Impact of Climate Change on Industry

Focus on decommissioning

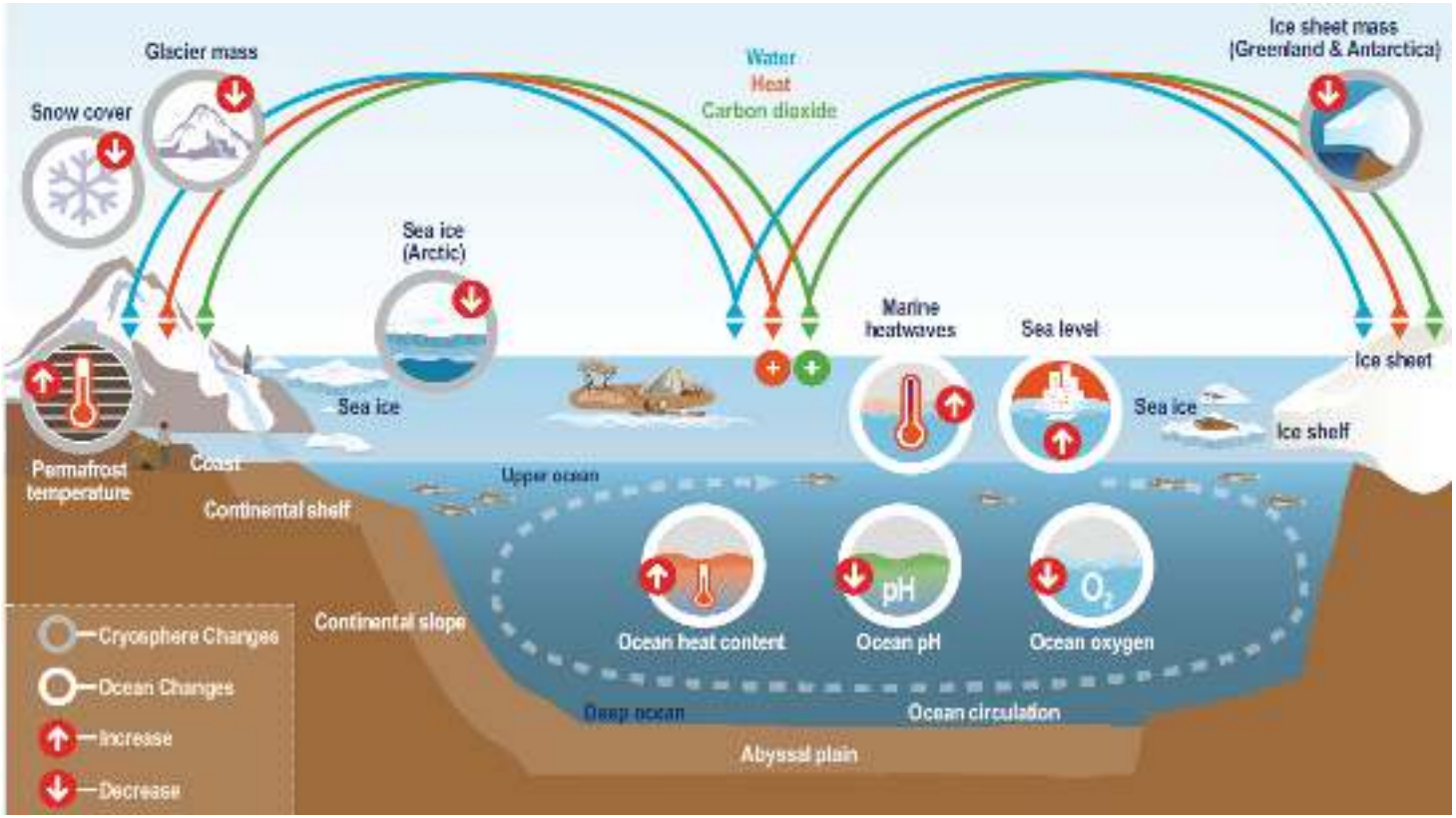
Sandra Barber

Chevron, ETC

DISCLAIMER: The views and opinions expressed in this presentation are those of the authors and do not represent official policy or position of Chevron.

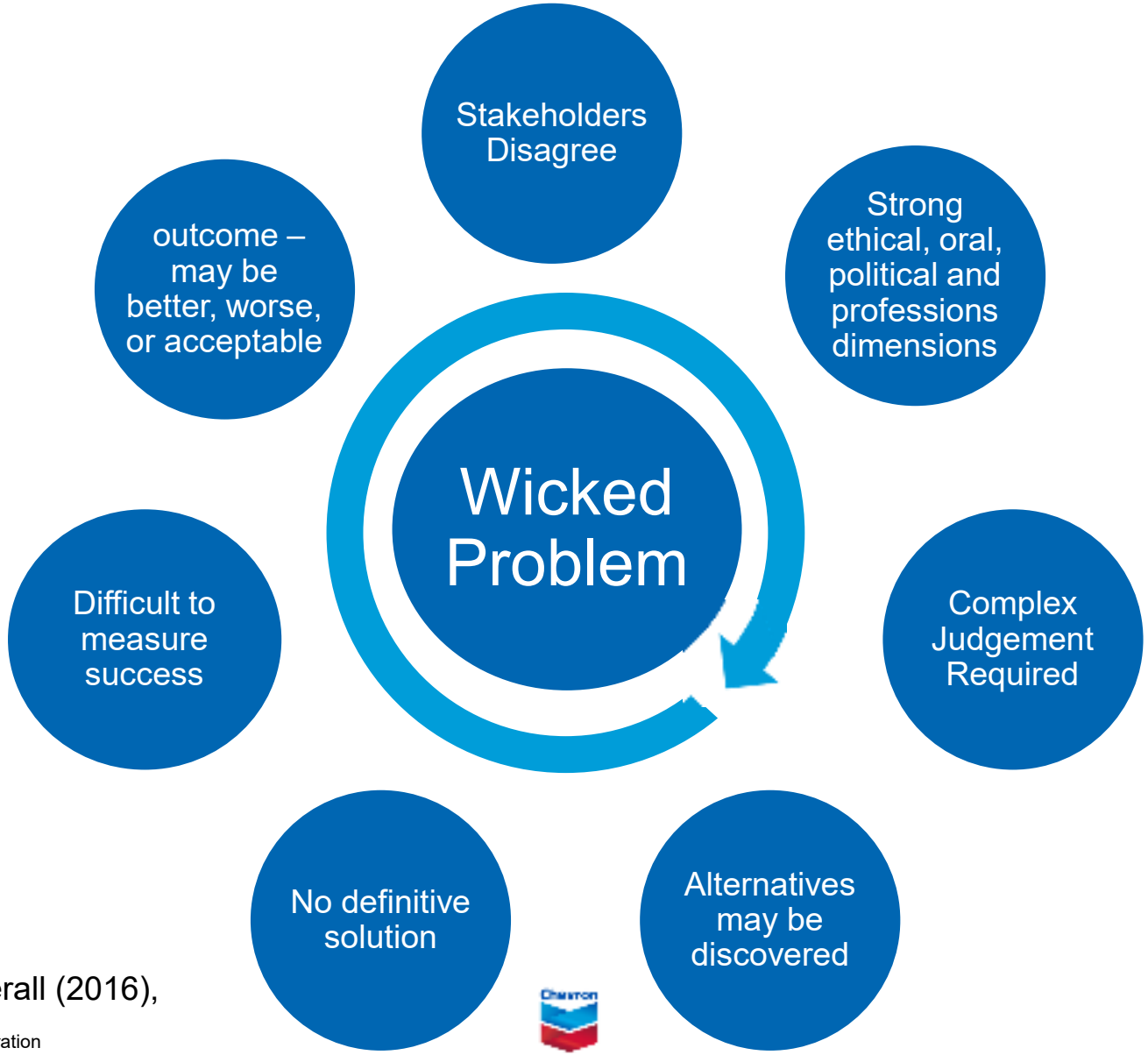
Climate Change Impact

- Increased Atmospheric and Ocean Temperature
- Changes in precipitation patterns and runoff
- Sea Level Rise
- More Intense Storms
- Changes in wave regime
- Increased carbon dioxide levels and ocean acidity
- Ecosystem Impact



(IPCC, 2019)

Complex Systems and Wicked Problems



Based on
Mcmillan & Overall (2016),

Differing Perspective

What that might mean for decommissioning

Potential for…….

Internally

- Off-site operational disruptions
- Physical Asset Damage/On-site operational disruptions
- Reduced or altered seasonality for work

Externally

- Disruption/damages to critical infrastructure
- Changes in environmental quality
- Increased restrictions on oil and gas activities
- Lost resources

Timing of Energy Transition

- Potential implications in early/ cessation of production
  - Early/Fast Tracked decommissioning
    - Bottle necking decommissioning
    - Stretched resources (increased costs)
- Government/regulatory concerns
  - Tighter restrictions
  - Alternatives to full removal (regulatory change)

Future Challenges and Opportunities

- Challenges
  - Weather constraints
  - Supply chains
  - Low oil price
  - Changing policy
  - Environmental/Carbon Footprint
- Opportunities
  - Reuse of facilities
    - Carbon Capture (reinjection)
    - Reuse for renewable energy
  - Ecological/Biodiversity benefits

References

- WEF 2020, The Global Risks Report 2020 (https://www.weforum.org/reports/the-global-risks-report-2020)
- IPCC, 2019: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate [H.-O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, N.M. Weyer (eds.)]. In press.
- Stang, G and Ujvar, B. 'Climate change as a 'wicked problem'', Alert 52, 2015, European Union Institute for Security Studies, available at https://www.iss.europa.eu/content/climate-change-wicked-problem
- IPCC, 2014: Summary for policymakers. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1-32.Mcmillan & Overall, 2016
- Mcmillan, C & Overall, J. (2016). Wicked problems: turning strategic management upside down. Journal of Business Strategy. 37. 34-43. 10.1108/JBS-11-2014-0129.
- Jonathan Woetzel et al., 2020. Climate risk and response: Physical hazards and socioeconomic impacts. McKinsey Global Institute, pp.McKinsey Global Institute, 2020–01-16.
- IPIECA (2016). Climate change adaptation in the oil and gas industry. Final Report. July 2016 [Accessed Sept 2020]
- Burkett, V., 2011. Global climate change implications for coastal and offshore oil and gas development. Energy policy, 39(12), pp.7719–7725.
- Caldecott, B., 2018. Stranded Assets and the Environment 1st ed., Milton: Routledge.
- Leporini, Mariella et al., 2019. Reconversion of offshore oil and gas platforms into renewable energy sites production: Assessment of different scenarios. Renewable energy, 135, pp.1121–1132.
- Caldecott, B., 2018. Stranded Assets and the Environment 1st ed., Milton: Routledge.