

Set the right climate for your holidays – Tourism & Climate Change Conference by the Greens/EFA on Thursday 03 July 2008 in Brussels, European Parliament, Room ASP 1 G 2

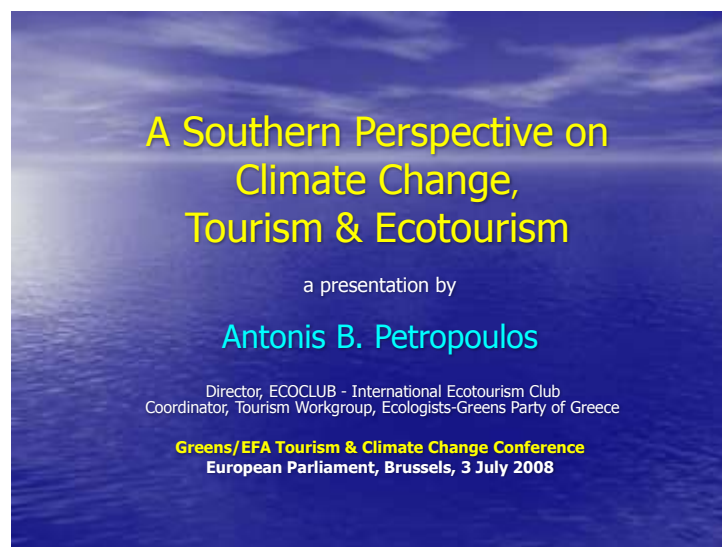
“A Southern Perspective on Climate Change, Tourism & Ecotourism”

by Antonis B. Petropoulos,

Director, ECOCLUB.com – International Ecotourism Club

Tourism Workgroup Coordinator, Ecologists-Greens Party, Greece

SLIDE 1



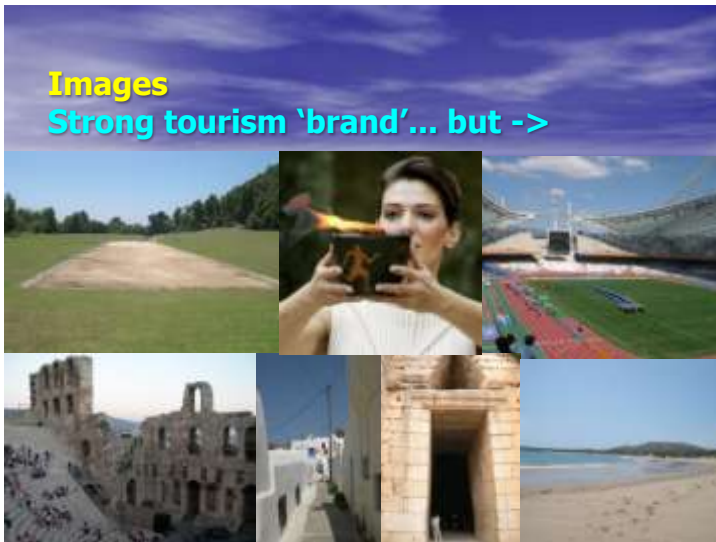
Good afternoon, my name is Antonis Petropoulos and I represent the Ecologists-Greens Party of Greece as well as ECOCLUB.com - International Ecotourism Club. It is a great honour to be here at the invitation of the European Greens and indeed to be speaking in an auditorium named after Petra Kelly.

SLIDE 2 - Contents



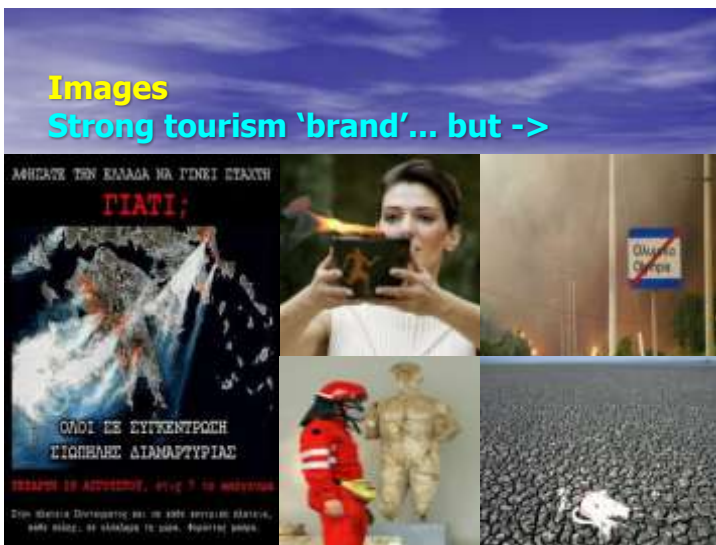
Today I will try to summarize the key characteristics of Tourism in Greece, the environmental problems it faces, and those it creates in the context of Climate Change. I will give you bad practice examples, rather than good ones.

SLIDE 3 - Brand



Greece is considered one of the oldest and more resilient tourism brands, combining a dramatic, diverse & biodiverse landscape, with over 3,000 islands, some 35,000 historic and cultural monuments, 17 world heritage sites and 8 tentative ones, many well-preserved traditional settlements, most of which are in mountains and islands, over 15,000 km of coastline, and many pristine natural coastal and mountain areas. However,

SLIDE 4 - However



this fame and natural blessing has made us complacent and careless. We have a High Human Development Index (rank 24 worldwide), and a relatively high GDP per capita (rank 30), however a low Environmental Sustainability Index (rank 67). Nemesis came last Summer, when 84 people died from 3,000 fires that destroyed around 2,700 square kilometers (about half of which was forest) amounting to 2% of the total land area of Greece. The total cost of the fires is estimated at nearly half the cost of the Olympics, or around 3.5 bn. Euros

But there are also some less well-known disasters, such as the near-dried up Lake Koronia near Thessaloniki (bottom right picture), a Protected Ramsar site, where thousands of migratory birds including the iconic flamingo die each year, poisoned by cyanotoxic bacteria, fertilizers and industrial waste.



The following three slides present the key characteristics of the Greek Tourism Sector.

Greek Tourism is of international significance, ranking 15th by arrivals and attracting some 15 m. Tourists annually, almost half of which are from the UK, Germany and Italy. The tourists amount to 1 and a half times the permanent population (in comparison Turkey receives just a quarter of its population). 40% of tourists (6.2 million) visits just 5 islands: Crete, Corfu, Rhodes, Kos and Zakynthos, nearly all by charter flights.

Greece received around 14.2 bn dollars, directly from Tourism in 2006, or 3.8% of world tourism receipts (rank 13). The figure is also about equal to the estimated cost of the Athens Olympics. Tourism contributes directly around 7% and indirectly another 11% to the Gross National Product, thus 18% in total compared to 8% for Agriculture.

It is also important in terms of employment with 255,000 employed directly and another 600,000 indirectly, or 18% in total compared to 10% for Agriculture. Out of the 20 million Europeans employed in Tourism, 800,000 of these in Greece. Over the past 20 years, the number of tourist arrivals has doubled, the price of land has soared and there have been generous subsidies, state & EU.

On the other hand, tourism generates many leakages due to the proliferation of low-cost charter packages - 8 million out of the 15 million arriving this way, to considerable tax evasion (some 150,000 undeclared beds or 20% of the total) and uninsured labour, estimated at around 60% by the head of the tourism employees union. Tourists also consume more natural resources than locals, especially in the summer, significantly contributing to shortages in energy and water, which in turn lead to higher costs to create and maintain adequate infrastructure.

The typical hotel is small and family-owned, the whole family works hard for 4 months when they also employ low-paid assistants, usually uninsured immigrants from the Balkans or further afield. The same is true in bars, rent a car/moped businesses and restaurants. Over 50% of hotels & rent-room businesses have a capacity of less than 15 rooms, while 65% of hotels and 38% of rooms are classified as one star or two star. In total there were around 700,000 beds in 2007, a 25% increase over 10 years. The mean size for hotels is still small, with 31 beds compared to 200 for Turkey, 90 for Spain and 47 for Italy. This is in my view a strength, rather than a weakness, however the government and some in the business lobby think otherwise. However there is currently a tendency for big real-estate investments, villa developments and golf courts, with a total of 47,000 new luxury hotel beds, subsidised with state funding, coming to the market soon. Rather than providing strong incentives so that current capacity becomes more eco-friendly, the government is subsidising luxury.

SLIDE 6



Greek Tourism Model
Key Characteristics (contd.)

- Highly Seasonal – complementary with Agriculture
- High Geographical Concentration in Arid, Insular Regions
- Inadequate Interface with Public Transport
- Tax Evasion & Unlicensed / Irregular Operators
- Historically, lack of planning & land planning
- Funding through state & EU subsidies, shipping & banking capital, unofficial economy
- Unclear, Contradictory, eco-unaware Tourism Legislation
- Unclear demarcation of Tourism Body responsibilities

Due, primarily, to cold winters, there is a very high seasonality, with just one third of hotels staying open all year, with 65% of tourists arriving from mid June to mid September. The main reason is the climate, we have cold winters, unlike Cyprus or Southern Spain. Seasonality does have some advantages - it gives a chance to the social and natural environment to rest and recover. However it also gives rise to the unofficial character of the sector the most characteristic aspect of which is part-time employment – almost all hotel and travel agency staff in resorts is laid off at the end of the September or October, and only receive an unemployment benefit until the next May or even June...Seasonality also affects public infrastructure, including public transport and together with an ever-changing administrative structure – the tourism ministry was first founded in the 80s, abolished in the 90s and resuscitated 4 years ago – and a lack of a separate Ministry of Environment, we are left with a haphazard tourism development model. Tensions are exacerbated by government policies determined to privatize all public transport infrastructure (ports, airports and the national carrier Olympic).

SLIDE 7



Greek Tourism Model
Key Characteristics (contd.)

- Mix of economic liberalism, statism & protectionism
- Lack of skilled and adequately trained staff
- Lack of environmental awareness at all levels
- Strong Domestic Tourism sector
- Growing international retirement community
- Government emphasis on big real-estate investments, villa developments & Golf resorts
- Lately, Government lip service to green tourism
- Chronically erratic promotion, branding & marketing

Bureaucracy, lack of continuity when the minister or the government changes, and erratic tourism promotion campaigns, all add to the chaos and thus the environment takes the backseat to what are seen as more 'pressing problems' that necessitate 'development'. A strong domestic tourism sector, which involves visiting mountain & rural villages of mainland & insular Greece where most Athenians descend from acts as a buffer in times of crisis, for example when there were wars in neighbouring countries or travel directives back in the 80s. On the positive side, a strong social tourism scheme is also in place, offering low-cost holidays to those Greeks with lower

incomes. The big game is now played in Real Estate, especially after the 2004 Olympics and the coming to power of the pro-big-business conservative party. Controversial, neo-feudalist schemes take the form of sprawling golf & villa luxury tourism developments in eastern Crete (Cavo Sidero), southern Peloponnese (POTA Messinias), Sterea Ellada (Atalanti Hills) with many more in the pipeline. These anti-environment policies are glossed over by a thin green veneer and environmental technology coming to the rescue. Let us now examine the impact, current and future of climate change on this model.

SLIDE 8 – CLIMATE CHANGE IMPACT

Climate Change Impact on Greek Tourism

*Overall, less **attractive, healthy, safe** for Tourists*

- ☐ Forest Fires: more frequent, larger. Land Subsidence. Rural socio-economic collapse. Summer 2007: 64 victims, 2% of Greece burnt, over 10% of total forested area!
- ☐ Desertification: 35% of the country in imminent risk, including almost all resorts.
- ☐ Water Shortage: 25% decrease by 2030
- ☐ Water Salination due to over-extraction & Sea Intrusion
- ☐ Malaria & other diseases may make a comeback.

After last year's fires, you will find few Greeks doubting that Climate Change is indeed taking place or that humans are to blame, as we are constantly reminded by more frequent and larger forest fires. Fires, Desertification, Water Shortage, Salination, and extreme weather phenomena like the unprecedented three heat waves of the summer of 2007, small hurricanes, torrential rain and huge hailstorms (for example the 50 cm one in Rhodes during the New Year of 2008) are all inter-connected, and may put not just Greek Tourism, but life in Greece under great stress.

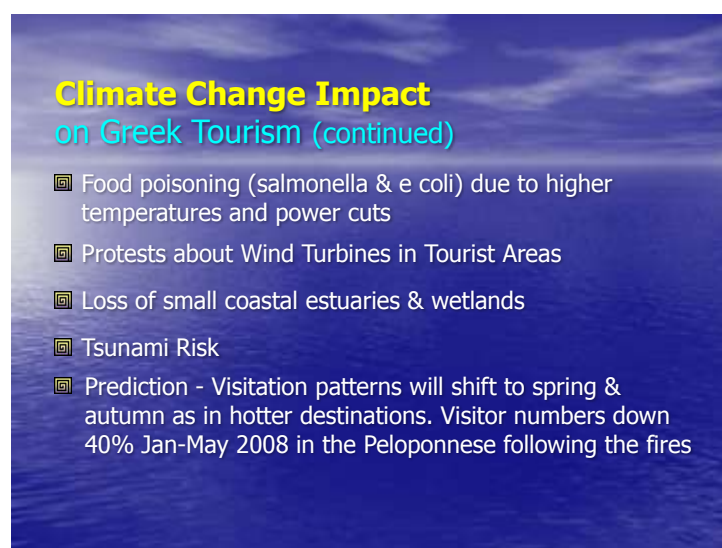
SLIDE 9 – IMAGES (FORESTS, FIRES, DESERTIFICATION)

Images Forests, Fires, Desertification

On the top left are the lush green forests of Pindus Mountains in north western Greece, which enjoys the highest precipitation. The middle photo is from last week's forest fire in Mt Ymitos which overlooks Athens. Note the location of the electricity pylon. Our pylons prefer to take short cuts through forests and are regularly blamed for starting fires when over-consumption leads to short-circuits. Other usual suspects include the 3,600 illegal

landfills (or 1,555 according to the latest, optimistic government figures) and, all too conveniently, arsonists - if arsonists are responsible no official is to blame for not doing their jobs properly. There is of course pressure from real estate developers as not all burnt areas are eventually reforested as explicitly promised in our National Constitution. For example, last year a government minister was forced to resign when it became known that he owned an illegal summerhouse within the peripheral protection zone of Mt Ymitos, near the site of the fire that you see in the picture. The top right photo is a typical island landscape where forest cover has long been lost. The bottom right is from southern Crete, a great part of which is already semi-arid and in great risk of desertification – see the red area in the desertification map of Greece in the bottom left. Ironically fires generate incentives for further development, as there is a special state subsidy of 60% for tourism and other investments in fire-stricken prefectures.

SLIDE 10 – CLIMATE CHANGE IMPACT – CNTD

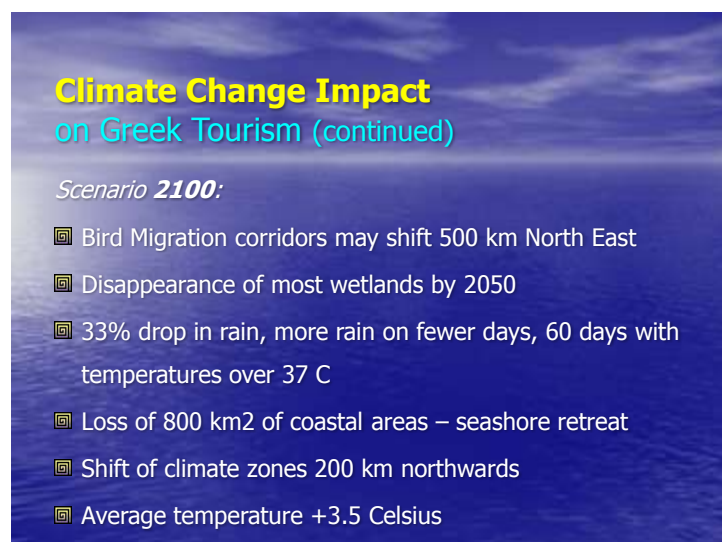


Climate Change Impact
on Greek Tourism (continued)

- ☐ Food poisoning (salmonella & e coli) due to higher temperatures and power cuts
- ☐ Protests about Wind Turbines in Tourist Areas
- ☐ Loss of small coastal estuaries & wetlands
- ☐ Tsunami Risk
- ☐ Prediction - Visitation patterns will shift to spring & autumn as in hotter destinations. Visitor numbers down 40% Jan-May 2008 in the Peloponnese following the fires

Further impacts, and current and future risks – include food poisoning, loss of wetlands, wind-generated tsunamis like the one in the bay of Benghal. Unusually large waves are already being observed from time to time in the Aegean, caused by strong winds. At the same time, there is some hostility in tourism circles against the installation of Wind Turbines in scenic spots (and thus a great part of the country) with protests against Wind Turbines are already taking place in southern Evia - in village squares one can see banners saying ‘no to reforestation with iron’.

SLIDE 11 – CL. CHANGE IMPACT – CNTD



Climate Change Impact
on Greek Tourism (continued)

Scenario 2100:

- ☐ Bird Migration corridors may shift 500 km North East
- ☐ Disappearance of most wetlands by 2050
- ☐ 33% drop in rain, more rain on fewer days, 60 days with temperatures over 37 C
- ☐ Loss of 800 km² of coastal areas – seashore retreat
- ☐ Shift of climate zones 200 km northwards
- ☐ Average temperature +3.5 Celsius

A pleasant climate & environment are important factors determining where and when people choose to spend their holidays. In the Peloponnese, the region most affected by the 2007 fires, visitor numbers are down 40% Jan-May 2008 compared to the same period of 2007. If environmental disasters in July & August become a regular feature, visitation patterns will shift to spring & autumn resembling those of hotter destinations like Dubai. On the screen you can see the nightmare scenario, if we continue down the unsustainable way. In Greece there are a total of 19 ski resorts, most of which are in Northern Greece. Especially the most southerly ski-resorts are already experiencing shorter snow seasons and fewer visitors. The positive aspect for mountain environments is that no new ski-resorts are planned. The effects of climate change are already visible in important archaeological sites like the ancient Corinth canal ship towpath, which is under great risk from rising sea levels. Another possible impact, which few have realized, are climate refugees arriving en masse to Greece from Asia and possibly Africa. In 2007, some 100,000 economic migrants and war refugees trying to enter Greece were detained by the authorities (compared to about 10,000 in Spain and Italy), temporarily housed in make-shift reception centres (old schools) on island tourism destinations like Samos, Rhodes and Lesbos, which are near the Turkish coast.

SLIDE 12 – ENVIRONMENTAL MANAGEMENT



We now move on to Environmental Management in Greek Tourism. Two basic observations are that there is no official or unofficial body collecting specialist environmental statistics for Tourism, and there is no unified body of environmental legislation for Tourism. Hopefully the 4 year old Tourism Ministry will one day decide to act on these two issues. There is essentially no official Greek body (state, private or other) steering the tourism sector towards the voluntary adoption of environmental practices, diffusion of good practices, eco-labelling, benchmarking, or codes of conduct, with the exception of the Agrotourism segment, where a national agrotourism standard was created two years ago by the state-owned Agrotouristiki company. Agrotouristiki was perhaps too successful for its own sake and is currently being converted into a Rural Tourism Organisation, without any explanation being provided. International eco-labels have not made any progress either, although the first European-Flower was awarded to a Rhodes hotel back in 2003. At this moment there are just 4 hotels with a European Flower in Greece (out of a total of 75 in Europe), three of which belong to the same operator SunWing. This is the same number with Spain, but far fewer than Italy (22). A few members of large hotel chains are Green Globe 21 Certified. The Greek Tourism Minister however announced on World Environment Day that the government is planning a national green hotel certification scheme along with the Greek Hotel Federation. In the mean time, environmental inspections and fines in tourism are rare and disasters do not result in resignation or changes of policy & legislation even for headline-generating events such as adventure operator accidents (10 people drowned in Arcadia in 2007 – easily blamed on an ‘unlicensed’ adventure tour operator – although no clear procedure exists for licensing), the poisoning via air-conditioning in a Corfu hotel in 2007, or the sinking of a cruise ship in Santorini: the ship is still there, a toxic time-bomb, while the lawyers argue who is to pay for raising

her. Another serious problem is the great lack of professional training, in both tourism and environmental issues, in most small and medium size businesses, while even larger businesses suffer from a poor standard of tourism academic education & training. A handful of tourism businesses have in-house training programs in environmental issues.

SLIDE 13 – E.MGMT – WATER



Environmental Management
(Water, Energy & Emissions, Waste, Biodiversity)
in Greek Tourism

Water – Current Situation: Waste & Shortage

- ☐ Uneven time & spatial distribution of water resources & rainfall, most tourist areas experience chronic shortages
- ☐ Low national Water Efficiency, leakages, inefficient irrigation, unsuitable crops, cheap water.
- ☐ Most Tourist areas lack waste water treatment plans, however, Rank #2 in Number of Blue Flag Beaches!
- ☐ 170,000 water wells, some of illegal depth (up to 400 m!)
- ☐ Desalination plants becoming more common in resorts
- ☐ New Golf resorts (pesticides, water consumption)

Water is not scarce in Greece as a whole, and despite agriculture excesses, water use intensity is around 12% or average by global standards. Indeed Greece is about to send 8 million cubic metres with six tankers to Cyprus that is currently facing a water crisis. As with electricity, there is a water surplus in the North and North Western Greece, and deficit in the South & South Eastern Greece, which also receives the bulk of tourists. Water policy is not up to standard, with water management and supply falling under the responsibilities of up to ten different Ministries and a number of independent public corporations. Water is treated as a cheap, abundant, public good, and virtually donated to environmentally unsustainable cotton & corn producers. Agriculture consumes 87% of water, whereas Tourism around 2%, according to rough estimates, as no one is collecting such data.

Going back to Tourism, it is generally said that tourists may consume up to 4 times as much water than locals, taking longer and more frequent baths and showers, as water is free of charge in their rooms. Total water usage in hotels may range from 200 l per day per person to over 1200 l per day per person in luxury hotels, especially those with golf courses. The rule of thumb is that a golf course can consume as much water as 10,000 inhabitants. So it must be pure madness that the Greek government is planning for at least twenty golf courses, at least half in the most arid areas of Greece. 50% of municipalities in Greece including most tourist ones are lacking water treatment plans and it is rather surprising that we have 430 'Blue Flag' beaches (16% out of the world total). Probably due to Poseidon and his strong currents? The Tourism Minister himself in a May 2008 speech protested (against whom, one wonders) that an illegal landfill in Argolis prefecture was right next to a blue flag beach. Desalination plants are one solution for islands, however they generate pollution and noise pollution, and may even alter sea currents. They can also be used as trojan horses to justify the sustainability of golf developments. One of the biggest problems however is water waste and this is not confined to agriculture: water leakages in island tourism resorts such as Herakleio and Rethymno in Crete reach up to 50% due to bad maintenance but also unlicensed connections to the water grid.

SLIDE 14 – E.M. - WATER SOLUTIONS

Environmental Management
(Water, Energy & Emissions, Waste, Biodiversity)
in Greek Tourism

Water – Eco Solutions

- ☐ Towel & Bedding reuse programs
- ☐ Biodegradable cleaning chemicals
- ☐ Water consumption monitoring systems
- ☐ Rainwater collection (cisterns & catchment basins)
- ☐ Grey water treatment & reuse
- ☐ Garden design and plant selections
- ☐ Water-saving equipment

On the slide you can see some of the classic water saving solutions that are currently being employed by a minority of hotels. Some are easy to install and can cheaply cut consumption by up to 35% , including ultra-low-flush toilets, spray nozzles, faucet aerators, and low-flow showerheads. Equally important are traditional methods such as rainwater collection and channelling to cisterns or catchment basins. These methods have been forgotten in many islands, as water is transported cheaply from the mainland and sold to municipalities at cost, at 0.6 Euros per cubic metre. You see water shortage does not automatically stop tourism, there is considerable adaptation. For example in Cyprus, where the authorities cut supply for up to 12 hours per day, people installed water tanks which they fill during the other 12 hours. Reuse of grey waters is also very uncommon in greek hotels, and the average health inspector would frown upon it as there is no specific legislation covering water reuse in hotels. On the contrary there is a fixation with using harsh cleaning chemicals like chlorine for disinfection.

SLIDE 15 – E.M - ENERGY & EMISSIONS

Environmental Management
(Water, Energy & Emissions, Waste, Biodiversity)
in Greek Tourism

Energy & Emissions – Current Situation: Slow Progress

- ☐ Hotels consume 10% of Total Electricity, but a lot higher in resorts (e.g. Rhodes 22%)
- ☐ Mean total energy consumption in Greek Hotels 273 kWh/m² (early 1990s) - 278 kWh/m² (2007)
- ☐ Total Energy demand grows by 3% to 5% annually.
- ☐ Energy cost = 9% of hotel operational costs
- ☐ Islands practically off-grid, largely dependent on oil for energy production
- ☐ SO₂ emissions double than EU average due to dependence on lignite.

Something positive for a change! Greece is one of the world leaders in domestic solar water heating systems, with some Greek companies being top world manufacturers and exporters. Thus solar water heating is very common, almost the rule, in hotels and rented rooms (and houses) in the sunnier, insular and coastal areas of Greece. However, the government is not enthusiastic about solar water heating and heavily promotes imported natural gas instead.

Worldwide, it has been estimated that hotels emit about 1% of total CO₂ – equivalent emissions. In comparison, tourism transport (inbound and outbound) currently accounts for 8% of CO₂ emissions, with air transport responsible for 50% of these. Air travel is one of the most rapidly growing sources of emissions (4% per year) owing to the growth in traffic and demand partly stimulated by low cost flights. In terms of greenhouse gases emission per capita and per kw of electricity produced, Greece is the sick man of Europe especially as far as Sulphur Oxide emissions are concerned – 16% of total EU sulphur emissions, due to the raw material for energy production, lignite. Hotels account for 10% of Electricity consumption, and more than double in major island destinations such as Rhodes. It is estimated that heating & cooling accounts for around 60% of energy consumption in Greek hotels, 20% is used for cooking, 15% to produce warm water and the rest is split for lighting and washing. According to unverified estimates, the participation of Renewable Energy Sources in energy consumption in Greek Hotels is just 2% compared with around 7% in northern Mediterranean countries. A study also found that only 4% of hoteliers are really informed about renewable energy technology applications.

SLIDE 16 – IMAGES – LIGNITE vs RES



In the bottom row you may see three of Europe’s dirtiest coal plants, the gold medal goes to Agios Dimitrios on the left, and bronze to Kardias in the middle, no medals but plenty of lignite for Ptolemaida. (1st in Europe Ag. Dimitrios Kozani 1350 gr CO₂/KWH - 3rd in Europe Kardias 1250 gr CO₂ / KWH). In the top row is a row of wind generators in Southern Evia, and a banner in nearby Karystos, a tourist resort popular with elderly Athenians, saying No More Wind Farms, No More High Tension Lines. Southern Evia also hosts a large Coal-Powered Electricity Plant in Aliveri, thus the inhabitants have seen little benefit from the installation of the wind farms, as far they are concerned, they are an add-on to the coal plant. Incentives for the local population are inadequate.

SLIDE 17 – E.M. – ENERGY * EMISSIONS – Current Situation

Environmental Management (Water, Energy & Emissions, Waste, Biodiversity) in Greek Tourism

Energy & Emissions - Current Situation (continued)

- ▣ Increasing Renewable Energy Use, mostly in larger hotels.
- ▣ Increasing Bioclimatic architecture
- ▣ Financial incentives for eco-improvements in hotels
- ▣ Insufficient public transport leads to car & moped hiring
- ▣ Boat connections increasingly expensive between islands, especially high-speed ones.

The 2010 target for Greece according to EU Directive 2001/77 is to produce 20.1% of its energy by Renewable Energy Sources. This increasingly looks impossible, as in 2007 less than 9% of energy was produced by Renewable Energy Sources and the greater part of this by old hydroelectric plants. The total wind energy capacity, which is around 880 MW would need to increase 5fold to meet the 2010 target. Wind farms take anywhere from 3 to 7 years to receive approval, as stringent regulations exist due to tourism that forbid their installation near beaches, traditional settlements, archeological sites and sites of high agricultural potential. Ironically, this results to siting wind farms in remote, natural areas, and thus the installation of wind energy capacity leads to the opening of new roads in pristine areas; and where the road goes, development follows. Wind Energy may also adversely impact on the important bird migration corridors in Greece, although there is no substantial research on the precise impact. Photovoltaics are very much behind in Greece, in terms of total energy generation, compared to Wind Energy, however they are easier to hide and a few new hotels are installing them also thanks to subsidies – DEH the State Electricity Company is obliged to buy electricity generated from renewable energy sources at premium prices.

SLIDE 18 – E.M. – ENERGY & EMISSIONS – SOLUTIONS

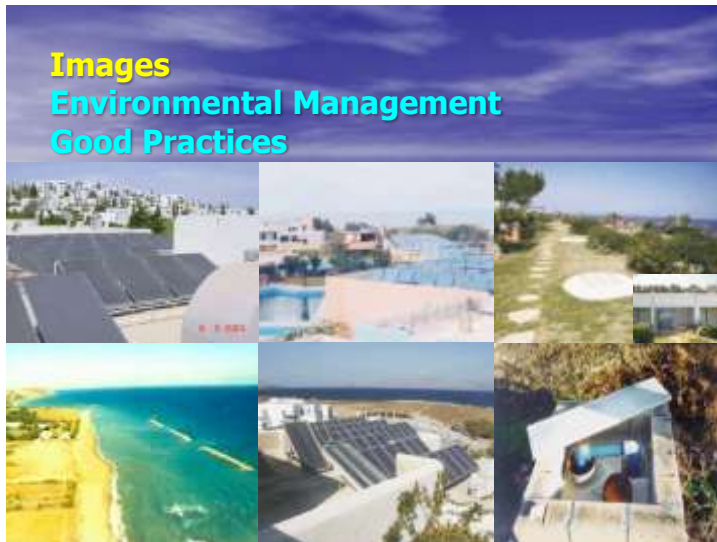
Environmental Management (Water, Energy & Emissions, Waste, Biodiversity) in Greek Tourism

Energy & Emissions – Eco Solutions

- ▣ Passive solar design, optimized orientation
- ▣ Solar heating & solar cooling
- ▣ Geothermal heating & cooling
- ▣ Wind Turbines
- ▣ Temperature control & monitoring systems
- ▣ Occupancy sensors
- ▣ High-efficiency light bulbs & appliances

These are some standard solutions for the tourism sector. With the exception of solar water heaters, the installation of renewable energy sources had until recently been discouraged within protected traditional settlements, allegedly so as not to alter the traditional character. At the same time, ugly air-conditioning units, noisy diesel generators, overhanging electricity cables and TV antennas on roofs, were never a problem for our tourism planners.

SLIDE 19 – E.M. GOOD PRACTICES



These are some pictures from the relatively few Greek Hotels that have adopted renewable energy, and energy saving technologies. They depict large scale rooftop photovoltaic installations, green roofs (top right), geothermal energy (bottom right), while the picture and on the bottom left is just a beach erosion prevention installation near a hotel beach.

SLIDE 20 – E.M. WASTE

Environmental Management
(Water, Energy & Emissions, Waste, Biodiversity)
in Greek Tourism

Waste – Current Situation: CRISIS!

- ☐ Greece lacking modern waste management legislation until 2004 - 3,600 'illegal' dumps - 5m tons annually. Largest in Europe: Liosia landfill near Athens (1.8m tons)
- ☐ Dumps often burning esp. during the Summer creating dioxins. 174 fires (Jan 1 – June 24) in illegal dumps
- ☐ Most elected local authorities turn a blind eye or directly violate laws, rubbish mafia in some areas of Attica.
- ☐ May-June 2008: Violent local protests against new landfills in a major tourism destination, Corfu (Kerkyra)
- ☐ EU fines (Kouroupitos Dump - EUR 5m)
- ☐ December 2008 deadline for all illegal dumps to close

Until 2004, Greek legislation on waste management was dated. We now have a modern legislation and the not so minor problem of actually enforcing it...Some progress has been made in the field of recycling, which has quadrupled to 24% in 4 years according to rather optimistic government figures, still below the EU average of 33%. About half of municipalities participate in recycling programs with around 50,000 blue bins, but the percentage is smaller in island areas. 2009 is planned as a Recycling Year in Greece, which is good timing as by December 2008 all 3,600 illegal dumps will/should somehow disappear, according to our Minister of Interior.

SLIDE 21 – IMAGES – Inappropriate Waste Management



The top right picture is from Europe’s largest landfill at Liosia near Athens, but equally worrying is the practice of hotels where there are no sewage facilities, to empty their cesspits on mountain sides, seen in the other picture. The small pictures on the right show May 2008 violent protests in southern Corfu, near the famous (or infamous) resort of Kavos, against a proposed sanitary landfill, where one woman died. The bottom right is from the island of Lesbos, the banner reads “wetlands are not dumps”.

SLIDE 22 – E.M. WASTE – Current Situation

Environmental Management
(Water, Energy & Emissions, Waste, Biodiversity)
in Greek Tourism

Waste – Current Situation (continued)

- ▣ Govt. quick fix: silently creating few large Landfills ('X.Y.T.A.') to simply bury everything. Intensive local opposition expected near planned XYTA sites. Accident risks as waste to be transported over long distances.
- ▣ Many illegal dumps bordering resorts & protected areas & Example: Illegal rubbish dump inside Pitrofos in Andros, oldest prehistoric settlement in the Aegean
- ▣ Hotel cesspits emptied by trucks and dumped on island mountain sides (personal observation)
- ▣ Municipal recycling patchy (Elefsina 34% vs. Piraeus 0%), few tourism resorts really practice it

The government is keen to avoid the 34,000 Euro daily fine per landfill, if “illegal” landfills persist after 31 December 2008, but almost not even the government believes the fines can be avoided, and an extension will probably be requested on the grounds of progress made. Here I should also mention that about one third of fires start from landfills.

Environmental Management
(Water, Energy & Emissions, Waste, Biodiversity)
in Greek Tourism

Waste – Current Situation (continued)

- ▣ A few large, high-end hotels have initiated their own recycling programs
- ▣ Tourist plastic water bottle mania
- ▣ Dated legislation leads to plastic packaging proliferation in hotel breakfasts (butter, marmelade, honey, milk)
- ▣ Taverna owners still using plastic table covers, only thinner – paper on top, plastic below
- ▣ Roma people operate rudimentary & hazardous recycling, in large dumps and within cities

Tourists typically may generate up to twice as much solid waste per capita as local residents, also thanks to their preference for plastic water bottles, resulting in increased stress on local waste management during summer months. Typical tourism waste includes paper, cardboard, glass aluminum, plastic as well as organic waste, building materials, electronic appliances, furniture, used oils & fats. Batteries are the most common hazardous waste by Tourists, but progress is being made to separately collect and recycle this type of waste at least in the mainland, mainly by transporting batteries to Germany for recycling. 90 hotels in Crete also participated in a pilot battery recycling project between 2002 and 2006, but it is unclear how many continue with this practice. This is a common problem with pilot projects, there is no follow-up.

Environmental Management
(Water, Energy & Emissions, Waste, Biodiversity)
in Greek Tourism

Waste – Current Situation (continued)

- ▣ Municipal recycling programs ask households to put all recyclable items into just one bin, leading to higher recycling costs, and lower quality of recycled products.
- ▣ No municipal composting programs for organic waste, bright exception of Eleusina, site of important archaeological ruins (Eleusinian Mysteries)

Only 20% of total household waste is currently being recycled through the municipal blue bin system (230,000 tons annually).



Environmental Management
(Water, Energy & Emissions, Waste, Biodiversity)
in Greek Tourism

Waste – Eco Solutions

- Buying in bulk quantities
- Refillable, bulk dispensers (e.g. toiletries)
- Working with suppliers to limit packaging and establish recycling thereof
- Use of glass instead of polystyrene foam & plastic.
- In-room recycling procedures and receptacles
- Limit waste in hotel buffets
- Organic-waste composting

These are measures that need to be employed by tourism businesses to reduce waste. Waste from product packaging, such as plastic water bottles is a particular problem, and amounts to 60% in tourist areas, compared to 40% in other areas. The worst type of plastic is PCB, and ends up in the food chain as animals and marine life inadvertently eats it and suffocates, starves as it does not feel hungry, or is slowly poisoned.



Environmental Management
(Water, Energy & Emissions, Waste, Biodiversity)
in Greek Tourism

Biodiversity – Current Situation: Bad, Improving

- 421 bird species, over 6,000 plant species, high plant endemism (13%) due to geomorphology. Large mammals extinct in most of Greece due to hunting from livestock owners in the first half of the 20th c. (lynx, bear, wolf, jackal). Limited comeback via Balkan mountains.
- 300,000 strong recreational hunting lobby (domestic hunting tourism)
- Accute problem of illegal hunting inside protected areas, esp. birds.
- Mass deaths of birds in Lake Koronia from agriculture poisoning.

Greece is blessed with a high biodiversity. However here too there is mismanagement. There were overambitious designs for new protected areas or Paper Parks from the previous government, that the current government has simply ignored. Just 2.5% of Greece is covered by genuine protected areas, while there are 239 sites 'proposed for entry' into the NATURA2000 network (also called proposed Sites of Community Importance) which cover approximately 16.6% of Greece. Of these 239 new sites, only 27 possess management bodies, and just 8 are legally able to administer, or at least advise on protected area management. In brief, paper parks with paper managers. Even so, the new Natura areas are generally unpopular with local communities that consider them harmful to their property rights and to agro-pastoralists who fear restrictions. In sites like the Sporades National Marine Park off Alonissos island, set up to protect the Monachus seal, it is fishermen who regularly engage in protests and even abuses against marine park staff, while it was also a wild west situation in terms of violence between locals and environmentalists in the 1990s in the Zakynthos National Marine Park, Zakynthos being the 5th largest charter tourism destination in Greece. Thanks to cunning management by the new park director in the last two years (the previous one had to resign for allegedly owning illegally-built houses within the park

boundaries) things are a lot quieter these days in Zakynthos, even though the compromise – too much turtle-watching tourism allowed, may adversely affect the caretta turtle.

Tourism is not the solution (monoculture) or a solution in all areas, and we must work with the local communities to support traditional activities but with a modern face, such as small-scale agriculture, producing quality, differentiated, organic products. In the mean time, 4% of flora and 22% of fauna are officially considered endangered. Legal and illegal hunting practices, by some 300,000 registered hunters, condoned by mass circulation newspapers that even publish free guides to wetlands for hunters, are also devastating, especially in fire-afflicted areas.

SLIDE 27 – BIODIVERSITY – Current Situation 2

A slide with a blue background and white text. The title is 'Environmental Management (Water, Energy & Emissions, Waste, Biodiversity) in Greek Tourism'. Below the title is the subtitle 'Biodiversity – Current Situation (continued)'. The main content is a bulleted list with four items, each preceded by a small square icon.

Environmental Management
(Water, Energy & Emissions, Waste, Biodiversity)
in Greek Tourism

Biodiversity – Current Situation (continued)

- ☐ Tourism (and other sectors) have adversely impacted on: Sea Turtles (Zakynthos, Peloponnese, Crete), Seals (Aegean, Ionian), Deer (Rhodes), Sea birds, Raptors, Bats, Amphibians
- ☐ Success stories: critically endangered Dalmatian Pelican (Argyropelekanos) in Lakes Prespa & Kerkini, Dadia Forest (Raptors & Vultures), Nymfaio (Brown Bear Sanctuary) , Tilos Island (Hunting banned), Skyros (Ponies)
- ☐ Endangered: Zakynthos (Caretta), Alonissos (Monachus), Crete (Cretan Goat Kri-Kri, Wild Cat)
- ☐ Improved domestic animal welfare also due to tourist pressure (esp. dogs)

Few Greek tourism businesses are directly involved with financially supporting nature conservation, or are going out of their way to minimise impact on wildlife from their operation. There are of course bright exceptions such as the award-winning Milia village in Crete and a few other hotels owned by environmentalists, while some large Greek chains like Grecotel and Aldemar have endorsed green technologies and formed partnerships with Environmental NGOs. There is also the positive example of women’s agrotourism cooperatives in traditional villages like Petra in Lesvos island, an 80s idea that is slowly withering away, and small municipal tourism enterprises like the Ecotourism Centre of Dadia in North Eastern Greece that has partnered with WWF to protect rare raptor species. Tourism also supports bright ideas such as the Brown Bear Sanctuary in the protected village of Nymfaio in Northern Greece, the good work of NGOs in Lake Prespa protecting the endangered Dalmatian Pelican, and Tilos park in the omonymous Dodecanese island that voted to ban hunting 10 years ago, and which hosts 10% of the endangered *Falco eleonora* (“Varvaki or Mavropetritis”). The island has been highly successful in attracting nature tourists (and was recently in the news as the mayor performed the first two weddings between same sex couples in Greece.)

Whereas in coastal areas and the islands, the main pressures are from foreign tourism, in inland mountain areas, the main pressure is from domestic tourism, and city-dwellers wishing to buy summer-houses.

In the coastal & insular areas, another big threat for biodiversity is oil spills, as more than 25% of the total oil tanker traffic passes through the Mediterranean, and cruise ship accidents as the one in Santorini last year, with more and larger ships plying the Greek waters every year. On the positive side, the powerful Greek shipping lobby is financially backing many Environmental NGOs.

SLIDE 28 – BIODIVERSITY – ECO SOLUTIONS

Environmental Management
(Water, Energy & Emissions, Waste, Biodiversity)
in Greek Tourism

Biodiversity – Eco Solutions (continued)

- ▣ Buffer zones & natural corridors
- ▣ Avoiding the introduction of invasive species, use of native plants
- ▣ Reducing light & noise pollution at night
- ▣ Reducing chemicals and pesticides
- ▣ Establishing visitor limits in sensitive sites
- ▣ Appropriate landscaping in hotels
- ▣ Guidelines for visitors and staff
- ▣ Forest Fire Precautions

Some of these measures are being successfully observed by tourism operators in the National Marine Park of Zakynthos, site of epic battles between conservationists and locals working in Tourism, until very recently. In general, the standard practice of central government to tolerate illegal practices for decades (local government even encourages them), and then suddenly (under pressure from the EU and NGOs) deciding to apply new pro-environment laws without consulting or compensating local people, leads to many problems.

SLIDE 29 – SEVEN KEY PROPOSALS FOR A GREENER GREEK TOURISM

Seven Key Proposals
for a Greener Greek Tourism

1. **Ban** or severely restrict hotel & villa construction, esp. Mega-resorts in natural areas and coastal areas
2. **Support** traditional, small accommodation facilities *inside* villages
3. **Expand** Public Bus & Rail Network & link with tourism resorts
4. **Vary** room rates according to guests energy consumption & waste
5. **Encourage** tourism businesses to reduce, reuse & recycle
6. **Educate** employees in environmental issues
7. **Improve** working conditions in Tourism, esp. for women & immigrants

These are seven proposals that I have come up in the course of preparing this presentation. An additional proposal would be to tax airports and use the funds to subsidise railways.

SLIDE 30 – IMAGES - SHOULD WE STOP THIS?



While I was speaking works were proceeding non-stop in places like Pylos in the Messinia prefecture of Southern Greece, where the local community, having all sold their land cheaply to a developer, is now passively observing the pharaonic development in 1,000 hectares, subsidised by the state with 145 million Euros, bordering a Natura 2000 area and involving at least 3,000 rooms, 2 golf courses, spa installations, villas and much more. This is the famous POTA of Messenia, POTA being an acronym for Area of Integrated Tourism Development, the first one of its kind. It may be impossible for the heroic Greek Constitutional Court, a lone supporter of environmental causes, to further delay this plan which goes 30 years back, but if we cooperate at the European Green Party Level we may be more successful in stopping new sprawling developments in totally pristine areas which have provoked international campaigns against them such as the controversial Cavo Sidero project in Crete's last natural area, covering 2,600 hectares, 11,000 beds, 3 golf courts) and save the last remaining wilderness & unbuilt coastal areas of Europe. On our part, as Ecologists-Greens, we are organising a tourism conference in the beautiful venetian port of Chania in Crete in early October, to highlight the dangers from these unsustainable mega-resort plans in Greece, and we would be happy to provide more details to those of you who are interested.

SLIDE 31 – THANK YOU



Thank you very much for your attention.