Is there any future for the EU Energy Road Map 2050?

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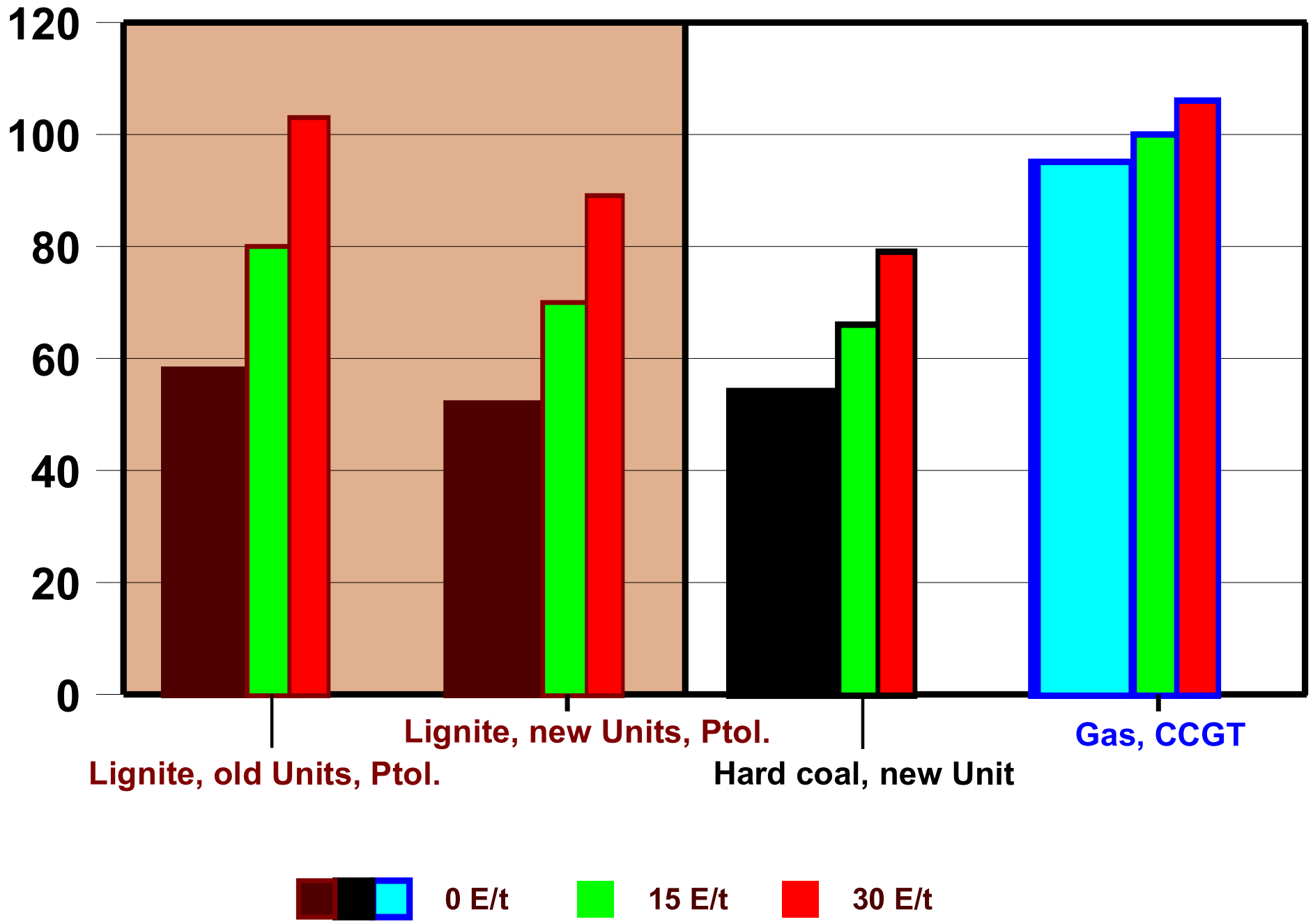
Electricity cost (€/MWh) for various CO_2 prices



Key points from the roadmap

- An 80% to 95% reduction in EU Glass House Gases (GHG) emissions below 1990 levels by 2050, if other developed countries make comparable commitments - current policies, would lead to a 41% reduction in the EU.
- Targets for 2030 - the Commission will pre-pare a new strategy in 2012 to increase the share of renewables post 2020 and set milestones for CO_2 capture and storage (CCS), with possible policy changes to address fundodemonstration plants, CO_2 infrastructure and legal issues associated with cross-border CO_2 transport.
- An EU-wide framework to boost security of energy supply and solidarity by creating certainty and stability for investment. This ap-plies especially to renewables support which the Commission says would be less costly if Member States followed a common approach

Five Decarbonisation Scenarios to 2050

- High energy efficiency
- Diversified supply technologies - market-based solution with no support for specific technologies (assumes public accep-tance of nuclear and CCS)
- High renewables - 97% renewables in electricity consumption
- Delayed CCS and a higher share of nuclear
- Low nuclear - 32% of electricity from plants with CCS in 2050 (2% in 2030) with no new nuclear plants

Energy Roadmap 2050 Implications (½)

EU Comission side

- Under these scenarios, primary energy demand would fall by between 32% and 41% by 2050 from its 2005/06 peak as energy efficiency measures succeed, largely because of the high energy prices assumed. The share of electricity in final energy demand almost doubles by 2050 as it is used more and more for transport and heating.
- Average electricity prices would be highest under the high renewables scenario (€199/MWh), but other scenarios show increases of between 34% and 44% compared with 2005 (€109/MWh). Overall, households and SMEs spend a greater part of their expenditure on energy.Total energy system costs are expected to rise from around 10.5% of GDP today to over 14% of GDP in 2050, with higher capital outlays. Although EU document shows little variation between the costs of the five scenarios, all are significantly greater than today -more than double in absolute terms. Despite these higher costs, GDP is assumed to grown at a healthy 1.7% p.a. (c.f. 0.58% p.a. 2005-2010). If economic growth is weaker, energy system costs would become an enormous burden for everyone.

Energy Roadmap 2050 Implications (2/2)

Polish Chamber of Commerce side

- Wholesale electricity prices are estimated to be 4 times higher by 2030 in comparison to 2005, heavily affecting the Polish economy and millions of Polish consumers in the coming decade.
- GDP is calculated to decrease by 5% in 2020, 10% in 2030 and 12.5% in 2050 due to energy price increases.
- The share of energy costs in households bud-gets will grow from 11% in 2005 to 14.0-15.3% in the period 2020-2050, significantly increasing energy poverty.
- High energy prices and direct climate policy costs are leading to negative or drastically reduced profitability in ten industrial sectors that employ about 800 thousand workers.
- The additional 80 billion euros that will be needed for energy sector investments will reduce investments in modern infrastructure elsewhere (e.g. roads, high-speed rail, environmental protection).

EU coal consumption

EU Commission figures

- Coal's share in EU electricity generation drops from around 28% today to between 2.1% and 13.1% in 2050 in the five decarbonisation scenarios, with corresponding falls in the share of coal in the primary energy mix.
- One of the reasons for this decline in the EU's most competitive energy source for electricity generation is the assumption made on the capital cost of new power plants.
- The Commission assumes that coal- fired plants with carbon capture and sequestration (CCS) are over 50% more costly than a normal power station.

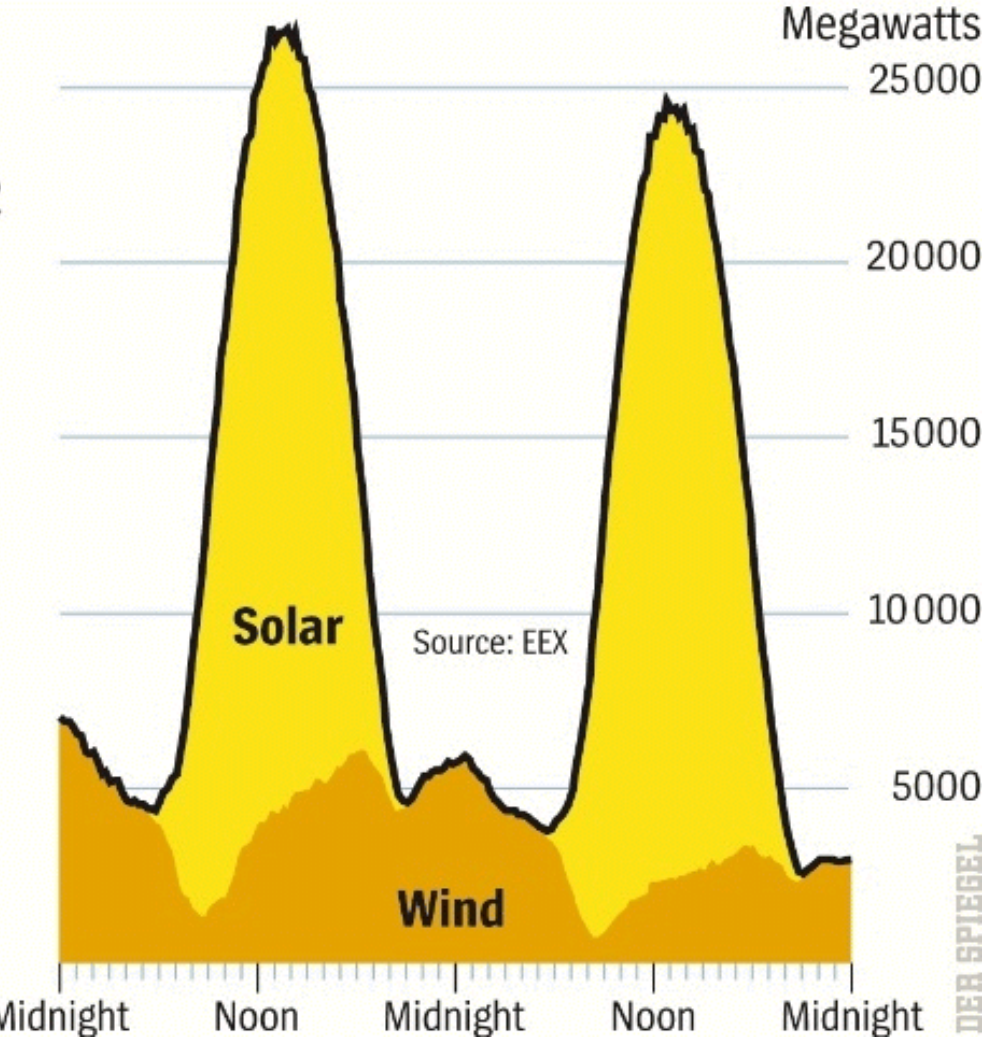
Green Paper / A 2030 Framework for Climate and Energy Policies

European Commission published its Green Paper on a 2030 framework for climate and energy policy

- EU GHG emissions reduction target of 40% for 2030 and possibly a 30% renewables target. However, on renewables, the paper notes that support schemes should be designed, “to avoid overcompensation, improve cost efficiency, encourage high GHG reduction, strengthen innovation, to be adaptable to cost developments to avoid subsidy depend-ence and be consistent across Member States”.
- On CCS technologies, the paper suggests that consideration should be given to streamlining regulatory provisions, as for other energy infra-structure,

Renewable Energy Power Generation (1/3)

Energy storage



- Renewable energy like wind or solar is not produced when needed, so storage is needed, and this is expensive. All the promoters of renewable energy ignore the need for storage.
- What is needed is a large- scale, effi-cient, low-cost technology that can store huge amounts of electrical energy for weeks or months. No suitable technology exists or has even been contemplated.
- Hydro-pumped storage is the best available. It is expensive -at least $1500 /kW - and requires two very large storage lakes not far from each other and with one lake something like 700 m higher than the other. The losses are 25-50%.
- The cost, the losses, and the difficulty of finding a suitable site are insupera-ble barriers to large-scale adoption of hy-dro-pumped storage.

Renewable Energy Power Generation (2/3)

System Reliability

- For more than 100 years electricity generation and distribution systems have evolved to become one of the most reliable services imaginable -one which has been the foundation of the industrial expansion and prosperity of the developed world.
- Huge thermal base-load steam turbine generation plants that can reliably provide the same power output 7x24x365 are the foundation of the system in most parts of the world.
- When electrical demand starts to peak in the late afternoon and evening peaking plants come into play. These are typically single cycle natural gas turbine plants that can come on-line in a matter of 15-20 minutes or less.
- Over the past decade that balance has been disrupted by the introduction of renewable energy sources such as solar and wind.
- These are both unreliable in the sense that it is not possible to match supply with demand, and highly variable due to passing of clouds in the case of solar or frontal weather systems for wind.

Renewable Energy Power Generation (3/3)

Economics

- As long as renewables made up a relatively small portion of total generation capacity the physical problems could be handled.
- But the economic issues are now coming to the fore as the development of renewables continues. With base-load and peaking thermal plants now sitting idle (as spinning reserves) for more and more of the time the economics of running these plants has been significantly eroded.
- Many of these plants are marginally profitable or are actually losing money. There is no realistic hope that this trend will do anything but accelerate in coming years.
- As a result it is becoming increasingly difficult to get financing for the construction of new thermal generation plants

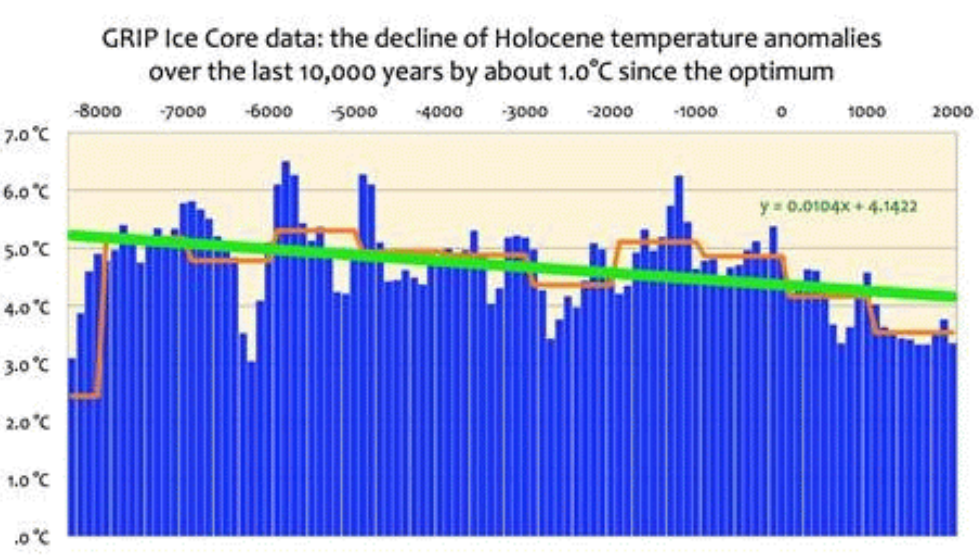
Renewable Energy Power Generation

Conclusions

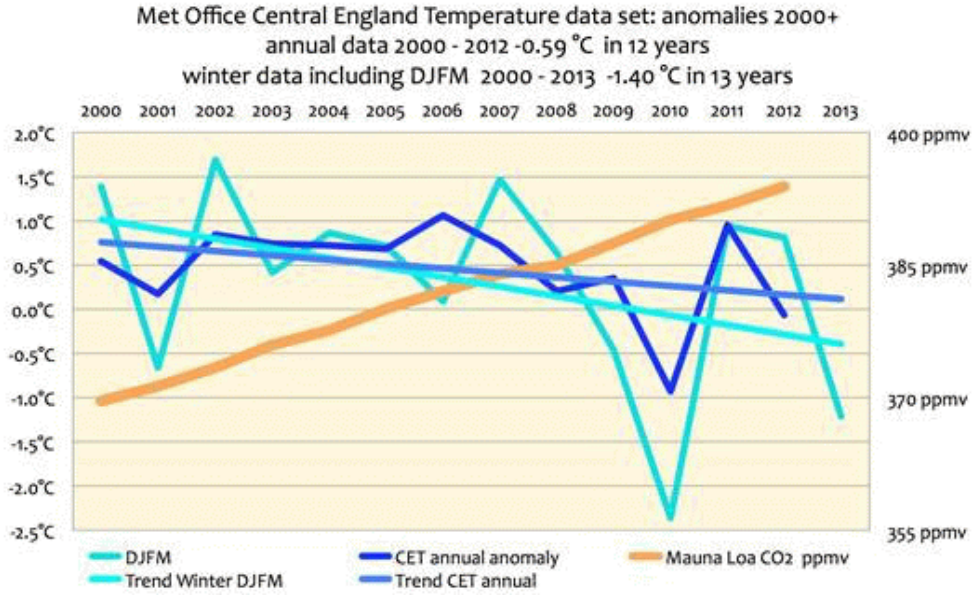
- People who tell us that it is possible to run modern power systems from wind power, solar power and marine energy are not telling the truth
- I personally don't see any public support or political will to try and slow down the introduction of renewables in order to proactively protect the integrity of the electrical system.
- I fear that we will have to experience repeated significant failures in the system before the scale of the problem is fully appreciated.
- It seems like we just have to learn things the hard way

WHY ?

We must protect Earth from Climate Change



- Over the past 10,000 years the current Holocene epoch has been progressively cooling since the early “climate optimum”



- Since the year 2000, diminishing solar activity in solar cycle 24, moving back towards little ice age patterns, appears to be having an real effect Over the past 10,000 years the current Holocene epoch has been progressively cooling since the early “climate optimum”

CONCLUSIONS

There is not a single argument to support the Energy Roadmap 2050 and, after the Fukushima event, fossil fuels will continue to dominate the electricity production

- The predictions of the AGW supporters have failed. The global warming ceased in 1998 and, most possibly, we are heading towards cooler climate.
- The CO_2 concentration continues to increase, invalidating its correlation with the global warming
- The renewables are fading out from the problems creating in the electrical systems combined with the elevated cost
- EU Commission is left alone to create, at a huge cost for the citizens, a low carbon economy, but the main tool to reach the target is nearly dead: the price for CO_2 is close to zero in EU Emissions Trading System (ETS). On April 16th 2013, the European Commission's proposal to back load the auctioning of 900 million ETS allowances was rejected by 334 votes (315 against) in the EU Parliament.


IAN PLIMER
ΜΗΛΟΣ
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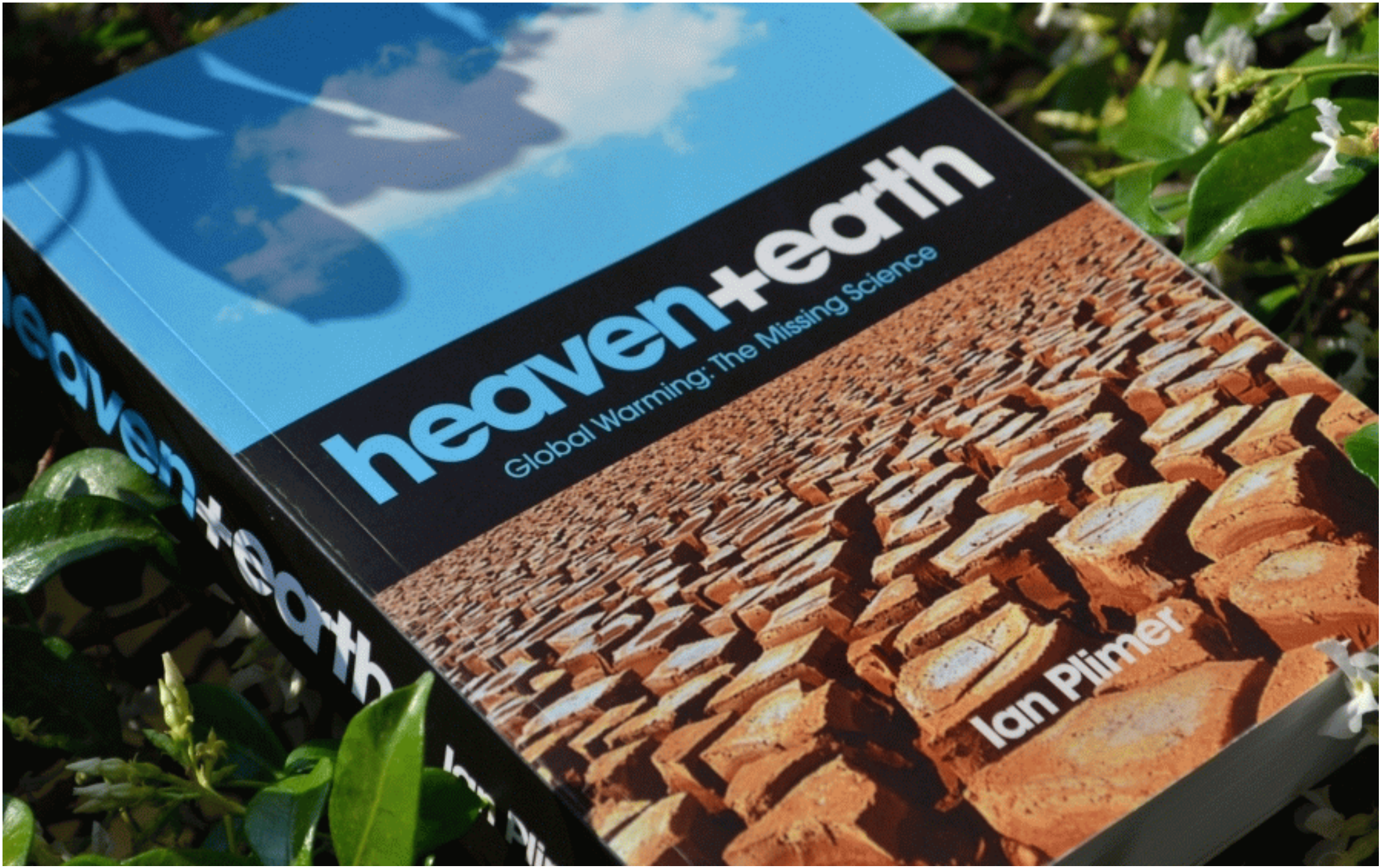
heaven+earth
Global Warming: The Missing Science
Ian Plimer

prudently, in dialogue with experts and people of
uninhibited by ideological pressure to draw hasty concl
and above all with the aim of reaching agreement on a mode
sustainable development capable of ensuring the well-being o
all while respecting environmental balances.

Human stupidity is only exceeded by God's mercy, which is infinite.

Thank you