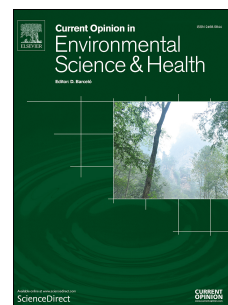


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Identifying the risks and opportunities of unconventional oil and gas extraction using the strategic environmental assessment

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Ideal SEA process for unconventional oil and gas development			
Overarching principles: Saliency, legitimacy and credibility.	Project phase	Key considerations	Activities
	1. Conceptualisation	<ul style="list-style-type: none"> Achieving saliency by ensuring that the UOG SEA covers all the important issues and concerns Achieving legitimacy by ensuring that the SEA is grounded in transparent and participatory processes Achieving credibility by including groups of leading experts and implementing rigorous scientific review structures Developing databases and spatial frameworks to support environmental integration in the SEA 	<ul style="list-style-type: none"> Develop SEA framework and solicit experts (Administrators) Adhere to overarching SEA principles (Process governance groups) develop literature and monitoring databases, Spatial database for maps (Scientific experts)
	2. Scientific assessment	<ul style="list-style-type: none"> Include scenario based systems-oriented analyses of future possibilities by including low vs high activity impacts of UOG Consider short term and long term effects of UOG development Consider regional, cumulative and synergistic impacts of UOG extraction Operationalize sustainability in the SEA Ensure proper consideration of project alternatives Ensure accountability and efficient strategic decision-making by grounding the scientific assessment process in transparent and participatory processes Enhance the credibility of the SEA by public participation and stakeholder involvement for more transparency and better process governance 	<ul style="list-style-type: none"> Conduct a science-based assessment to improve understanding of the risks and opportunities of shale gas development (Scientific experts) Translate existing scientific information into a form usable by policymakers (Scientific experts) Perform an extensive, transparent review process to ensure saliency, legitimacy and credibility (Scientific peers & public)
	3. Decision-making framework	<ul style="list-style-type: none"> Develop a decision-making document Include rules for siting, phasing and managing projects in the decision-making document 	<ul style="list-style-type: none"> Translate the outputs from the scientific assessment into operational guidelines and decision making frameworks (Project Team in close consultation with the various affected government Departments).
	4. Follow-up	<ul style="list-style-type: none"> Perform follow-up or monitoring studies that can trigger management action if required after evaluation 	<ul style="list-style-type: none"> Monitor and assess government implementation of decision-making framework (Independent broad based monitoring agency). Implement adaptive environmental management if required.

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