UNEP RISØ CENTRE

The Global Energy Challenges

Roundatable:

Regional perspectives on energy and development

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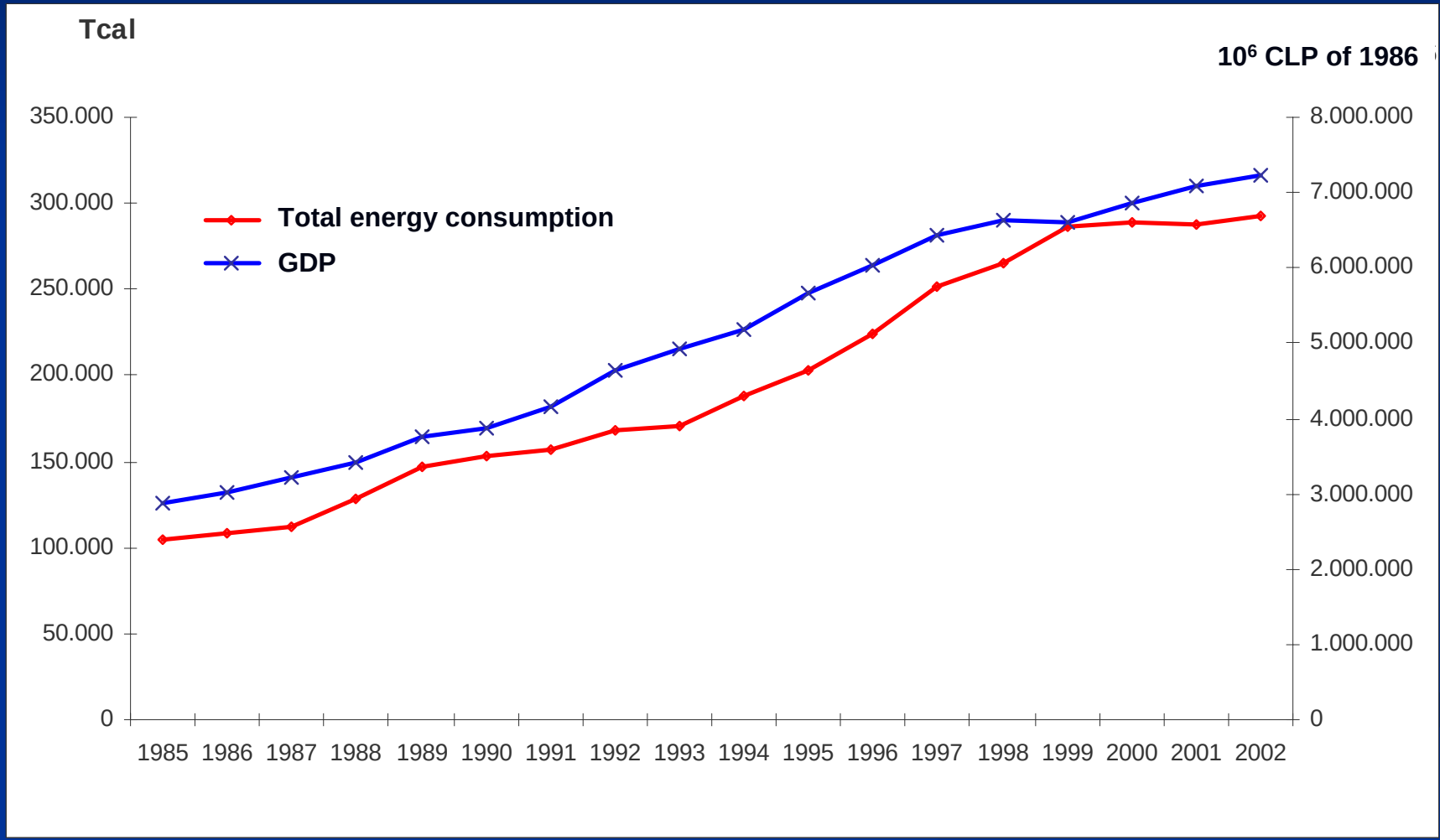
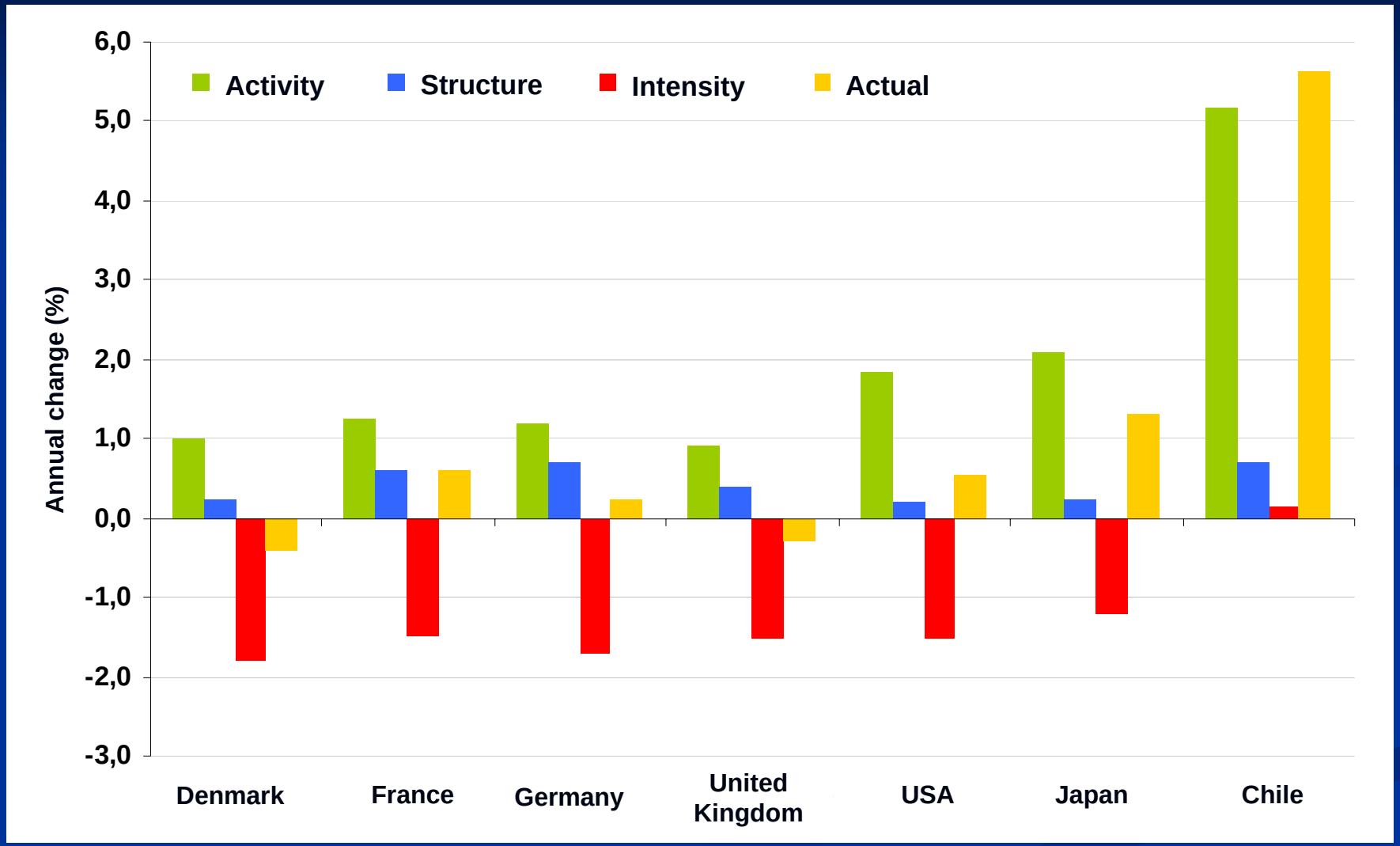
Energy and sustainable development

- Chilean energy context
- Columns and indicators of energy sustainability
- Energy reform in Chile: 20 years after
- Basis for an energy policy proposal
- Questions and conclusions

Energy demand and GDP

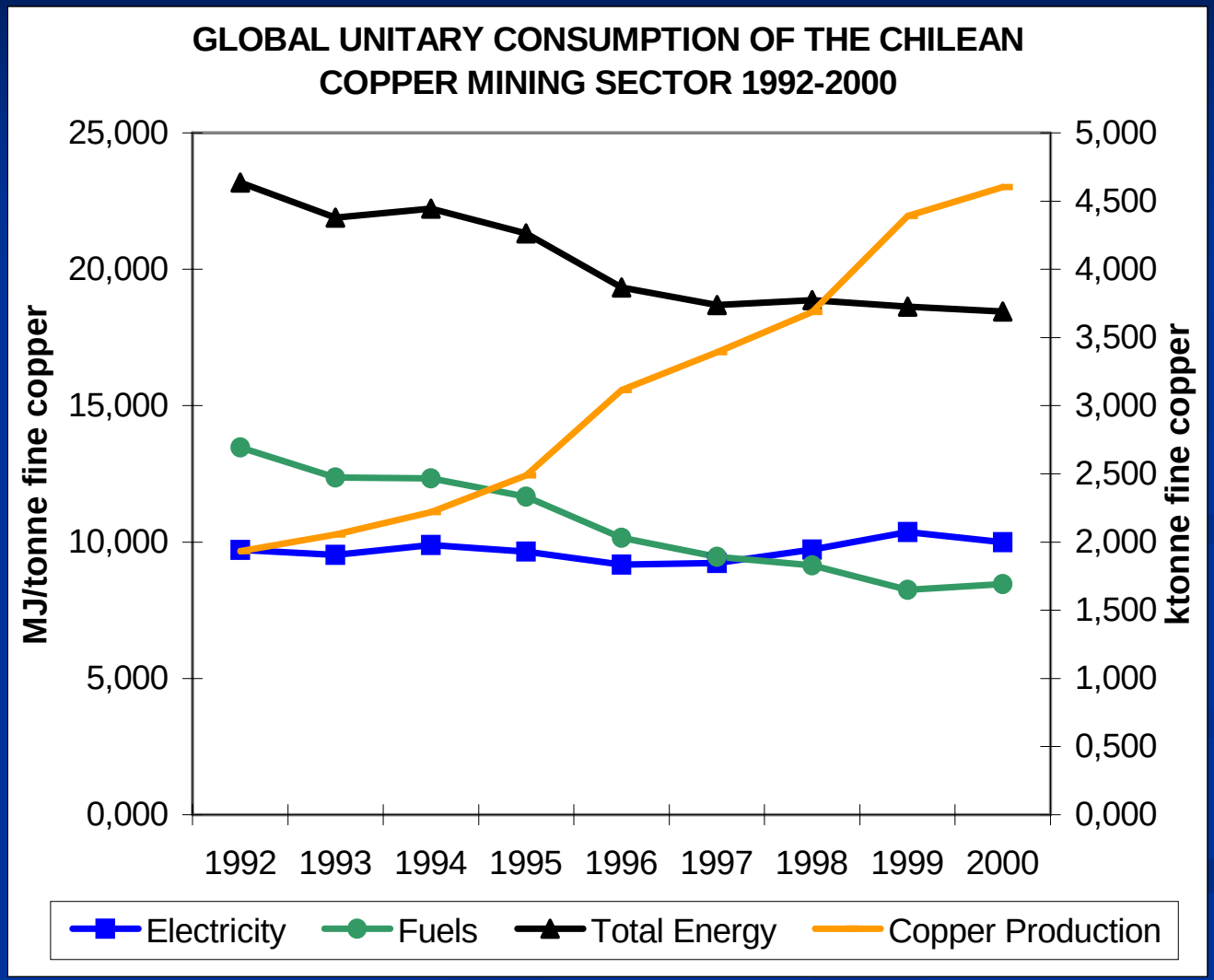


Energy consumption paterns



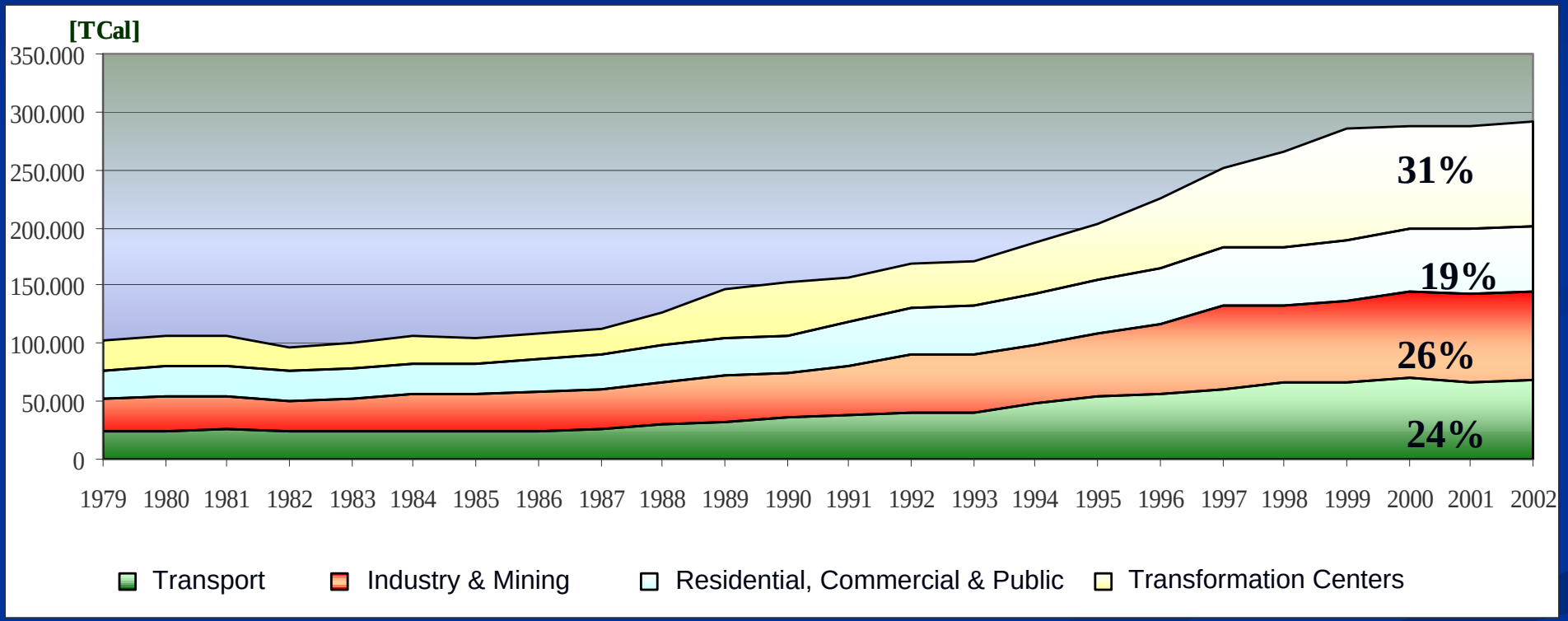
Source: Denmark, France, Germany, United Kingdom, USA and Japan data, period 1973-1994, from IEA, Energy Efficiency Initiative Vol I. Chilean data period 1990-2002, PRIEN.

Specific energy consumption evolution in Chilean mining

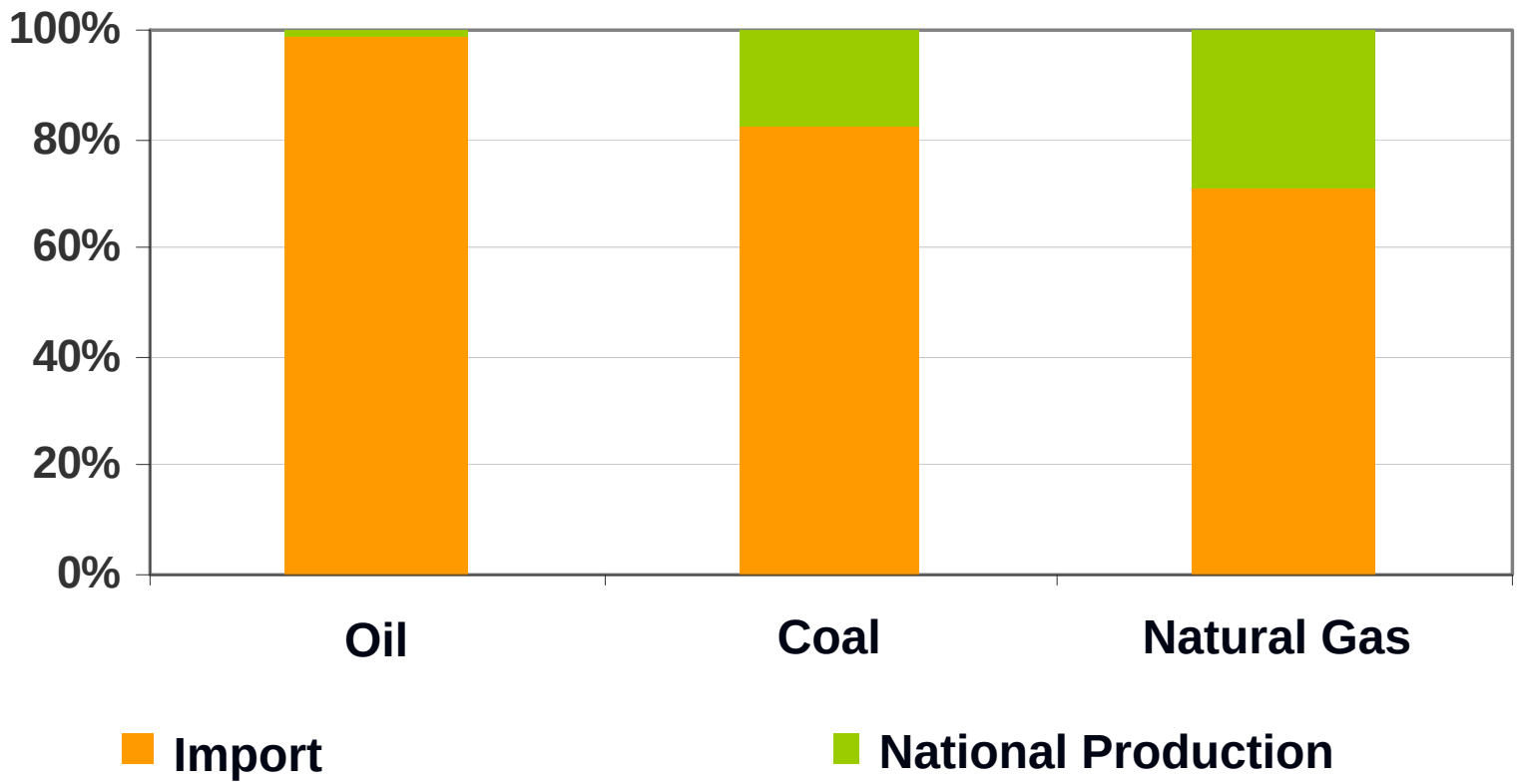


Fuente: Sara Pimentel, Cochilco, Taller APEC, Octubre 2004

Evolution of sectors consumption



Energy dependence, 2002



Chile: Installed Generation Capacity

December 2002

SING: 3.634 MW
34.1%

Country Total 11.146 MW

SIC: 6.737 MW
65.1%

AYSEN: 21MW
0.2%

MAGALLANES: 64 MW
0.6%

Source: Vivanne Blanlot – CNE, May 2003

Columns and indicators for energy sustainability

- Supply reliability, quality supply and reasonable prices
- Energy autonomy
- Environmental sustainability
- Energy equity
- Democracy (concentration) and participation

These columns should be developed more deeply in order to provide a solid support to judge the eventual alternative energy policies

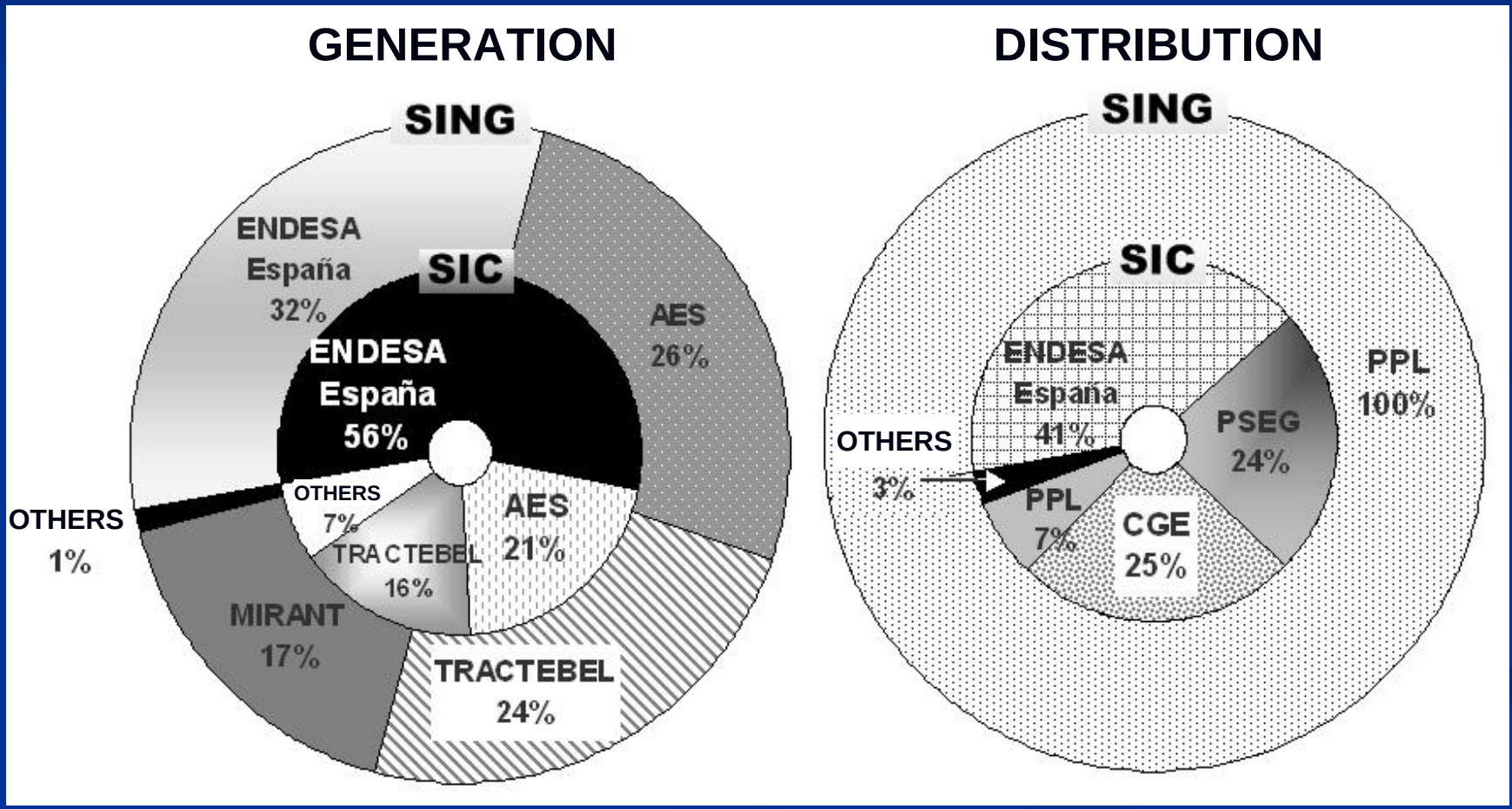
The energy reform in Chile: 20 years after

- Objectives: competitiveness, eficiency,universal access, etc
- Reform process
  - Commercialisation: establishement “real” prices (1981)
  - Deconcentration and unbundling of public companies
  - Privatisation (ended on 1989)
  - Sustainability ignored
- Basically, the system have worked relatively well and prices are reasonable.
- Expected main reform objectives were not achieved: Reconcentration, (Re)bundling, limited competitiveness and insufficient revenues from utilities privatisation, poor regulation and control

The energy reform in Chile: 20 years after (cont.)

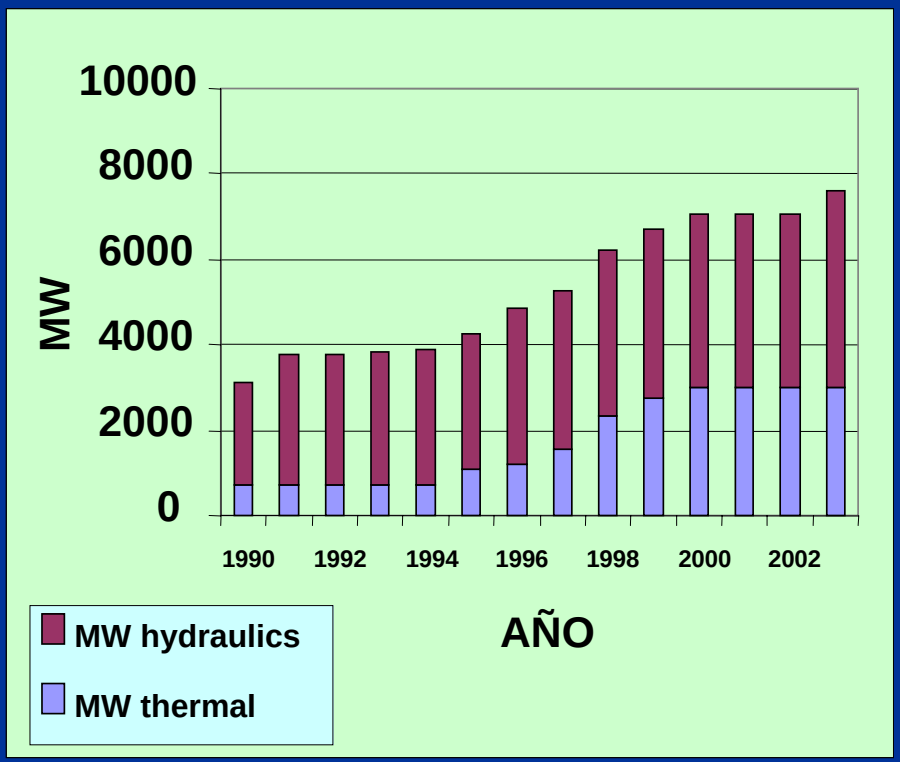
- Loosing sovereignty: from Chilean private companies to TNCs
- Problems with supply reliability, service quality and related matters (energy dependence, concentration, institutional weakness, etc)
- Equity wasn't a main concern, nevertheless more than 95% of population is electrified (90% of rural population is connected to the electrical network)
- Environmental concerns: a minor subject of the energy policy

Concentration of the electric sector

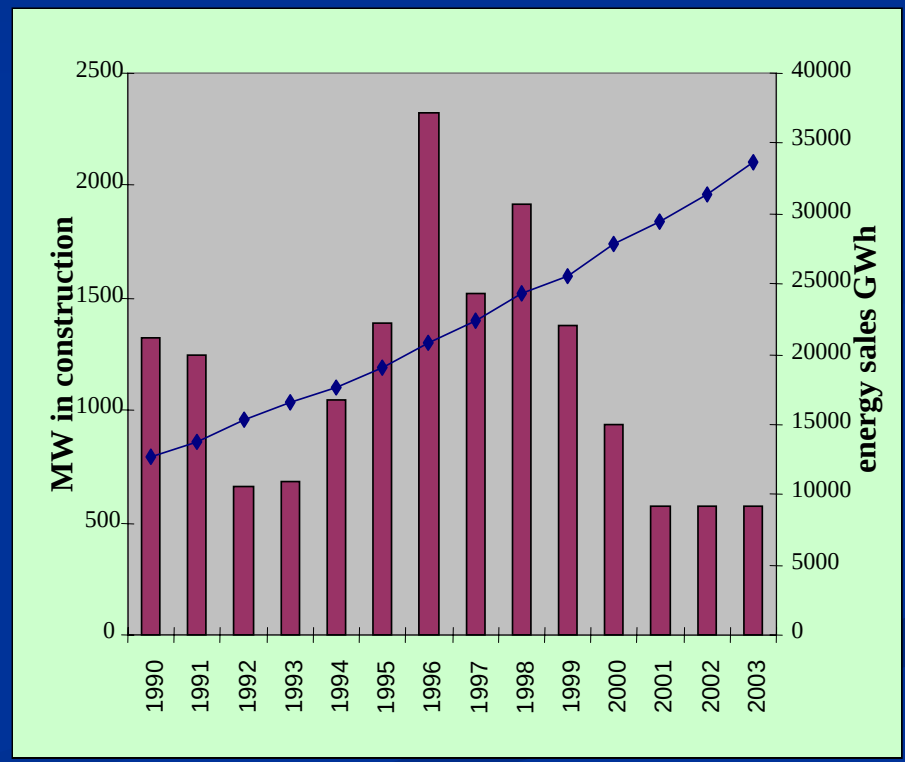


Energy supply vulnerability: Under investment in the SIC's region

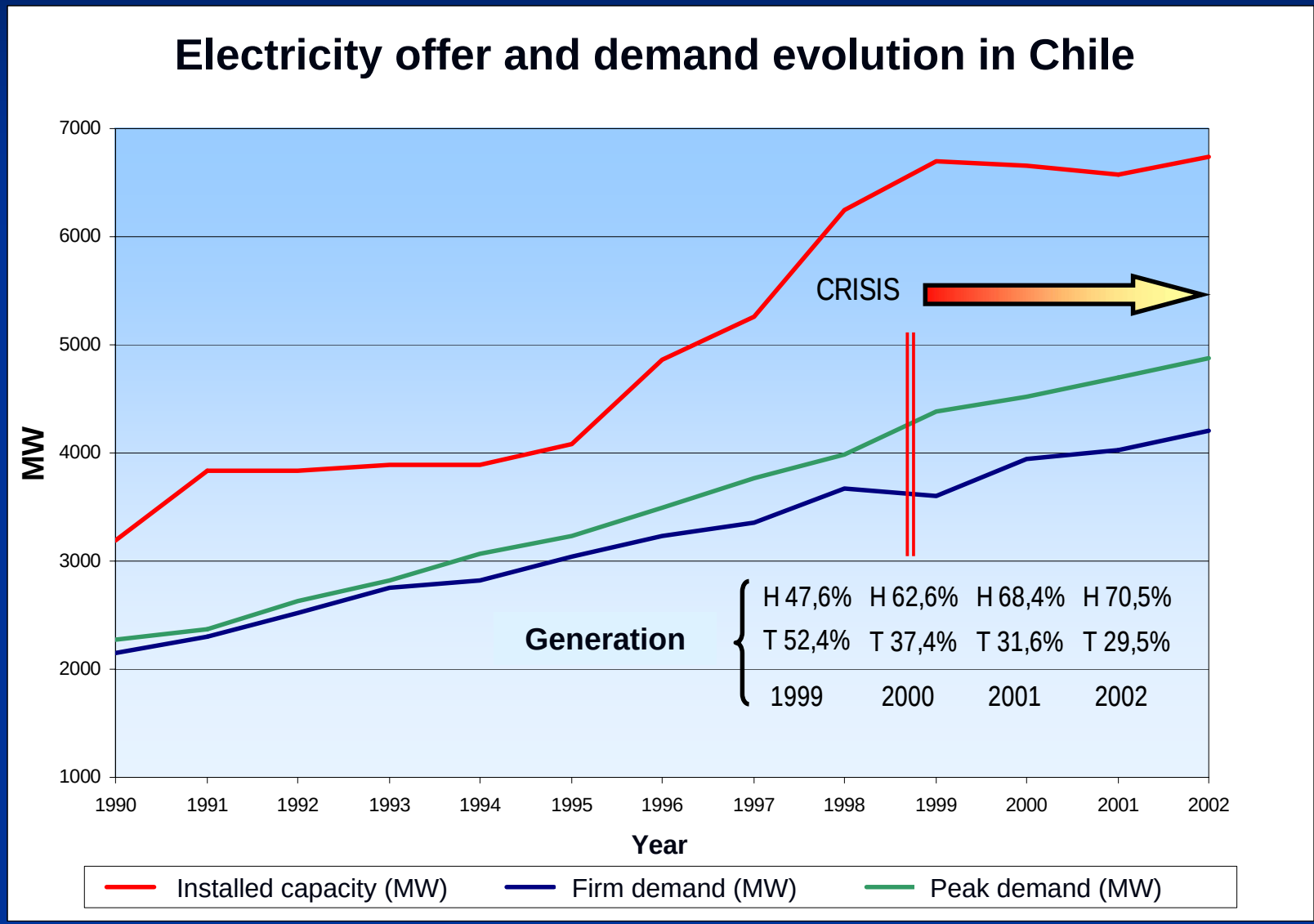
INSTALLED CAPACITY EVOLUTION



ENERGY SALES AND POWER PLANTS IN CONSTRUCTION



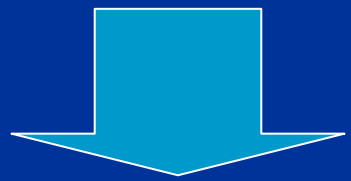
Energy vulnerability: investment crisis



Basis for a Chilean energy policy proposal

Breaking point in the Chilean Energy Policy

- **Environmental concerns are getting more relevance for public / private decision makers**
- **Energy vulnerability awareness arouse from natural gas supply crisis**



- **Change in public speech and even in the willingness to move toward a more sustainable energy policy**
- **Energy efficiency has won a little space …**

Programa País de Eficiencia Energética (Energy Efficiency National Program)

- Launched on April 2005 by the Ministry of Energy
- It has been established a minimal (not permanent) team devoted to EE,
- More than hundred specialists from public and private sector have collaborated with the Program
- It have been identified 25 institutional projects based on ordinary budget…
- For the first time, 2006 national budget includes resources for energy efficiency (USD 2 millions)

Energy policy and sustainable development require:

- A reinforcement of the regulatory and supervision role
- An energy carriers diversification
- Energy efficiency should be considered as an strategic option for the energy policy (PRIEN involvement and technical coop is needed)
- A reinforcement of the renewable energy promotion
- Externalities consideration (technical coop is needed)
- Economic and geographic universal access to energy (PRIEN involvement)
- CDM projects and programs

Questions and conclusions

Interrogants

- Is it possible a sustainable energy path without a country project?
- There are significant technological options to insure a sustainable energy path: then what is missing?
- A conventional electricity reform: Is it possible in non challengeable markets?
- A sustainable energy policy: Is it possible in a global economy?

Conclusions

- The energy policy suggested aims to:
  - A (re) definition of the State's role
  - (Re) definition of the planning system
  - A tight relationship with the environmental, urban development and transport policies
  - Significant regulatory changes
  - Real efforts to diversify the energy matrix
  - Reduce the barriers to energy regional integration
  - This kind of energy policy is possible