

PUBLIC POWER CORPORATION of GREECE SA

Mines Division



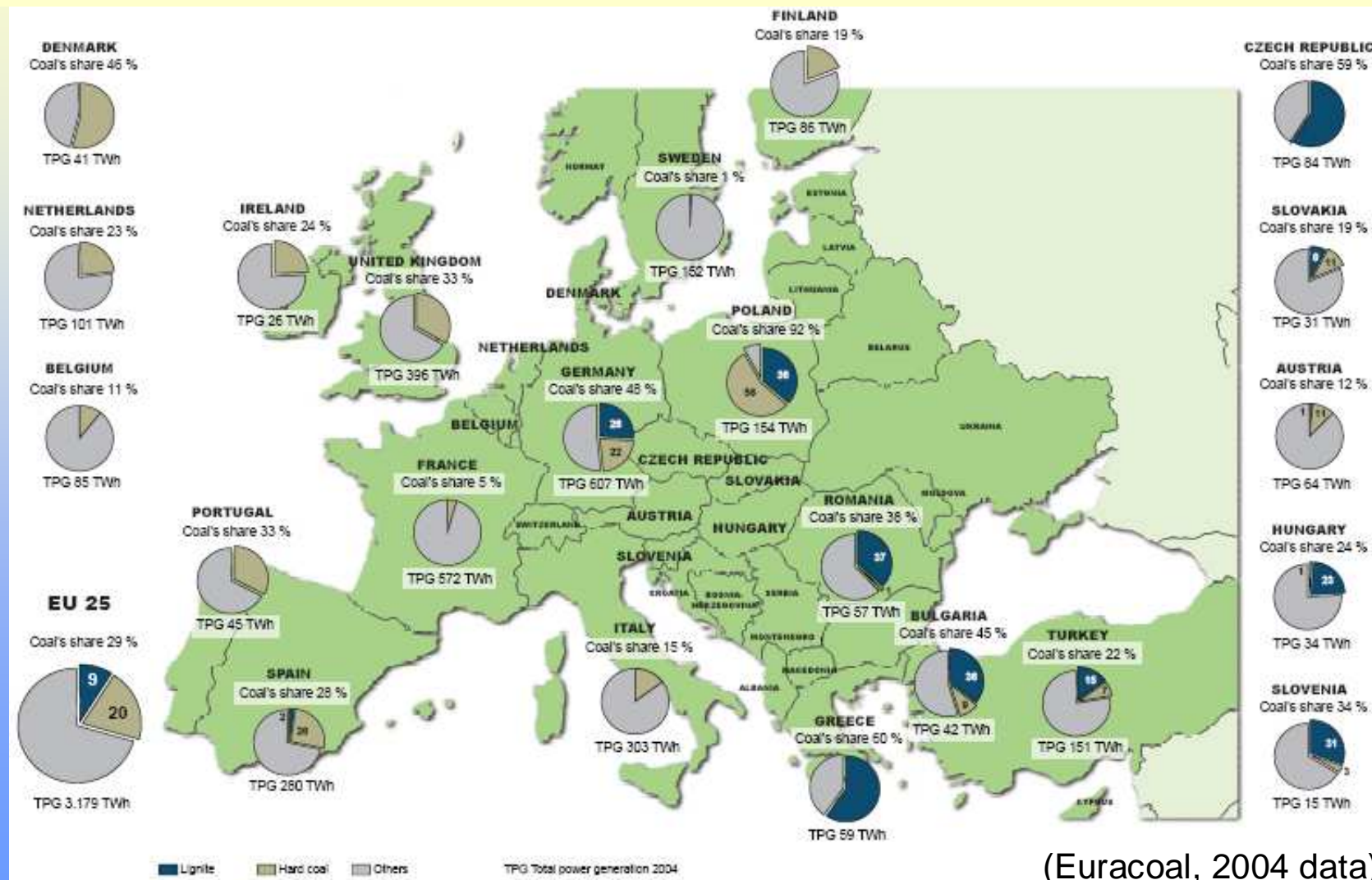
Google Earth - PPC Lignite Center

Western Macedonia Lignite Centre

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Pointer 40°28'03.99" N 21°46'18.56" E elev 2209 ft

Coal is the major fuel source for electric power generation worldwide. More than half of total world coal production provides around 38% of the world's electricity. Around 30 % of the power generated in the EU-25 is coal-based.



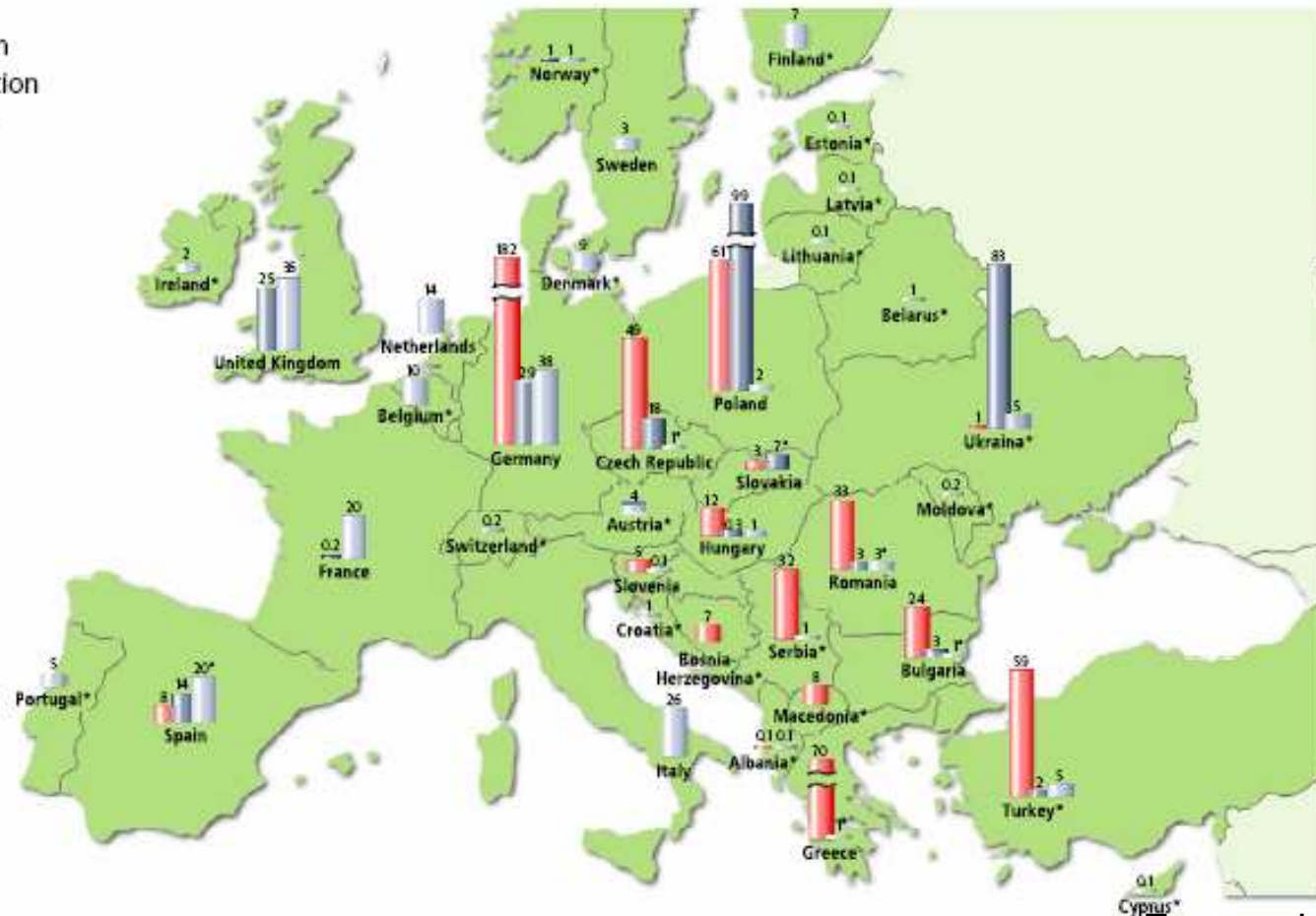
(Euracoal, 2004 data)

Coal in Greece is found as lignite and peat.
Lignite is the most significant domestic fuel.

Coal in Europe

Lignite production, hard coal production and imports in Mt in 2004

- Lignite production
- Hard coal production
- Hard coal imports



*2002/2003

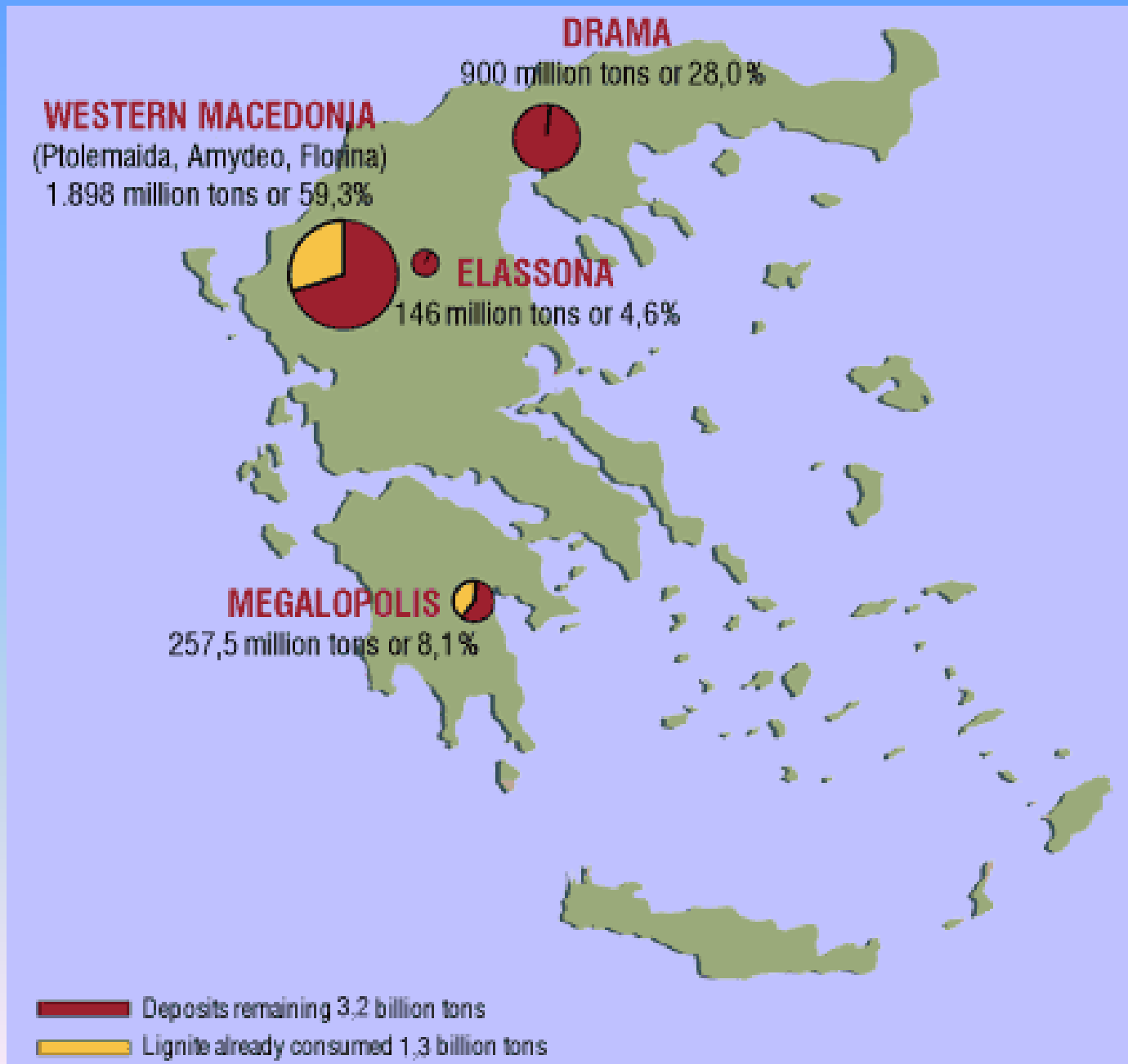
Euracoal

European Lignite production (Mio t)

Rank	Country	2006	2005
1	Germany	176.3	178.0
2	Greece	64.2	69.1
3	Poland	61.3	61.9
4	Czech Republic	48.7	49.0
5	Hungary	9.6	9.6
6	Spain	7,0	7.5
7	Slovenia	4.6	4.6
8	Slovak Republic	2.1	2.5
Total		373.8	382.2

Lignite production in Greece

- **Public Power Corporation of Greece SA (PPC) is the main lignite producer in Greece (97.3% in 2006). PPC is by far the biggest mining company.**
- **PPC owns and operates 2 major surface mine complexes:**
 - ✓ **Western Macedonia Lignite Centre**
 - ✓ **Megalopolis Lignite Centre**

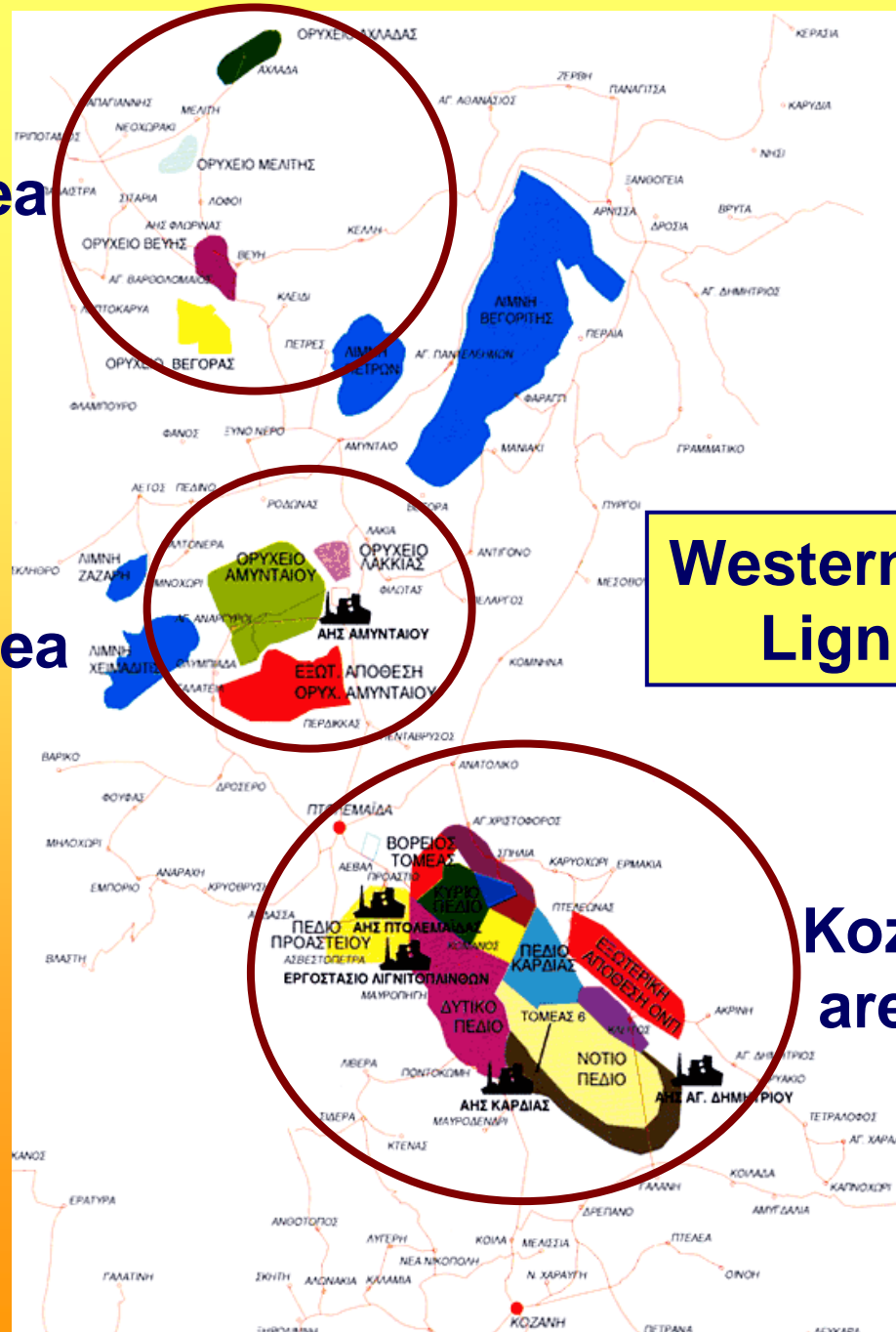


Florina area

Amyntaio area

**Western Macedonia
Lignite Centre**

**Kozani-Ptolemaida
area**





Ptolemaida Power Plant

- **6 Power Plants**
(18 units)

- **4.438 MW Total**
installed capacity



Agios Dimitrios Power Plant

Western Macedonia Mines & Thermal Power Plants

Mines / Power Plants :

Main Field	→ Ptolemaida LIPTOL	620MW 43MW
Kardia Field	→ Kardia	1250MW
South Field	→ Agios Dimitrios	1595MW
Amyntaio Field	→ Amyntaio	600MW
Florina Fields	→ Meliti	330MW



Kozani – Ptolemaida area

North Field (1982-2006)

Main Field (1957-1986)

Komanos Field (1984)

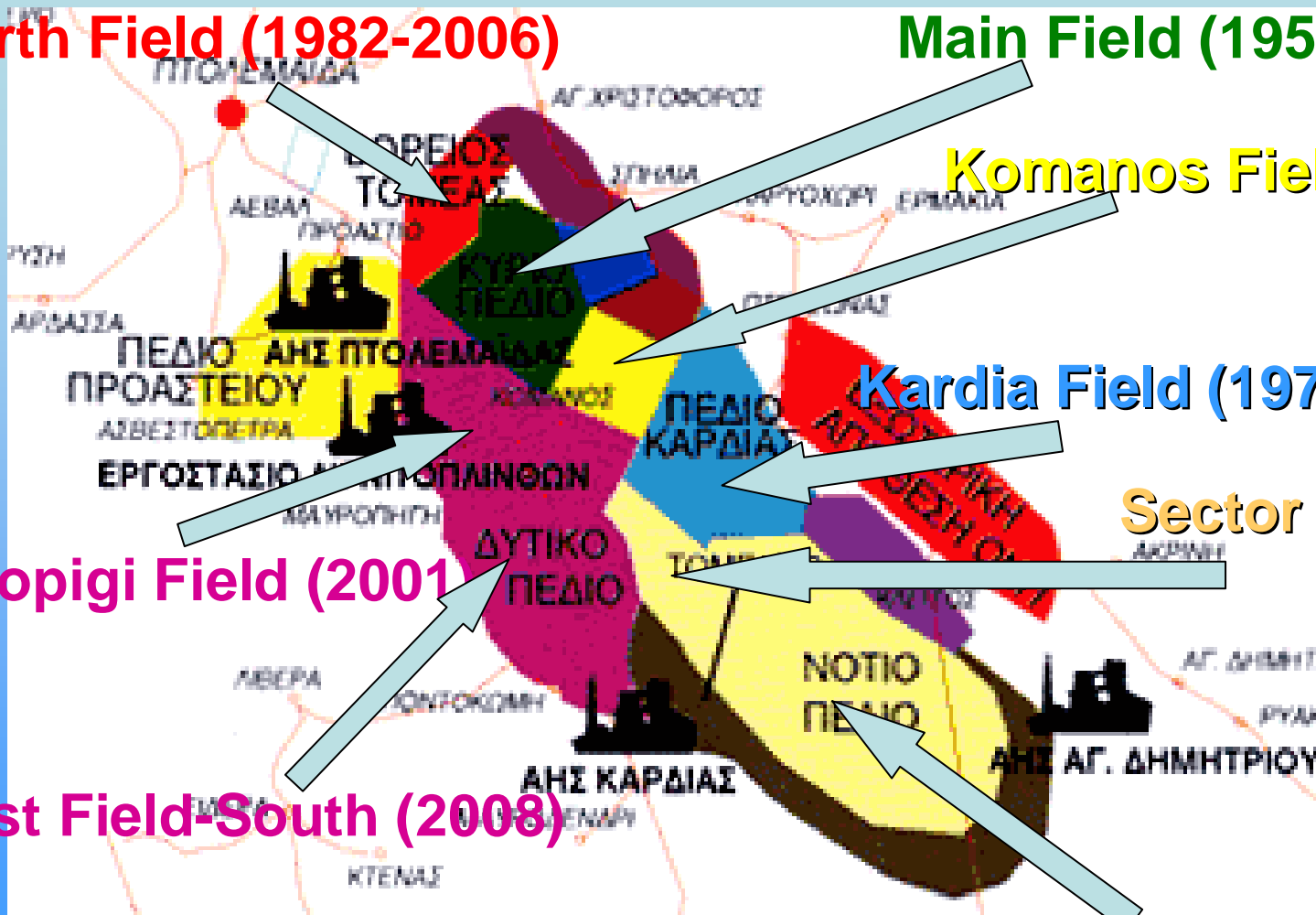
Kardia Field (1970-1995)

Sector 6 (1989)

Mavropigi Field (2001)

West Field-South (2008)

Southern Field (1979)



Amyntaio area



Florina area

Achlada (non PPC)

Achlada-PPC (2001-2006)

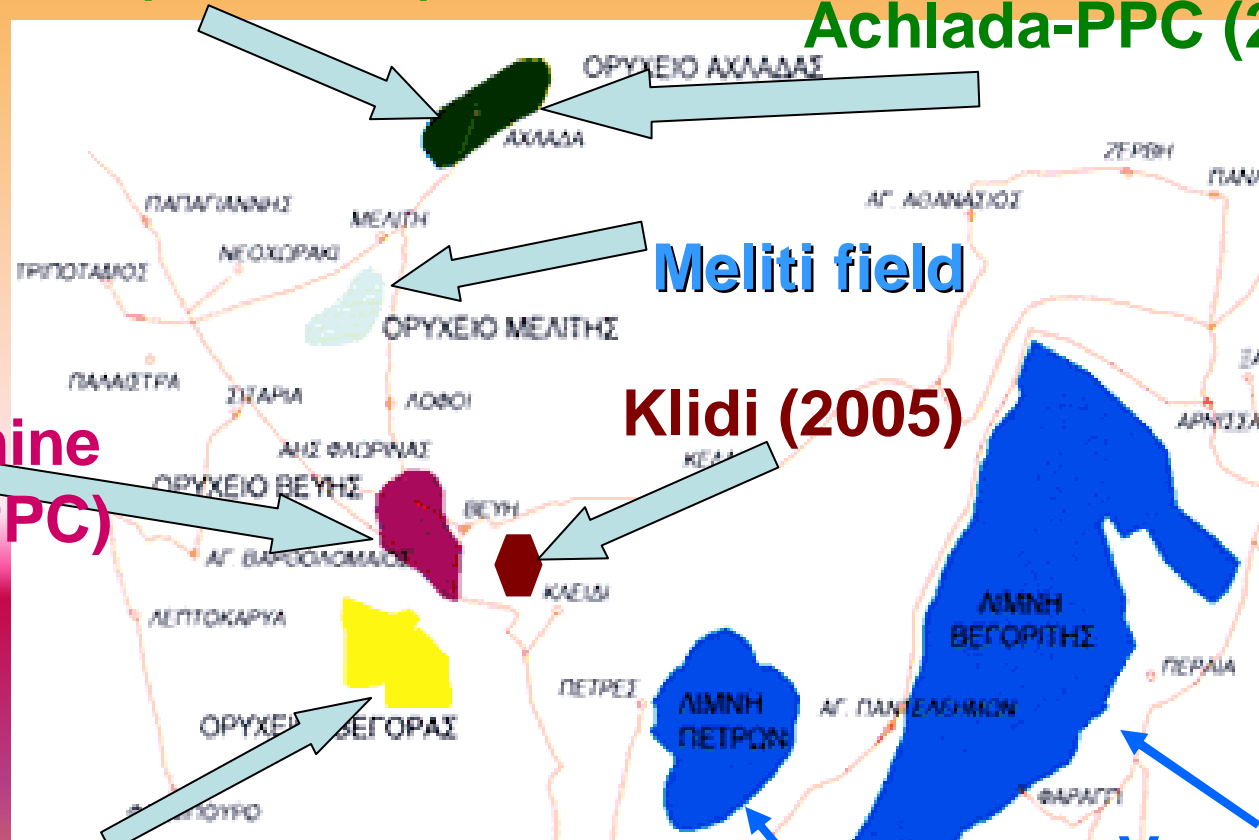
Vevi mine (non PPC)

Klidi (2005)

Vegora pit (non PPC)

Petron lake

Vegoritida lake



Lignite is found in horizontal or slightly inclined multiple layers



**Humidity 50 – 55 %, Ash 12-18 %
Calorific power 1250 – 1350 Kcal/kg**

- **Surface mining**
- **More than 300 Mm³ total masses excavated annually**
- **50-52 Mt lignite produced annually**
- **70% Continuous Excavating Method (selective mining)**
- **30% Discontinuous Excavating Method**



Main excavating equipment : 42 Bucket Wheel Excavators



Different types and sizes of BWEs

Capacity 750 m³/h up to 10.000 m³/h



Small BWE

Bucket wheel excavator with loading unit





- **220 Km of belt conveyors**



- **Belt width
1000 – 2400 mm**

**16 stackers of different types and sizes
dump the waste material**



- **Lignite is temporarily stocked at mine stockyards**



- **or transported directly to the Power Plant stockyards**

**Hard rock formations are handled with shovel + heavy trucks systems.
Blasting is usually necessary**





**Diesel equipment :
1000 pieces**



Environmental Protection

There is a continuous effort to reclaim the mined out areas

- The waste dump areas are leveled as soon as they reach their final limits



- Topsoil is added wherever necessary

- **Inclined surfaces are often reforested,**
- **Level surfaces are turned into cultivable land**
- **More than 600.000 trees planted annually**






Wheat and other cereals are experimentally cultivated at the reclaimed lands

Flowers and Vegetables are grown at an experimental greenhouse



An aerial photograph of a reclaimed mine site. A large, winding pond is the central feature, surrounded by lush green trees and grass. To the right, there are several large industrial buildings and a road with a few cars. The overall scene shows a mix of natural and industrial elements.

The mines will occupy a total area of 160 Km²

40 km² already reclaimed :

- **25 Km² reforested**
- **10 Km² agricultural land**
- **5 Km² parks, lakes, etc.**

In 2007 the Lignite Centre established a strict
Environmental Management System
and was awarded
an **ISO 14001 Certificate**

