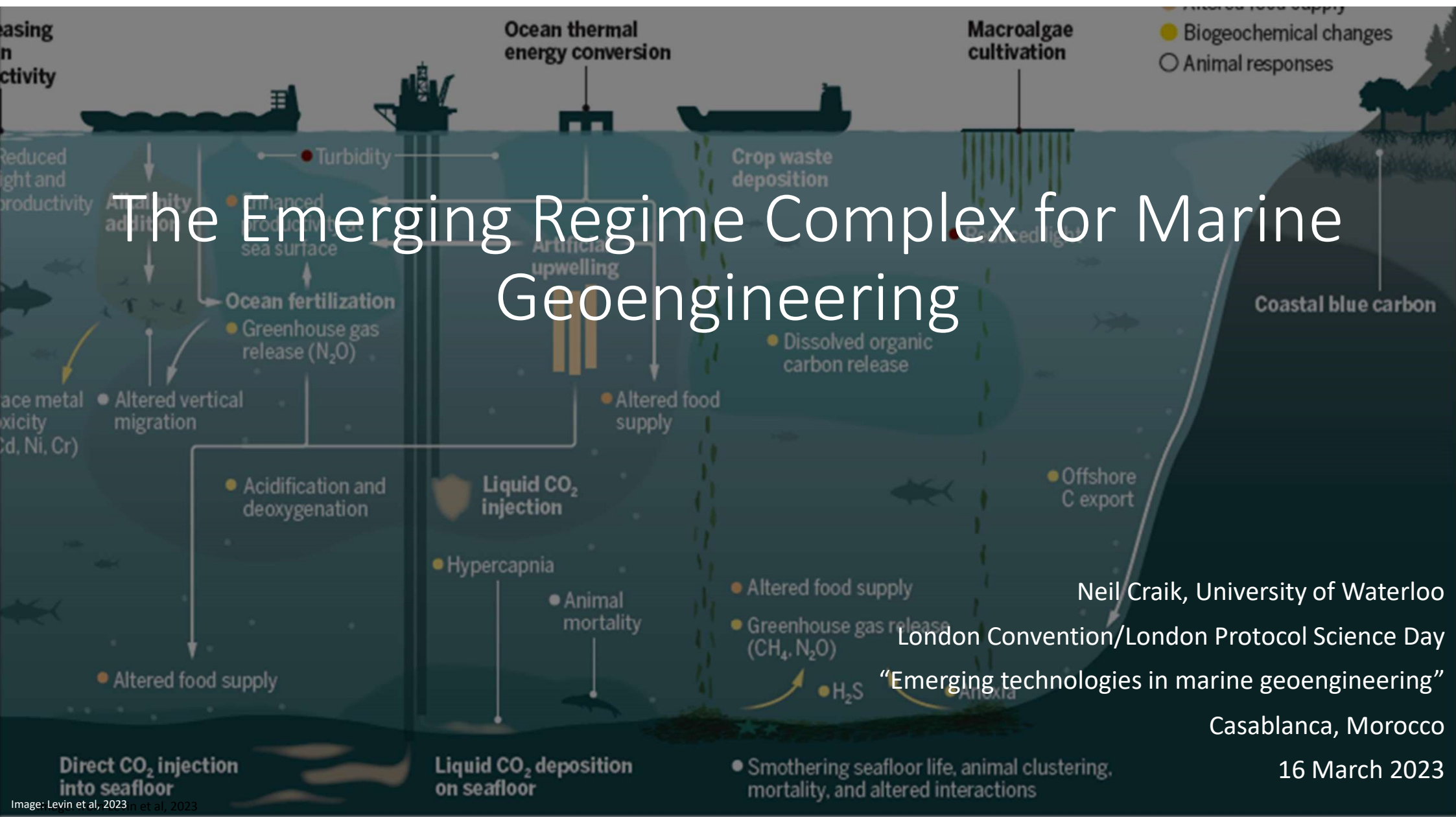


The Emerging Regime Complex for Marine Geoengineering



Neil Craik, University of Waterloo

London Convention/London Protocol Science Day

“Emerging technologies in marine geoengineering”

Casablanca, Morocco

16 March 2023

Image: Levin et al, 2023, In et al, 2023

Why Regime Complexes?

- “an array of partially overlapping and nonhierarchical institutions governing a particular issue-area.”
 - Raustiala and Victor
- Reflection of increasing density of int’l institutions and complexity of global issues
- Elemental institutions
 - Configurations of parties
 - Differentiation/overlap
- System Effects
 - interactions
 - Path dependence
 - Degree of fragmentation / integration
- Enables situating specific regimes within system
 - Understand interactions / system dynamics

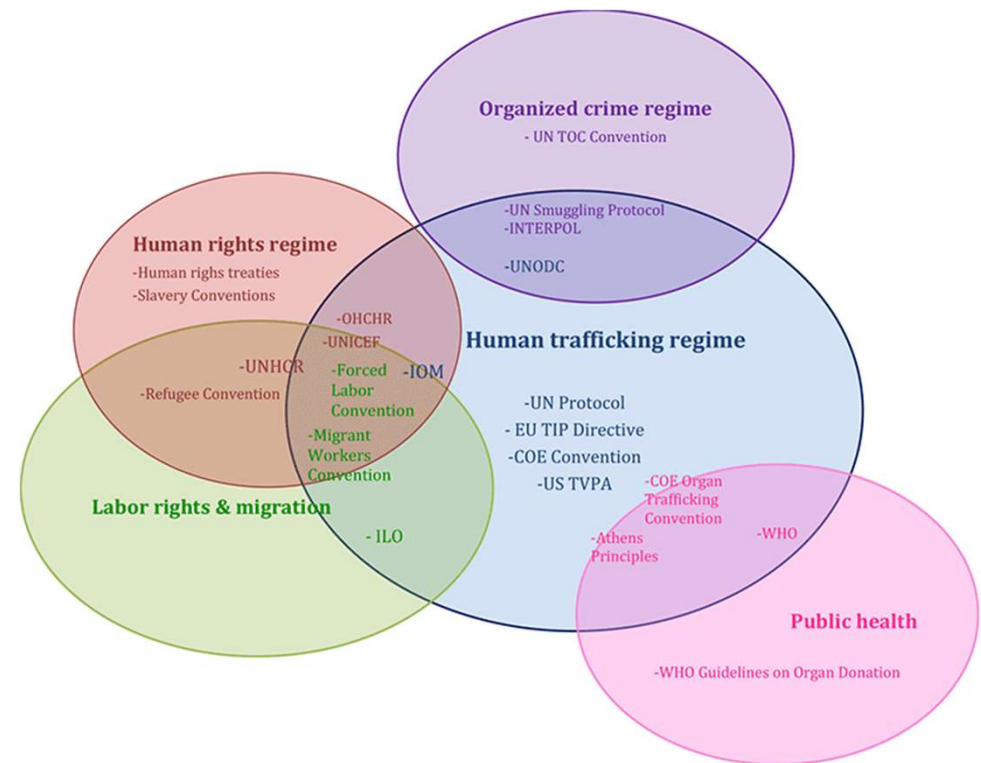
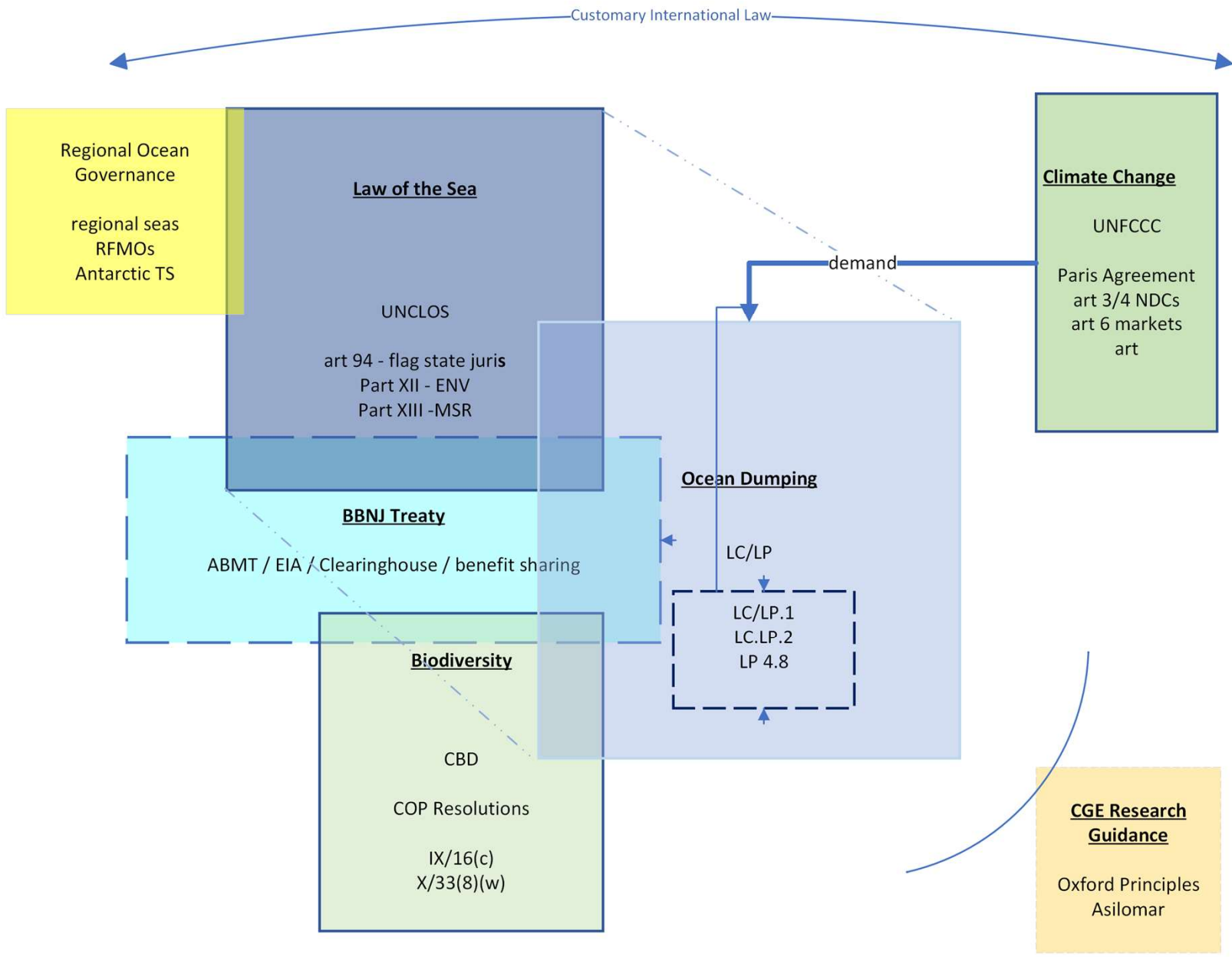


Image: Alter and Raustiala, 2018



(Emerging) Marine
 Geoengineering
 Regime Complex

Governance Functions

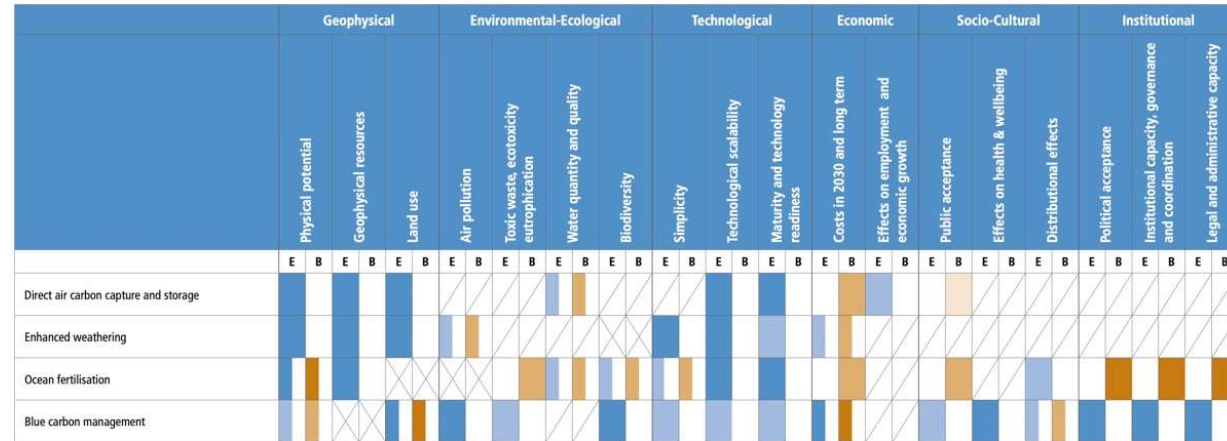
Governance requirements	UNFCCC	LC/LP	CBD	UNCLOS	BBNJ	Antarctic	CIL	CGE
Demand	Light Blue							
Acct'ing	Dark Blue							
jurisdiction				Dark Grey			Dark Grey	
research		Dark Grey		Dark Grey	Medium Grey	Dark Grey		Light Grey
Env. Protection		Green	Light Green	Light Green	Medium Grey	Dark Green		
Permitting		Dark Green				Light Green		
EIA		Dark Green	Light Green	Light Green	Dark Green	Dark Green	Light Green	Light Green
Notice/Consult		Dark Green		Light Green	Dark Green	Dark Green	Light Green	
Monitoring/report		Dark Green		Light Green		Dark Green	Light Green	
Benefit Sharing			Yellow	Yellow	Yellow			Yellow
Use conflicts				Yellow	Yellow			
Liability				Yellow		Dark Yellow	Yellow	
Dispute Res				Dark Orange				

Functional Areas: **Climate blue** **Env. Green** Legal rights Grey **Distributive rights Yellow**

Darker shades indicate determinacy of rules; split cells indicate rules not in force

Elemental Regime: Climate

- Source of demand for CDR
 - NDCs – bottom up structure
 - IPCC IAMs – gigaton scale deployment anticipated under models
 - Disjuncture between IAMs and other geo-biophysical and social constraints
 - Sustainability, food security and HR provide further normative criteria
- Differential treatment of CDR and SRM
 - Little direction on SRM – (but see C2G, Overshoot Commission)
- Art 6 – market provisions major facilitator
 - Drives private sector involvement
 - Gate keeping function of art 6(4) mechanism
- Other facilitating mechanisms
 - Finance
 - Tech transfer
 - N/S dimensions
 - Art 13 – accounting protocols



IPCC WG III, AR6 Mitigation of Climate Change, Figure 12.4

Governance requirements	UNFCCC
Demand	
Acct'ing	
jurisdiction	
research	
Env. Protection	
Permitting	
EIA	
Notice/Consult	
Monitoring/report	
Benefit Sharing	
Use conflicts	
Liability	
Dispute Res	

Elemental Regime: Law of the Sea

- Constitutive role
 - Rules of the game
- Jurisdiction
 - Access to and control over maritime zones
 - High seas freedoms
 - Presumption of freedom of action
 - Flag state responsibilities
- Permissive MSR rules
 - “appropriate scientific method”
- Ambiguous environmental rules
 - No harm principle potentially precludes risk/risk assessments
 - Def’n of “pollution” only applies to some technologies
 - Procedural orientation
 - EIA
 - Notice/consultation
 - Direct link via art 210 to LC/LP
- Inchoate liability rules – defer to customary law
 - Due diligence – draws on int’l standards
- Introduces (but constrains) idea of CHH
- No COP but ITLOS – increasingly site of strategic action

Governance requirements	UNCLOS
Demand	
Acct'ing	
jurisdiction	
research	
Env. Protection	
Permitting	
EIA	
Notice/Consult	
Monitoring/report	
Benefit Sharing	
Use conflicts	
Liability	
Dispute Res	

Elemental Regimes: Biodiversity and BBNJ

CBD

- Non-binding resolutions – but still compliance pull
 - Framing effect
 - Presumption of prior, global governance
 - Lumps CDR together with SRM
- Precautionary
- No harm
- COP forum for discursive/strategic actions
- Extends benefit sharing to biological resources – but linked to access

BBNJ – not in force

- Elaborates on key procedural obligations
 - EIA
 - Notice
 - Clearinghouse mechanism
 - Integrated marine planning
 - ABMT
- Reinforces key principles
 - Precaution
 - CHH & equity
- Extends notion of benefit sharing beyond the Area
- Provides further fora
 - liability

Governance requirements	CBD	BBNJ
Demand		
Acct'ing		
jurisdiction		
research		
Env. Protection		
Permitting		
EIA		
Notice/Consult		
Monitoring/report		
Benefit Sharing		
Use conflicts		
Liability		
Dispute Res		

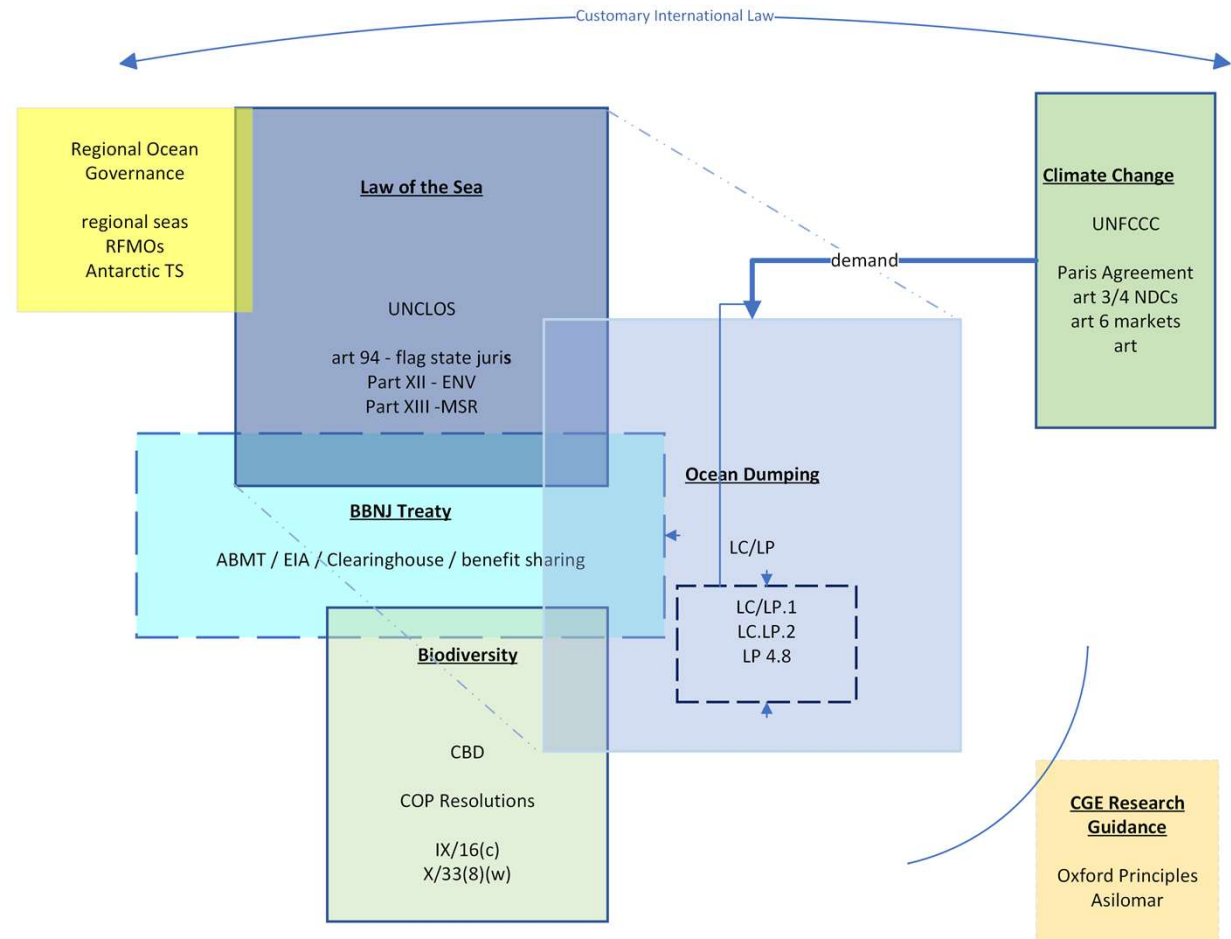
Elemental Regime: Ocean Dumping – LC/LP

- Normatively contingent
 - Non-binding resolutions and not-in-force amendment
 - Depends on interpretation of Convention’s objectives
- But v. detailed provisions
 - Only permitting regime
 - Application to placement technologies (not MCB, others)
 - Environmental focus
 - EIA – no screening
 - Notice
 - Research regulation
 - “legitimate scientific research”
 - Addresses broader range of issues
 - Research rationale
 - Vested interests
 - Research disclosure

Governance requirements	LC/LP
Demand	
Acct'ing	
jurisdiction	
research	
Env. Protection	
Permitting	
EIA	
Notice/Consult	
Monitoring/report	
Benefit Sharing	
Use conflicts	
Liability	
Dispute Res	

Regime Complex Dynamics

- Connections
 - Attention to ordering provisions, UNCLOS arts 210 & 311; BBNJ art 4; AT art VI
- (In)coherence
 - Rule conflicts v. narrative conflicts
 - Demand → feasibility/risk
 - Role of precaution
 - Technology specific differentiation
 - Research governance
 - “legitimate scientific research”
 - MG as a resource issue – global public v. private goods
 - Role of equity
- Evolution/stability
 - Role of CIL
 - Role of institutions
 - Strategic behavior
- Robustness
 - Shift from research governance to deployment
 - Interplay between permitting and crediting
 - Scale effects



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