IEF background

- Producer Consumer organization
- Developed and Developing countries

Roadmap to Rebuilding

1. **Investment**

- Setting aside Russia/Ukraine, markets were already in supply deficit from pandemic and underinvestment
- IEF Investment report
- Capex cuts – 25% per year
- Need to increase investment by at least $525 billion annually for next 10 years to meet demand
- IEF outlook scenarios – difference between highest and lowest oil demand scenarios is 100 mbd – almost the same as today's global consumption
- If you are company looking to make investment decision or policymaker, how do you make decisions with such great uncertainty?

2. Technology

- Yes more wind and solar but it only gets to half of our climate goals
- No current alternative to hydrocarbons
- IEA report says we need technologies or innovations not commercialized or invented yet
- More clean energy R&D by governments/companies
- CCUS
- Hydrogen

3. Energy access

- Must be key priority to rebuilding
- Far away from Europe/Ukraine – energy poverty 600 million people and growing
- Pandemic has widened the gap between those with energy and those without
- Heathrow airport consumer more energy than the entire country of Sierra Leone
- African minister joked to me recently - we can decarbonize until we carbonize

- Stranded assets – stranded lives

JODI update for April (data is for February)

- February Demand was 99 percent of pre-covid levels
- Supply was 97 percent

- Crude inventories increased by 200k the first increase since October but far less than the normal seasonal increase of 11.1 million barrels per day

- Crude inventories are about 284 million barrels below the five year average

- Special Country data:

- Saudi Arabia – total crude and product exports in February rose MOM by 590 kbd to 9 mbd – the second highest level on record

- India total product demand increased by 467 kbd MOM to 5.2 mbd – an all time high

- US production in February increased 229 kbd MOM to 11.5 mbd. It's now 1.8 mbd above a year ago levels but still 1.2 mbd before pandemic

<u>Russia</u>

Negligible impact on oil gas and coal exported from Russia in March

But a shift in trade flows for oil and LNG – less to Europe/USA and rerouted to Asia (India/China)

But Outlook will change:

- exports in April may decline 1-2 mbd and will likely fall by 2-3 mbd in May and June as more contracts expire.
- Some will be aborbed into Asia but logistical constraints and sanction will limit.
- Production in first 10 days of April averaged 600 kbd below March levels
- Production will likely fall by more than exports as domestic consumption falls due to slower economic growth and lower jet fuel consumption

Gas – outlook really depends on European sanctions. Current environment – no impact.

<u>Iran</u>

- Negotiations stalled over US designation of IRGC as terrorist organization
- If they could get agreement, Iran production could increase by 1 mbd within 6 months

- Iran could also immediately sell from storage 60-90 mbd
- Iran is an IEF member country
- Both sides are motivated

<u>OPEC</u>

- Likely will stay the course on monthly increases – scheduled to end in September
- Yes it's a production agreement but is also political agreement – best they could do
- Any change requires unanimous consent
- So far, OPEC has taken a cautious approach to the market
- View volatility as being driven by forces beyond market fundamentals- geopolitical premium, vast uncertainty
- Big production questions around Libya, Russia, Kazakstan and slowing demand (China lockdowns)

Spare capacity

- Global spare capacity about 3.5 mbd for what can be reached in 90 days and sustained
- Only about 2 mbd can be brought on in very short order
- Even before Russia crisis, markets were very tight and in a supply deficit
- It's not enough to just offset lost Russian barrels
- War in Ukraine puts strain on spare capacity, if not deplete it. Market is more vulnerable to price spikes in event of additional supply disruptions. – especially considering SPR releases.
- So that is the math: we will see more volatility and higher prices until once of two things happen: 1) Russia situation normalizes or 2) recession and reduce demand

Strategic Reserve releases

- Largest ever coordinated release

- Helped cap prices in short term but ultimately is a bullish signal to drain inventories

US Shale

- Growth will likely be 800-900 kbd this year
- Challenges of capital discipline, labor shortages and supply chain issues (sand for fracking)

Libya

- Production is down 500 kbd and addition 500 kbd is threatened.
- Unlike previous disruptions that got resolve in days or weeks, this is political blockade that could last several months due to stalemate between east and west Libya factions

GDP revisions

- IEA uses 1 percent reduction in GDP = 550 kbd loss of demand

China

- Demand now expected to be nearly 1 mbd lower that initial projections in April and 700 kbd in May due to lockdowns

OPEC/IEA issues

- Big problem for market stability to have disagreement in monthly reports
- IEF coordinates trilateral work with IEA and OPEC
- Trying to get back on track
- Big divergences starting to appear
- OPEC forecasts 2x more demand growth this year vs. IEA. The gap is 1.8 mbd
- OEPC forecasts 3.5x more non-OPEC supply vs. IEA, Gap is 1.9 mbd (almost all Russia)