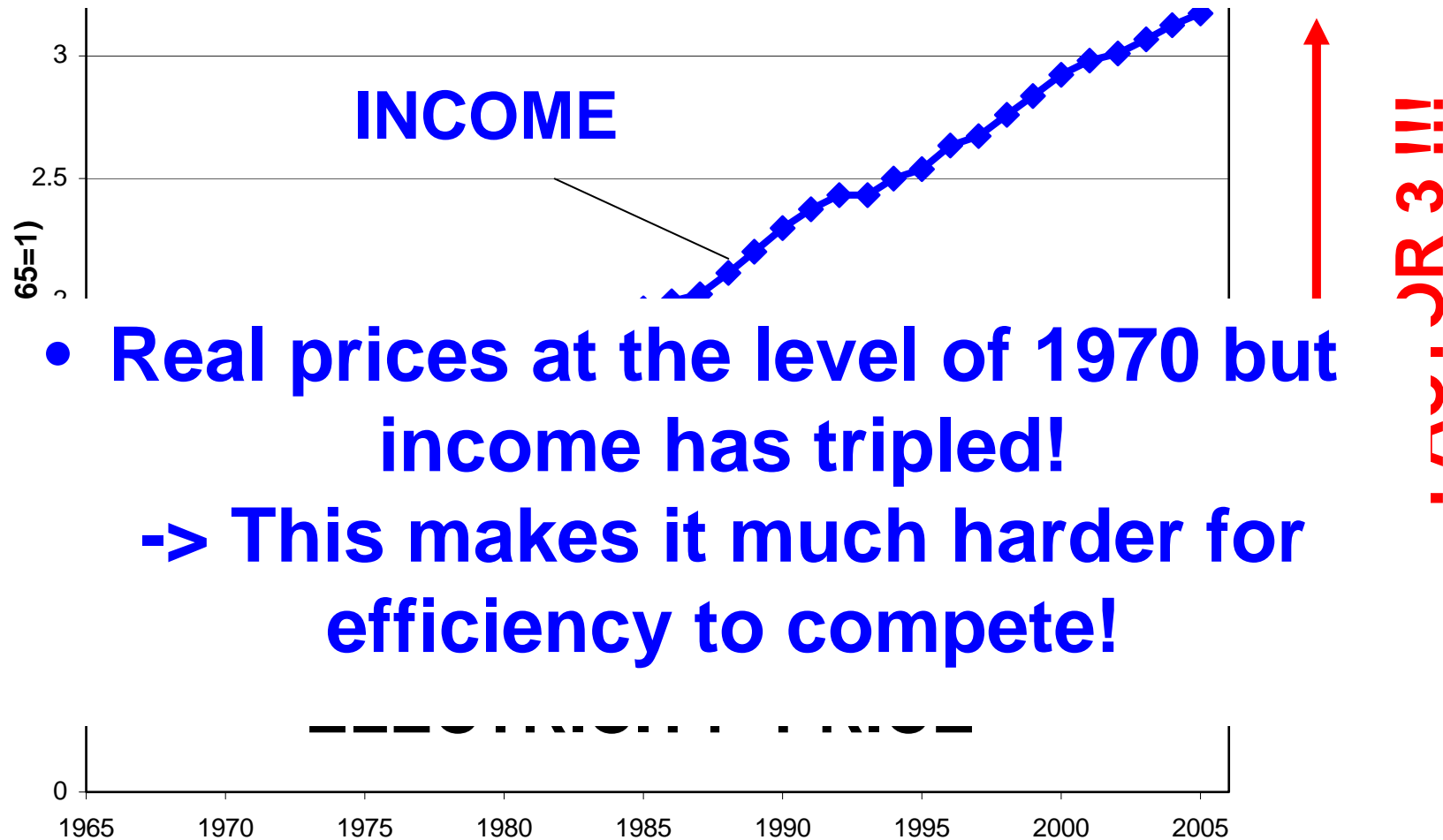
ENTWICKLUNG ERNEUERBARER PE- TRÄGER IN ÖSTERREICH 1970-2004



AUSTRIA: ELECTRICITY CONSUMPTION AND GENERATION FROM RES



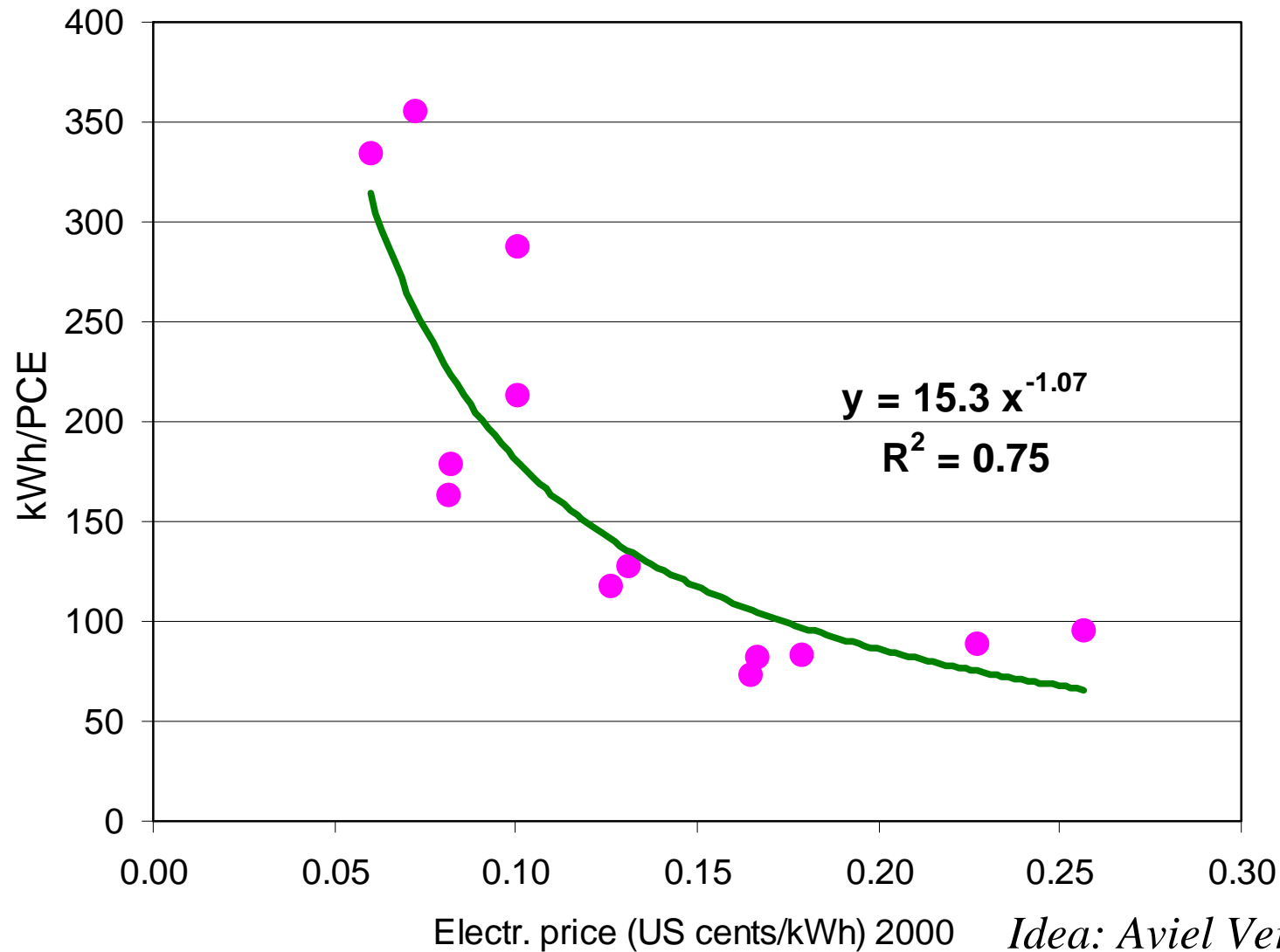
Indictors Austria income vs Energy price



- Real prices at the level of 1970 but income has tripled!
-> This makes it much harder for efficiency to compete!

Source: Nakicenovic/Haas (2005)

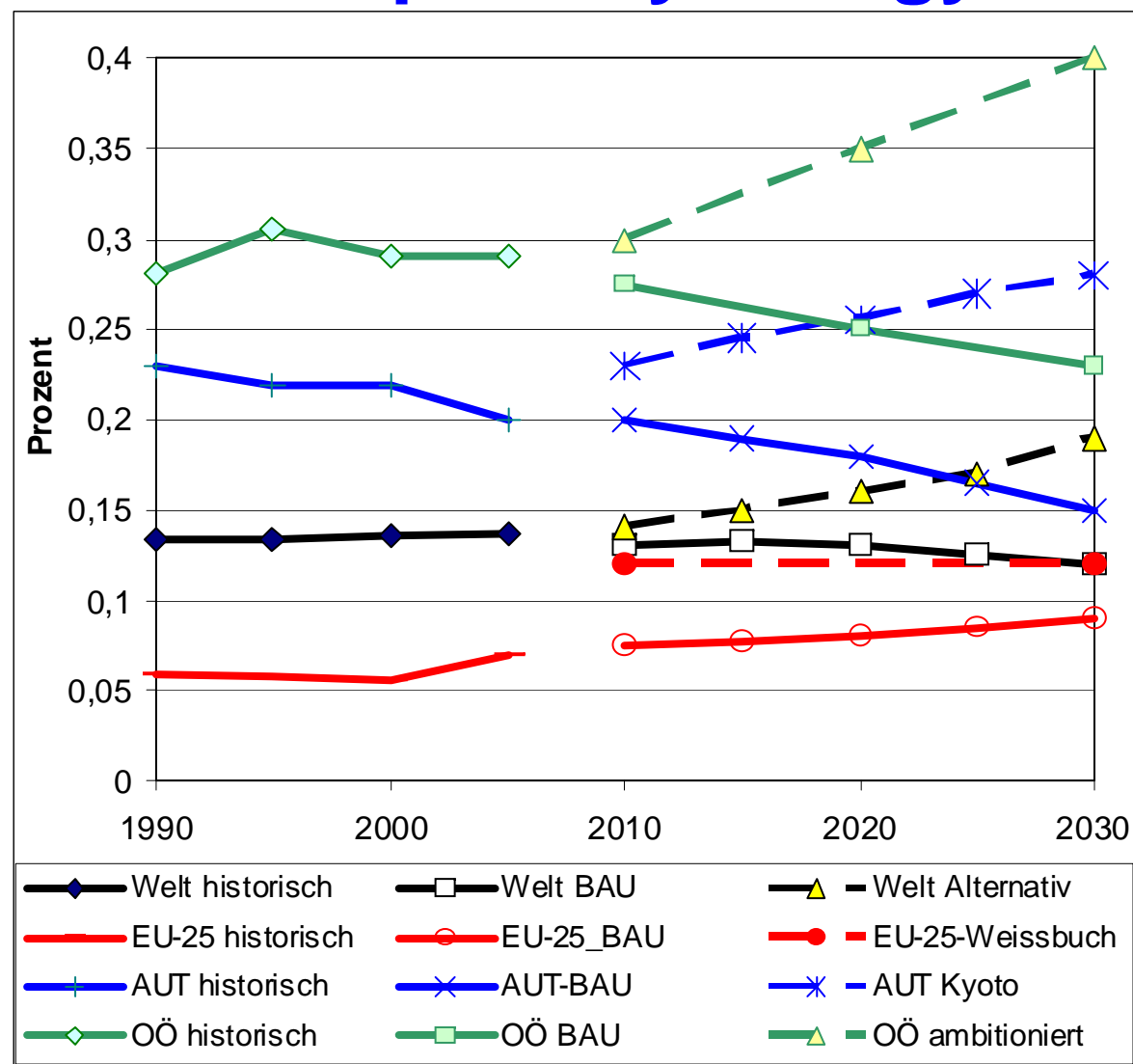
ELECTRICITY DEMAND PER INCOME VS PRICE



Idea: Aviel Verbruggen

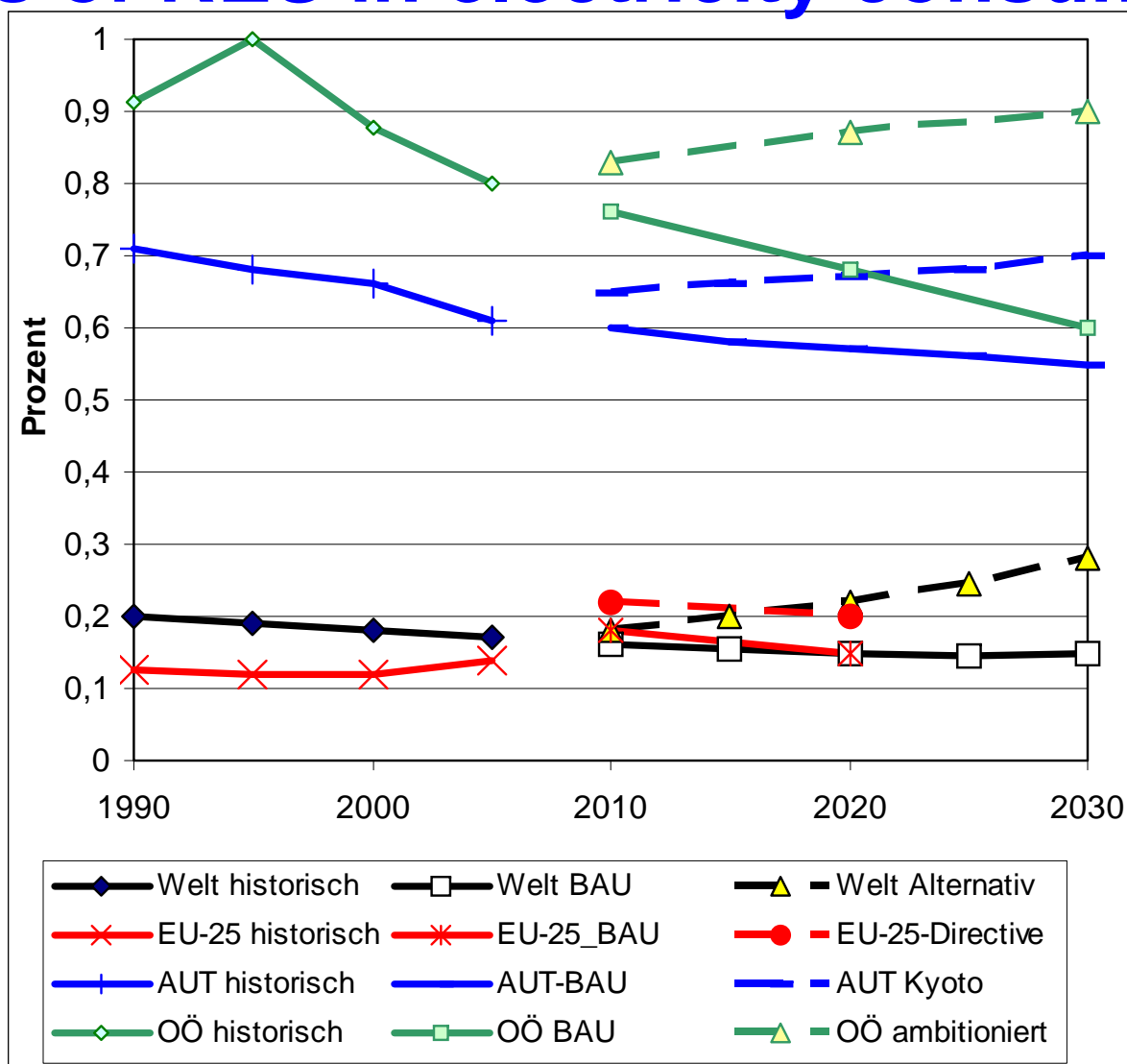
5. WHAT ARE THE FUTURE PERSPECTIVES?

(Shares of RES in primary energy consumption)



5. WHAT ARE THE FUTURE PERSPECTIVES?

(Shares of RES in electricity consumption)



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:

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