

Petroleum Geoscientists ...wanted!



John Warburton asserts that a new generation is needed to steward the transition to a clean energy future

I read with great pleasure the article *Speaking up for Geoscience* (*Geoscientist* 28(11), 9, 2018). Mike Simmons recounts how resource industries have done their brand quality little service though poor communications with the societies they serve. This, he argues, has led to a perception that these industries are exacerbating environmental damage.

Given such negative branding it is unsurprising that school and university graduates have limited aspiration to pursue careers in resources or geological sciences. This is a bleak backdrop against which Mike calls on society and industry to work together to encourage new young professionals to take-up careers in industrial geosciences.

Thirst for petroleum

I experienced first-hand how petroleum companies take extraordinary measures to reduce environmental harm while winning precious resources. Such measures are often demanded by vocal shareholders and activists.

Technological advances continue to enable petroleum exploitation from increasingly challenging settings, such as unconventional reservoirs. Furthermore, new sources of petroleum are under consideration (hydrates, deep-basin centres) as the World's insatiable thirst for a petroleum-based economy and lifestyle continues.

Addiction transition

Anathema to our addiction to petroleum is the desire instantaneously to recover from it.

Sheikh Yamani was Saudi Minister of Petroleum from 1962 to 86 and OPEC minister for 25 years. In 1973, he predicted that alternative sources of energy would eventually compete commercially with petroleum products,

famously remarking "*The Stone Age didn't end because we ran out of stones*".

It is in the context of a measured (rather than an unrealistic, immediate) transition away from a lifestyle addicted to petroleum where I see the next generation of young petroleum professionals finding their voice.



There is increasing global emphasis on the role of natural gas, compared with oil and coal. Combustion of natural gas bears substantially lower carbon footprint than oil or coal. Advances in production technology increased daily shale gas production in the USA from about 2 billion cubic feet ('Bcf') in 2007 to 50 Bcf in 2015 with an attendant 10% decrease in annual CO₂ emissions*. Furthermore, petroleum companies are increasingly experimenting with renewable energy sources (such as solar and wind) to curtail their carbon emissions. For example, solar panels can generate electricity for powering oil field pumpjacks or nodding donkeys that formerly relied on burning of diesel.

Young professionals

Society needs a next generation of petroleum geoscientists to steward the transition from our fossil-fuel-addicted lifestyle to one predominantly reliant on renewables. Only with a profound understanding of petroleum geology can those elements to be replaced entirely by renewable energy sources be identified and the technological breakthroughs implemented in a sensible time frame. Perhaps petroleum geoscience is not so 'dirty' after all.

* Energy in Depth Oct, 27 2015, EIA May 2016, Monthly Energy Review.

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SOAPBOX CALLING!

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If you can write it entertainingly in **500 words**, the Editor would like to hear from you. Email your piece, and a self-portrait, to amy.whitchurch@geolsoc.org.uk. Copy can only be accepted electronically. No diagrams, tables or other illustrations please.

Pictures should be of print quality – please take photographs on the largest setting on your camera, with a plain background.

Precedence will always be given to more topical contributions. Any one contributor may not appear more often than once per volume (once every 12 months).

“ ONLY WITH A PROFOUND UNDERSTANDING OF PETROLEUM GEOLOGY CAN SOURCES TO BE REPLACED BY RENEWABLE ENERGY BE IDENTIFIED ”

JOHN WARBURTON