🌊 Opening Reflections: The Evolving Ocean
Thank you
Organisers gave me quite some freedom - dangerous
Would like to cover a range

Ocean
REN21
Framing
National governance
Marine Spatial Planning
Environmental Impact Assessment
Sidenote: deep-sea mining

1. **Framing the Challenge: Crowded Seas, Fragmented Governance**
   Industrialisation
   EU Blue Economy – biotechnology, tourism, aquaculture

- **Rapid offshore energy growth**:
    - We're witnessing an acceleration in offshore wind farms, undersea transmission cables, floating hydrogen hubs, carbon storage facilities- and even solar arrays at sea.
    - Offshore wind capacity surged globally, reaching 75.2 GW in 2023 (+10.8 GW).
    - China led with 6.3 GW added; Europe (UK, Germany, Denmark) remain critical hubs.
    - EU's ambitious targets: 76 GW by 2030, 300 GW by 2050 (NSEC).
- **Ocean power lags far behind**:
    - Just 530 MW installed globally, with minimal growth (~1.5 MW in 2023).
    - Persistent barriers: high costs, technology challenges, fragmented legal support.
- **Legal tensions from rapid transition**:
    - Marine spaces increasingly contested, infrastructure straddles sectors and boundaries.
    - New governance tools – MSP – promising, but also increasingly under the spotlight
    - International law struggles to keep pace, creating legal ambiguity and political tensions.
    - Need to consider new governance paradigms—**"blue legalities"**

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2. Examples of Governance Fragmentation
National
Sectoral governance

Ocean Power: Scotland's Governance Case Study
- Scotland's MSP perceived as international best practice but industry views it as fragmented, bureaucratic, unpredictable:
    - Developers face multi-agency approvals, unclear tenure, lengthy delays.

- o Scotland's model highlights tension: ambitious rhetoric vs. cumbersome implementation.

Offshore Wind: North Sea Interconnections
- Who governs shared grids? Who pays, controls, and benefits?
- **Cross-border infrastructure (e.g., North Sea Energy Cooperation, North Sea Wind Power Hub):**
  - o Who governs shared grids? Who pays, controls, and benefits?
  - o Existing bilateral agreements (e.g., Denmark-Belgium energy islands, UK-Norway cables) test sovereignty limits and highlight gaps in legal frameworks.
  - o EU's MSP Directive mandates national plans but offers weak enforcement across borders.

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2. **The Challenge of Marine Spatial Planning (MSP)**

MSP – process to understand conditions, future developments, develop a plan through political process

EU Directive

Highly technical process.
Promoted extensively by UNESCO and others – logical
Academic – increasing concern and critique

- **MSP: intended as integrative governance, often reinforces sectoral dominance**:
  - o Shipping, fishing, and energy sectors dominate planning processes.
  - o Legal scholars argue MSP reinforces state sovereignty, limiting genuine cross-border cooperation.
- **Political economy of MSP**:
  - o Offshore wind – industry may feel it can't compete with existing users – existing user may feel wind gets unfair prioritization, simplified licensing—embedding a techno-economic bias.
  - o Civil society, coastal communities, and traditional marine users often marginalized, leading to procedural injustice.

  - o Or overconsulted – Orkney

- **MSP critiques**:
  - o Risk of "strategic tokenism": stakeholder participation superficial rather than genuine deliberation.
  - o Need to reorient MSP to include adaptive, justice-based governance frameworks (e.g., giving coastal communities meaningful decision-making roles).

Marine spatial planning is indispensable yet insufficient without legal coherence, adaptive governance, and political will.

- As offshore energy expands, MSP must evolve from sector conflict mediation to governance for transformation — enabling just, inclusive, and science-informed transitions.
- Rather than asking whether MSP works, we must ask: for whom, under what vision of sustainability, and with what enforceable limits?

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3. Science-Policy Interface: EIAs and Adaptive Governance

Impacts – can mitigate - RESR

- **Environmental Impact Assessments (EIAs)**:
    - Often reduced to bureaucratic compliance rather than dynamic governance tools.
    - Unclear thresholds for significant impacts create regulatory confusion, excessive caution, or gridlock.
- **Scientific complexity vs. regulatory simplicity**:
    - Marine ecosystems present high uncertainty and cumulative impacts not easily captured in EIAs.
    - Science frequently mobilized strategically in political disputes—NGOs vs. developers—rather than as impartial evidence base.
- **Case for adaptive management**:
    - Need legal frameworks embedding adaptive, iterative EIAs (monitor-adjust-decide loops).
    - Promote shared data platforms, clear thresholds calibrated by deployment scale.

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5. Deep Seabed Mining (DSM): Lessons from an Emerging Legal Crisis
- **Governance gaps exposed by DSM**:
    - ISA's delayed "Mining Code" and unresolved legal frameworks showcase institutional inertia.
    - Divergence within EU (France, Germany support moratorium; Belgium, Poland have mining interests).
- **Environmental and geopolitical risks**:
    - DSM presents irreversible ecological threats, raising ethical and generational equity issues.
    - Highlights legal fragmentation in managing new marine industries with high ecological risks.

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6. Towards a New Legal Paradigm: Integrative Ocean Governance
- **Integrative governance principles**:
    - Precautionary principle and intergenerational justice as fundamental legal anchors.
    - Adaptive, cross-border governance structures, bridging sectoral gaps and ecological limits.
- **EU and regional frameworks as potential models**:

- o North Sea Energy Cooperation (NSEC) and EU Green Deal show emerging regional cooperative models.
- o Yet, these models must strengthen enforcement and integrate ecological justice deeper into legal frameworks.
- **Recommendations for reform**:
  - o Harmonize cross-border legal frameworks, explicitly addressing infrastructure ownership and liability.
  - o Strengthen participatory processes, incorporating customary marine rights, local community deliberation, and transparent science-based decision-making.
  - o Foster interdisciplinary approaches: legal, ecological, political sciences must jointly address complex governance issues.

Strategic Reflections & Key Messages (Conclusion)
- **Marine renewables reveal a critical legal-political shift**:
  - o The rapid energy transition outpaces current maritime governance capacities.
  - o Fragmented law risks ecological degradation and socio-economic injustice.
- **Transnational cooperation essential**:
  - o Bilateral and regional legal instruments require harmonization to manage shared ocean spaces effectively.
- **Future-proofing marine governance**:
  - o Legal frameworks must evolve rapidly to embrace adaptive, integrative, and just ocean stewardship principles, anchored in rigorous science and genuine stakeholder engagements