Type them into questions box!

“Why am I muted?”
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Linda Nguyen
Graduate Student

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MID-YEAR UPDATE!

THIS ACS WEBINAR WILL BEGIN SHORTLY...
Chemistry and the Economy: 2019 Mid-Year Update

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International eChem (IeC) is a London-based strategy consultancy advising Fortune 500 and FTSE 100 companies, investment banks and fund managers.

Our value proposition is based on viewing the economy through the lens of the chemical industry, the best leading indicator for the global economy. Our approach is data-driven, and we focus on areas where we have long-term expertise:

- The key value chains in petrochemicals/plastics – C2, C3, C4, C6, C7, C8
- Their key end-uses – autos, housing, consumer products, electronics
- Upstream developments in oil/energy markets and geopolitics
- Impact of the US-China trade war and Brexit on supply chains
- Challenges and opportunities created by moves to the circular economy

Notable successes include timely forewarnings of the 2008 Global Financial Crisis, and the oil market collapse in 2014.

Paul Hodges is a trusted adviser to major companies and investors, and publishes The pH Report. He serves as a Global Expert with the World Economic Forum. He is a regular speaker at international conferences, and writes regularly for the Financial Times and other leading media.
Agenda

- Capacity utilization, capacity creep and demand outlook
- Oil market fragility increases
- Sustainability is replacing globalisation as a key driver for the global economy

Capacity Utilisation is the best leading indicator for the global economy, with a 56% correlation
Global chemicals CU% has again proved the best leading indicator for the economy

Demand growth is not keeping up with capacity expansion (currently 3.6%/annum)
China has been critical to the post-2008 recovery

China’s auto sales fell last year for the first time since 1992, and are down 15% since January
China’s used car market has become the main area of growth for auto sales

The global smartphone market is in recession for the first time
Near-record levels of auto loans have supported US sales – but 90+ day delinquencies are at record levels.

US Millennials don’t share their parents’ love affair with the car.
Both China and the USA have relied on debt-funded stimulus to support economic growth, and the bills are now coming due.

**Agenda**

- **Capacity utilization, capacity creep and demand outlook**
- **Oil market fragility increases**
- **Sustainability is replacing globalisation as a key driver for the global economy**
Oil prices are at recession-inducing levels

As in August 2014, oil is preparing for a major move – up or down

One set of worries focuses on potential supply disruption from the increasingly warlike talk in the Middle East, whilst the other agonises over the potential for a sharp slowdown in demand as a result of the US-China trade war and the general slowdown in the global economy. It is, of course, possible that both fears could be realised if war did break out in the Gulf and oil prices rose above $100/bbl.
17mbd of oil goes through the Strait of Hormuz

“We will make the enemy understand that either all can use the Strait of Hormuz or no one.”

IRGC Commander, Mohammad Ali Jafari

Which of the following countries is cutting oil production?

• US
• Russia
• Saudi Arabia
• All of the above
• None of the above

* If your answer differs greatly from the choices above tell us in the chat!
Saudi is on its own in cutting production

US oil policy seems to be developed on Twitter
US drilling has temporarily run ahead of pipeline infrastructure

"Midstream projects will add up to 6mbd of new capacity out of the Permian by end of 2021."

Forbes, March 2019

Hedge funds are unlikely to provide the same support as in H1 2018

"Hedge funds liquidated more of their bullish petroleum positions as concerns about the health of the global economy and oil usage outweighed European/Middle Eastern supply disruptions."

Reuters, May 2019
Agenda

- Capacity utilization, capacity creep and demand outlook
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Demand patterns will change due to redesign, reduce, reuse and regenerate imperatives

- **Redesign** will have a key role in changing demand patterns to make products easier to (a) reduce (b) re-use (c) dismantle to facilitate material recycling and (d) regenerate
- **Reduce**: this will aim to allow products to have a longer lifecycle in the market
- **Reuse**: design for easy re-manufacture will become mainstream
- **Regenerate**: new processes will be needed to reclaim useful products
Since 1960 humans have produced 8.3 billion tonnes of plastics. **What does that equal to?** (Choose all correct answers)

- 822,000 Eiffel Towers
- 25,000 Empire State Buildings
- 80 Million Blue Whales
- 1 Billion Elephants
- None of the above

*If your answer differs greatly from the choices above tell us in the chat!*

8.3bn tonnes of plastics have been produced since 1960
Pollution is now an existential challenge for China’s leadership

5 of the most plastic-polluted rivers are in China

Rivers deposit 2.75 million tonnes of plastic into the world’s oceans each year, with just ten rivers contributing around 90% of the world’s total waste (8 are in Asia and 2 in Africa).

**Digitalisation is already changing demand patterns**

"Packaging needs for internet delivery are functional, without the need to ‘sell’ the product."

Jim Fitterling, Dow Material Science COO, October 2017

**US producers have expanded on the basis of 4 false assumptions**

- Oil will always be $100/bbl, giving them a feedstock advantage with shale gas.
- China will always be growing at double-digit rates, and its petchem imports will always grow.
- Globalisation will continue and so plants can be sited half-way across the world from their market.
- Plastics will always be the material of choice for single-use packaging applications.
Sustainability concerns are rising over single-use packaging

Petroleum industry advocates have been trying to soothe investors’ worries over peak demand for transportation fuels by insisting that plastics and petrochemicals promise long-term growth. Based on what I saw on vacation in India and London, though, they shouldn’t be so sure.

San Antonio Express-News, 27 November, 2018

Plastics recycling will prove hard to achieve for some polymers

Globally, 10 percent of plastic is recycled, up from nearly zero in 1980. Plastic bottles are one of the most widely recycled products. But other items, such as drinking straws, are harder to recycle and often discarded.
Waste sites will be turned into resource centres

3D printing has the potential to operate at resource centres

“In the auto sector, we’ve seen an increased focus on developing production-grade materials for auto applications as 3D printing gravitates from prototyping to full production of final parts & products.”

Ramon Pastor, VP & GM, HP 3D printing, May 2019
In a remake of ‘The Graduate’, would Mr. McGuire tell Dustin Hoffman to “Go into recycled plastics, young man”?

Globalisation provided “stuff” for babyboomers: sustainability is service-led and provides “solutions”
Six key questions for 2019

**HOW DO WE ENSURE THAT OUR BUSINESS WILL SURVIVE AND PROSPER?**

**MANAGING RISKS**
1. How will our P&L be impacted by a sustained period of low global GDP growth?
2. How might trade wars and China’s slowdown impact key customers/supply chains?
3. What is our contingency plan for a return to major oil/interest rate volatility?

**INVESTING TO BUILD THE BUSINESS**
4. How will we compete profitably as sustainability rises up the agenda?
5. Can we create new service-led offerings to meet emerging market needs?
6. Can we gain first-mover advantage whilst others hope for “business as usual”?

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Chemistry and the Economy: 2019 Mid-Year Update

William Carroll
Founder, Carroll Applied Science

Paul Hodges
Chairman, International eChem

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