Discourses on the Green Shift and Climate Change in Norway and the Gulf

Presentation at UiO:Energy Forum 2021, November 24th, 2021.

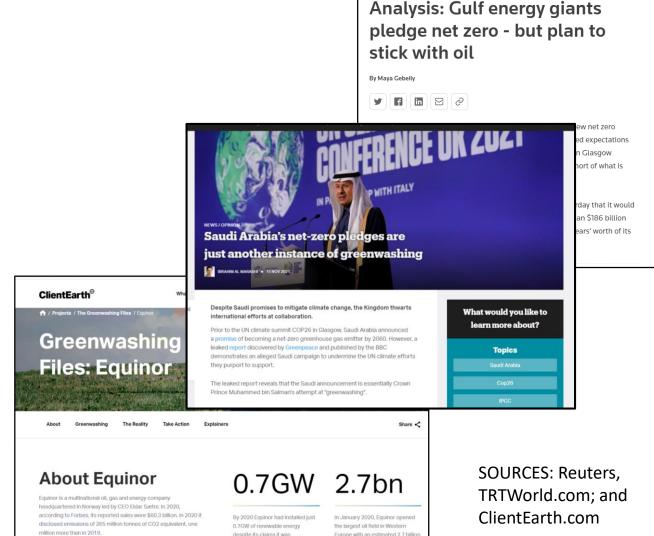
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https://www.hf.uio.no/ikos/english/people/aca/middle-east-studies/tenured/brynjarl/

What's the point of such a comparison?

- Apparently, they are very different with regards to
 - political system & demography,
 - level of oil dependency
 - prioritization of climate change in political discourse
- Still, both regions face the challenge of a post-oil future:
 - Searching for «den nye oljen»?
- Both (Norway and UAE) see themselves as «green leaders».
- Both argue that *continued* oil- and gas production is a vital part of the green shift.
- Both engage in extensive «green-washing»:
 - Norwegian oil production is «the cleanest»
 - UAE's «sustainability» branding.
- Both invest heavily in green energy, without making great profits (yet).
- Both are superwealthy and face issues regarding CC and (global) social justice.



Green shift discourses and policies in the Middle East

- What are the main climate change (CC) challenges in the region?
 - Highly vulnerable to CC.
 - Extreme temperatures, water shortages, desertification, rising sea level, etc.
 - High GHG emissions per capita in the Gulf states; highly dependent financially on fossile fuel exports.
 - Low renewable energy production (ca 4%), despite high solar (and wind) energy potential.
- Public discourses on climate change:
 - Treated as a non-domestic «international news» issue.
 - More focus on local environmental issues than CC challenges.
 - Prioritization of CC adaptation over CC mitigation.
- Regional cooperation and governance on CC issues:
 - Weak regional institutions.
 - Low level of transparency.
 - Limited focus on mitigation.



SOURCE: The Guardian, 29 October 2021,

https://www.theguardian.com/environment/2021/oct/29/apocalypse-soon-reluctant-middle-east-forced-to-open-eyes-to-climate-crisis

Solar Energy in the Middle East

- Why some Arab states «embrace» solar energy?
 - Rising domestic consumption.
 - Energy security.
 - Energy export.
 - Int'l branding («green-washing»).
- The complexity of green energy transition
 - Technical hurdles (e.g. intermittancy).
 - Financial (high upfront costs).
 - Legal and bureaucratic challenges.
 - Community acceptance & social acceptance (aestethic, local benefits, NIMBYism, etc.).
 - The discourse of «green colonialism», «resistance» to Western «extractivism» (Hamouchene, 2019)

Pictures of the Ouarzazate Solar Power Station (Noor Power Station) in, Morocco (includes both PV and CSP technologies)





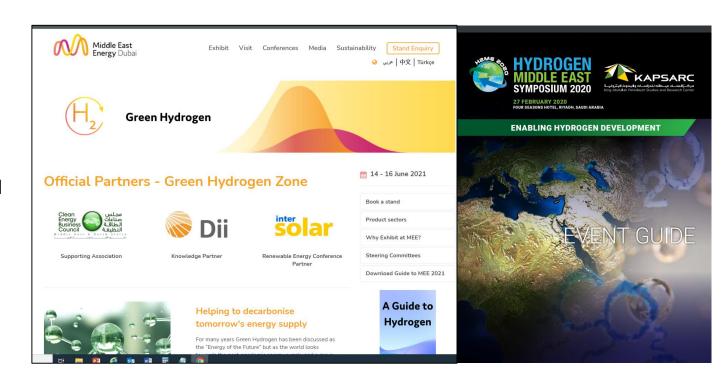




SOURCE: Hamza Hamouchene, Extractivism and Resistance in North Africa. Amesterdam: TNI, 2019, www.tni.org

A «green hydrogen rush» in the region?

- «Green hydrogen» hydrogen produced from electrolysis of water, using renewable electricity:
 - The solution to decarbonize energy-intensive industry and long-distance trucking, aviation and shipping?
 - The solution to the intermittancy of solar and wind energy?
 - Or has simply too many technical disadvantages and will never be cost-effective?
- The EU needs «massive [green energy] imports» to fully decarbonize its industries (Wehinger & Raad, 2020)
 - Green hydrogen projects in most GCC states, the largest in Saudi Arabia.
 - But still the electricity mix in the MENA region is mostly «dirty» (less than 10 % RE).
 - And the energy demand in the MENA region is rising sharply.
 - Will the result be «green energy» export and increased dirty fossile energy for domestic use?
 - And the MENA region to be green hydrogen «raw material» producers only, at the bottom of the value chain?



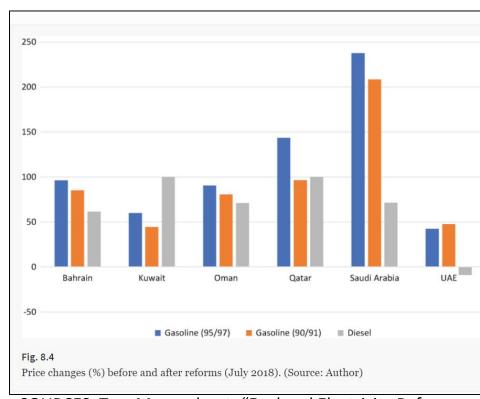
Green Hydrogen is a hot topic at recent energy conferences in the GCC countries.

SOURCES: https://www.middleeast-energy.com/en/exhibit/mee-product-sectors/green-hydrogen-zone.html;

https://www.meh2ksa.com/media/1913/hydrogen-catalogue_final-b.pdf; and Wehinger, Franziska & Saad Raad. "The MENA region's 'green hydrogen rush'." *International Politics and Society* (Friedrich-Ebert-Stiftung), 4 August 2020

A green shift in the GCC "rentier" states? (i)

- Unsustainable highly oil-dependent economies:
 - A renewable energy sector might contribute to «economic diversification»
 - Rising energy demands requires new energy sources: Saudi Arabia is already the sixth largest oil consumer globally!
- The technical feasability & natural prospects for renewable energy production are extremely good.
 - Very high solar radiation, large unhabited desert areas, peaks in energy use largely coincide with solar energy production cycles.
- However, serious (mostly political) obstacles persist (Lilliestam & Patt, 2015):
 - Energy <u>subsidies</u> (and a rentier state mentality).
 - Only UAE has necessary policy framework/regulations for renewables.
 - Slow bureaucracies, lack of technical expertise, non-liberalized energy markets
 - Wars, upheavals, turmoil: Little (economic or political) <u>urgency</u> regarding the green shift.
 - «Lack of sufficient awareness» (?) (Alnaser & Alnaser)
- And yet, «remarkable progress» in fuel subsidy reforms in the GCC countries since 2016 (see figure to the right)

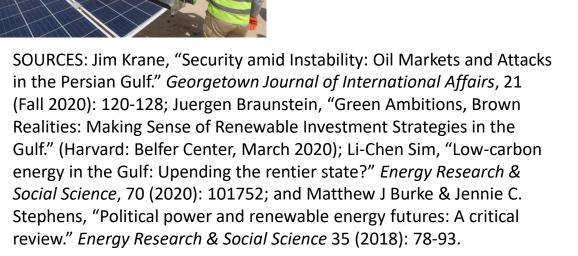


SOURCES: Tom Moerenhout, "Fuel and Electricity Reform for Economic Sustainability in the Gulf" (2000); Johan Lilliestam & Anthony Patt. "Barriers, Risks and Policies for Renewables in the Gulf States." *Energies* 8, no. 8 (2015): 8263-8285; and Alnaser, N.W. & W.E. Alnaser. "The impact of the rise of using solar energy in GCC countries." *Renewable Energy Environmental Sustainability*. 4 7 (2019).

A green shift in the GCC "rentier" states? (ii)

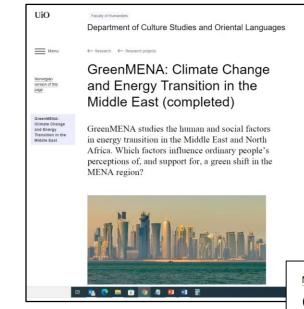
- The GCC's declining geopolitical importance as the world's energy reservoir (Krane 2020):
 - Adapt to climate change, diversify the economy, produce more oil to avoid «stranded assets»
- Solar energy projects in the Gulf since the 1970s:
 - State-controlled «megaprojects»: the world's largest...
 - Symbolic high-visibility projects (e.g. solar cooling at the Soccer World Cup 2022 stadiums in Qatar).
 - Very ambitious RE goals, but «huge gap btw announced and completed projects» (Braunstein 2020).
 - RE investments make most sense for «revenue maximization» and «geopolitical benefits» (CC, energy security, spare oil capacity), not for job creation for nationals (Braunstein 2020).
 - Export of solar energy will only generate small revenues, and requires high up-front costs.
- Is renewables a threat to the GCC rentier state? Not really:
 - RE is for domestic use, helps boost petroleum export.
 - Does not weaken the state's role in employment.
 - Confers on the ruling elite (local) legitimacy and int'l recognition (Sim 2020).
 - RE offers «a possibility, but not a certainty» for energy democracy (Burke & Stephens 2018).

Pictures of the Mohammed bin Rashid Al Maktoum Solar Park in UAE



The «Oil-in-Transition (OiT)»-project A UiO:Energy-funded TRG (2020-23).

- Overall research aims:
 - Similarities in how governments and society respond to the prospects of a «green shift».
- Methods & sources:
 - Discourse analysis (quantitative & qualitative).
 - Media, gov't reports, interviews, etc.
 - Selected GCC countries and Norway.
- Administration & staff:
 - Based at IKOS, UiO.
 - Two postdoc positions (Mathilde Becker Aarseth & NN).
 - Assoc. Prof. Albrecht Hofheinz
 - Prof. Brynjar Lia (Coordinator & PI)



The OiT-project is a continuation of the GreenMENA-project, which started back in 2016.

The «GreenMENA» MA course, launched by the OiT project in spring 2021.

MES4500

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· Nadim Farajallah

Detailed list of participant

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GreenMENA

Climate change is among the most pressing challenges of our age, and along with the Arctic, the Middle East is where temperatures are rising sharpest. This course seeks to explore issues related to this challenge from the perspective of actors in the Middle East and North Africa (MENA). Fossil fuels, the primary contributor to global warming, are a central pillar of the political economy in many MENA countries, both in those exporting oil and gas and in others dependent on remittances and support from them. How do governments, business elites and civil society perceive the challenges posed by the foreseeable end of the fossil fuel age? How do they envisage and prepare for a 'green shift' towards an economy based on renewable energy sources? How do elites in 'rentier states' try to safeguard their interests in a post-oil future? What kind of discourses do we encounter in this context, and what are the actual policies and practices implemented?