

**Presentation at IENE Conference
on future green liquid fuels**

Oil past its peak – again?

Dr Leo Drollas
Independent Energy Consultant

Greece
11th February 2021

Paraphrasing Sir John Templeton, a British-American fund manager ...

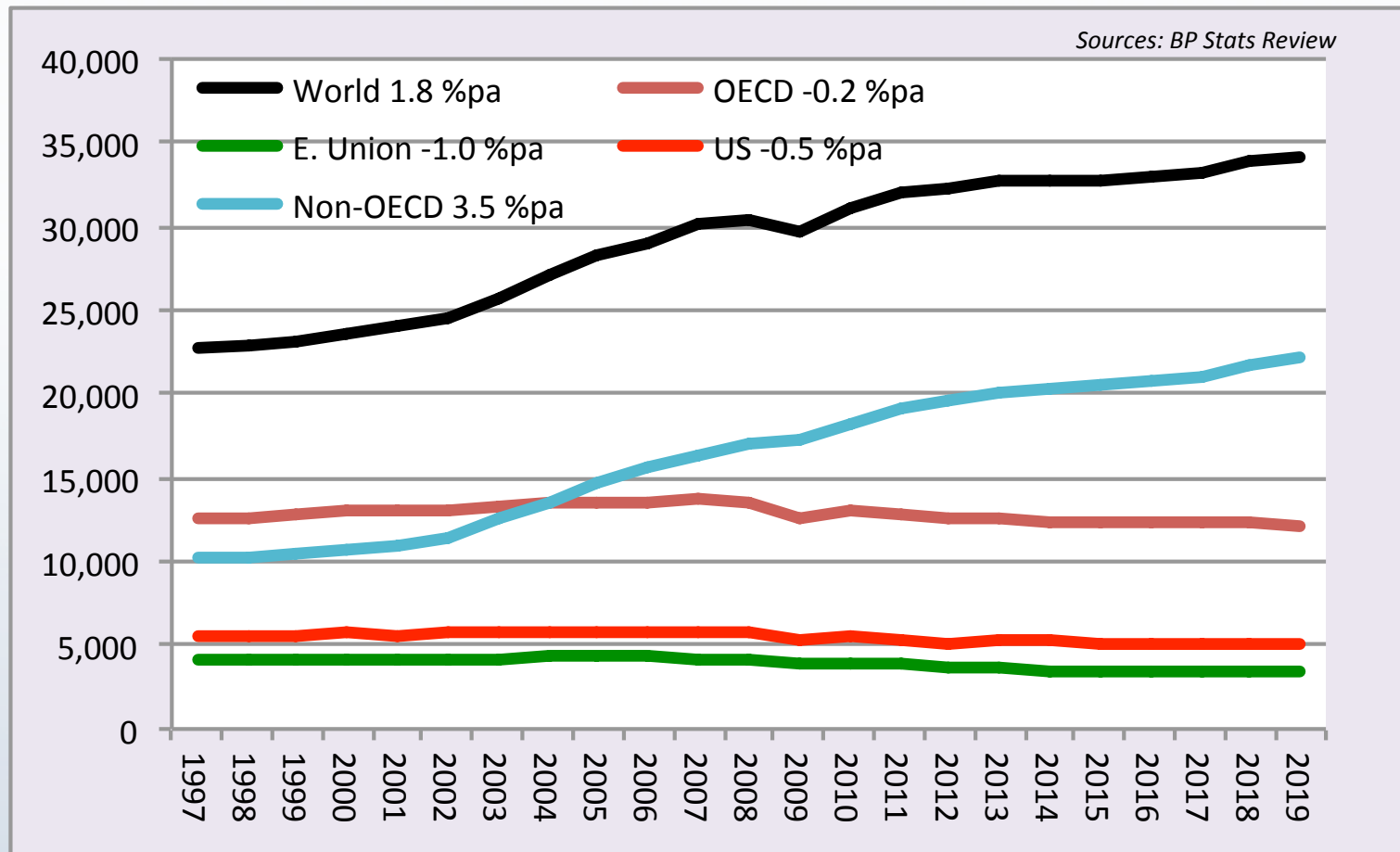
“ The four most dangerous words in oil* — *‘this time it’s different’*. ”

* *Sir John actually used the word ‘investment’.*

Discussion points

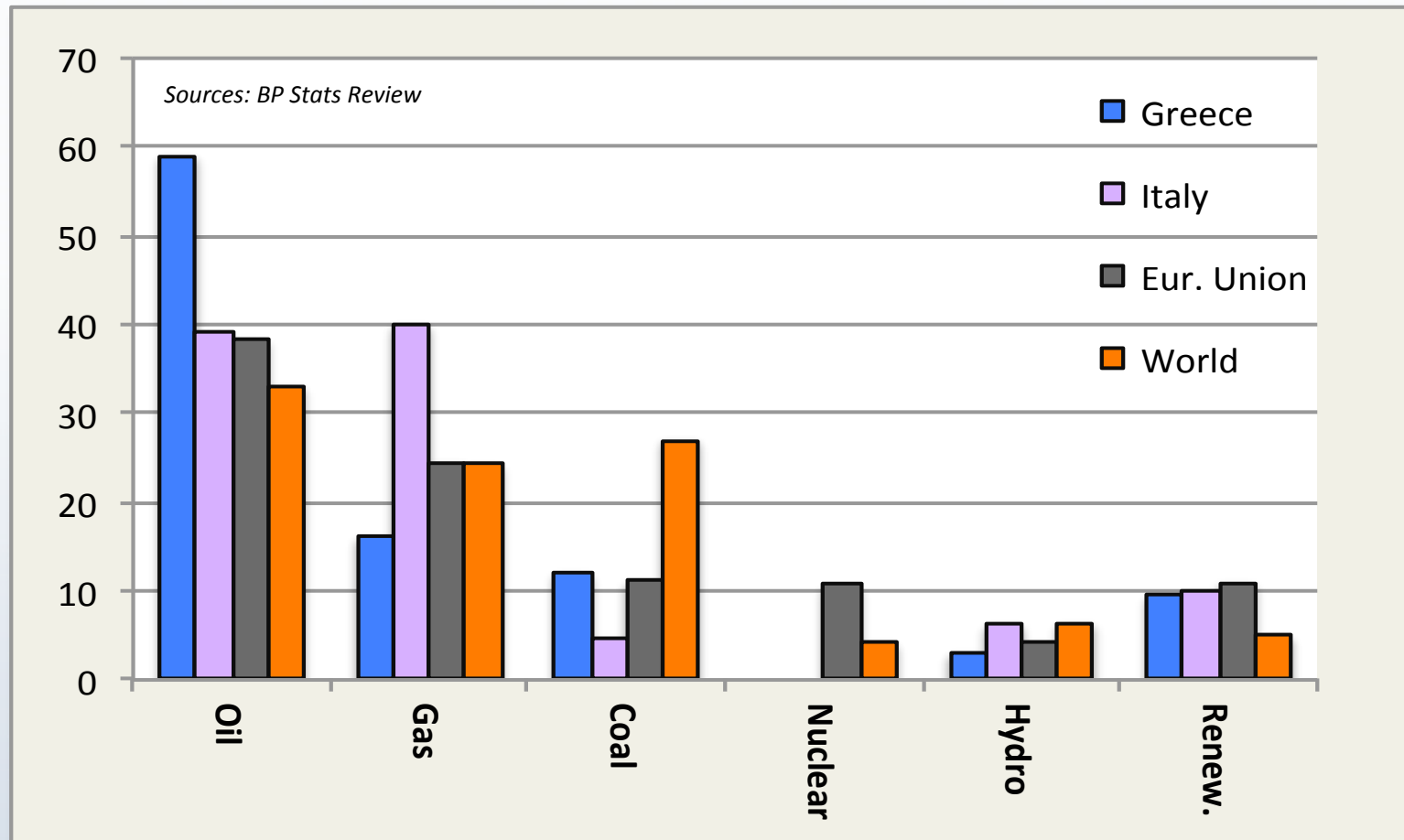
- ◆ The eruption and subsequent escalation of Covid-19 into a pandemic is the most serious problem the world has had to face since World War II broke out eighty or so years ago.
- ◆ Severe restrictions on movements due to coronavirus still remain in place in Europe and some areas of the world. Vaccines may well prove to be a game-changer, but can we be sure?
- ◆ Global oil demand has recovered partially from its devastating 18-mbpd collapse in the first half of this year, but it is still 6.6 mbpd less than its level in 4Q19. When will normal service be resumed — or will it?
- ◆ How will OPEC and its allies respond to the need for more oil as the world economy returns to growth? What level of oil price would satisfy OPEC after the fiscal horrors caused by the recent price crash?
- ◆ US crude oil production is up by almost 1 mbpd since its recent trough in May 2020. Will it carry on rising?
- ◆ How soon will global stock cover return to more reasonable levels?

Climate change and CO₂ emissions (mn tns), 1997-2019



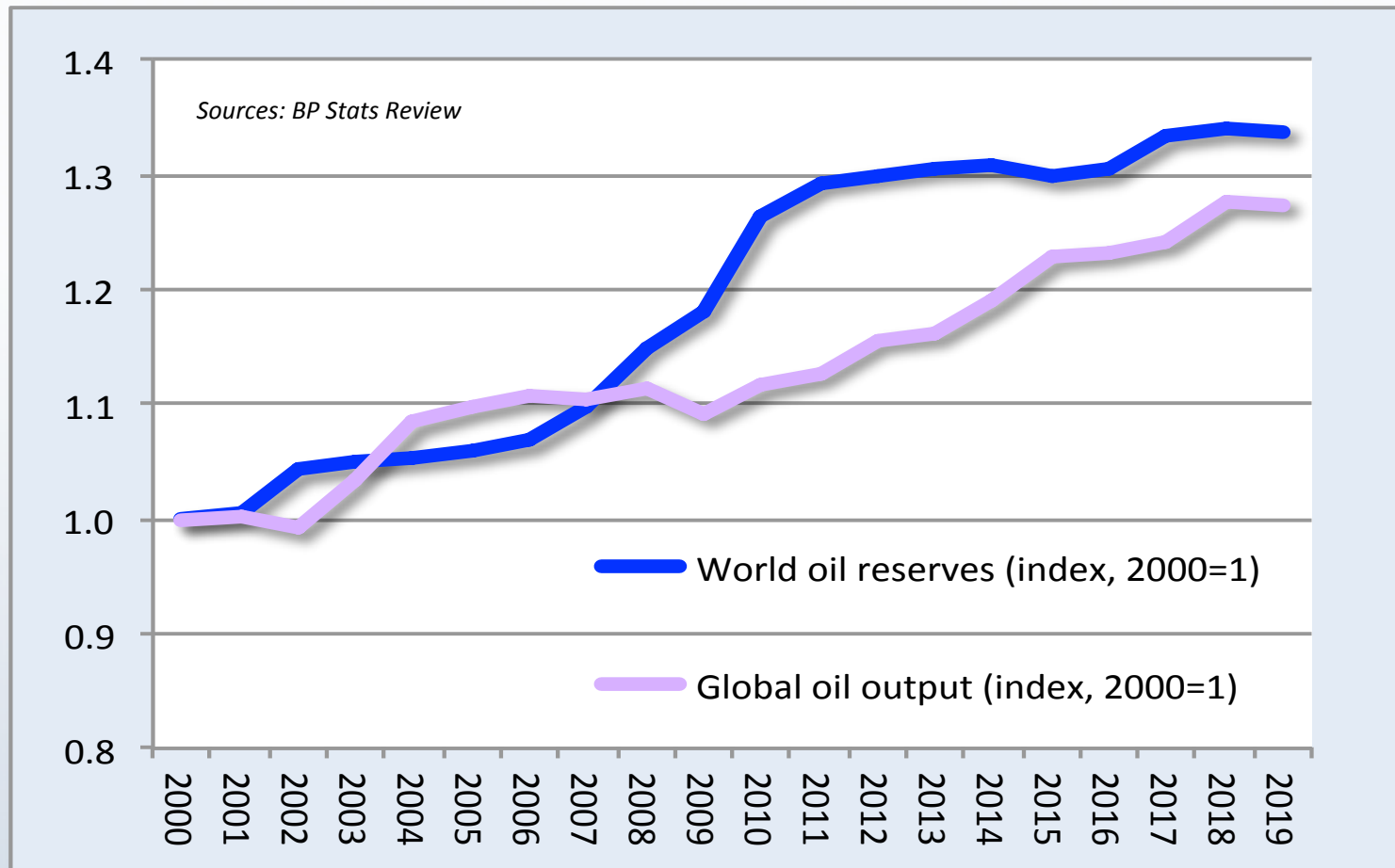
- Since the signing of the [Kyoto Protocol](#) in 1997 the world's CO₂ emissions have continued to rise at 1.8pc a year, largely due to the non-OECD countries, whose emissions rose at a robust 3.5pc per annum.
- The EU member countries have taken the reduction of CO₂ emissions more seriously than other nations, while the US' reduction was mainly achieved by an increase in the use of cheap natural gas as a result of the shale gas revolution.

Shares in primary energy — 2019



- At 33pc in 2019, the world's dependence on oil exceeds all other fuels; moreover, the share of hydrocarbons in primary energy weighs in at 84.3pc.
- Greece has the highest dependence on oil (59pc) in Europe, because of its heavy use of oil for space heating alongside the more traditional usage of oil for transport. Its gas and hydro share is relatively low, whereas its renewables share is near the EU average.

Growth in global oil reserves and oil output : 2000-2019



- Since 2000, global proven oil reserves have been growing at a faster pace than world oil production (1.5pc versus 1.3pc a year).
- The world at the end of 2019 had 50 years' worth of proven oil reserves. The Middle East's share of global reserves amounted to 48pc. Venezuela and S. Arabia had 18pc and 17pc of the world's oil reserves respectively.

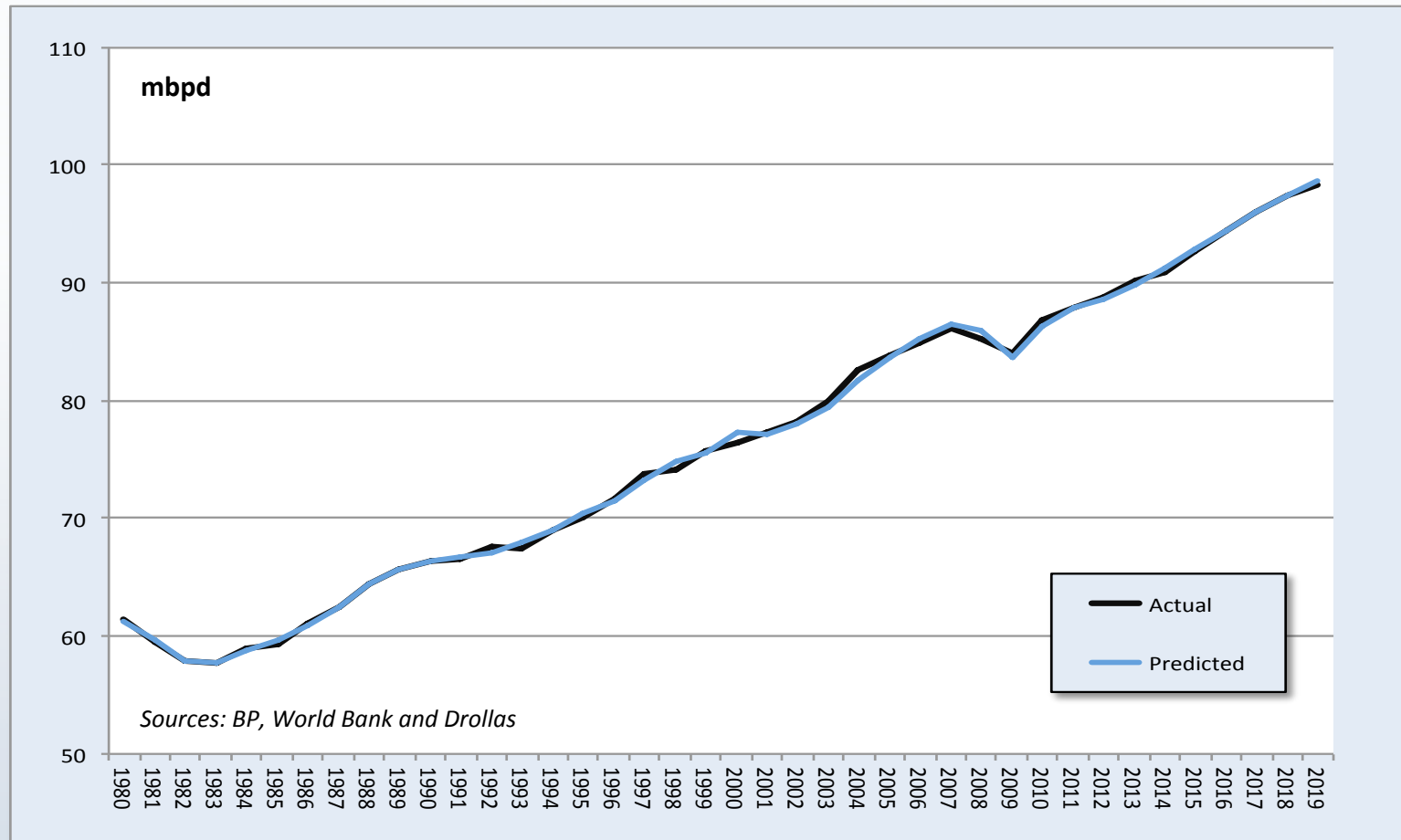
Primary energy consumption per capita - 2019 in gigajoules per head

Source: BP Stats Review

	2000	2019	% pa
OECD	198.3	178.5	-0.6
non-OECD	33.1	54.7	2.6
EU	152.2	134.3	-0.7
WORLD	64.2	75.7	0.9
Africa	14.2	15.2	0.4
Asia-Pacif	32.5	61.1	3.3

- Since 2000 the world as a whole has been consuming increasing amounts of energy per head at a rate of almost 1pc per annum, led by the Asia-Pacific region (3.3pc).
- Africa's consumption per head is 20pc of the global average, while the Asia-Pacific area's energy usage per capita is still 34pc of the OECD average.

Global oil consumption – actual and predicted, 1980-2019



- ❑ Year-ahead predictions of global oil consumption based on a dynamic equation driven by real GDP and real oil prices have an average error of 0.5% over the period 1980-2019.
- ❑ Predicting oil demand to 2030, assuming Brent averages \$55/bbl and world growth is at 2.5% per annum from 2022 onwards, yields oil demand growth of 1.3 mbpd a year.

Oil's fundamental truths

- ❑ We know that more oil is forthcoming where producers are free to respond to price stimuli. OPEC's efforts to raise the price of oil will therefore lead – in due course – to more oil being produced in the US and elsewhere.
- ❑ Oil demand is not price elastic, but it is not completely inelastic either. This means that oil consumption does respond to lower oil prices – given time. In the developing world oil demand is bound to be stimulated by \$30-40/bbl oil.
- ❑ However, the oil business faces significant headwinds from the green movement. A determined effort directed towards zero-carbon use by 2050 would hit oil demand hard.
- ❑ In view of the world's massive known oil reserves and growing restrictions on oil use by government fiat, oil prices will come under sustained pressure – and demand will respond somewhere.
- ❑ Logically speaking, oil should peak from the supply side sometime in the distant future, unless governments ban its use. Why prohibit people from enjoying a resource that has so much yet to give?