

Catalog of Vulnerabilities, Impacts, Opportunities and Adaptation Options Other Economic Activities (EA) Technical Working Group

ISSUE	Vulnerabilities, Impacts, Opportunities	Option No.	Adaptation Action/ Policy Option	Notes
Oil and Gas		EA-1		
Onshore	Reduced ice road, tundra travel, ice platform opportunities			
Onshore	Reduced efficiency of gas compression			
Onshore	Animal behavior and distribution changes			
Onshore	Migration of contaminants from flooding of gravel pads			
Offshore	Possible extensive offshore development			
Offshore	Animal behavior changes			
Offshore	Increased oil spill risk			
Pipeline	Sea level rise and coastal erosion impacts			
Pipeline	Thawing permafrost affects buried or above-ground pipelines			
Existing Infrastructure	Coastal infrastructure, old wells and waste pits submerged and breached			
Mining		EA-2		
Placer mining erosion				
Tailings dams and disposal sites	Reduced freezeback for tailings dams and modifications to disposal sites			
Mining access				
Ocean Transportation		EA-3		

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Increased shipping opportunities and needs	Open shipping lanes due to less Arctic ice	3.1	Increase Coast Guard, rescue, navigation and information assistance	
	Longer winter access to north seas	3.2	Finance and build basic shipping infrastructure	
		3.3	Monitor impacts of shipping on environment, hunting, fishing and communities	
		3.4	Ensure oil spill response and clean up capabilities	
		3.5	Examine need for new standards and regulations	
Ocean Recreation	Increased cruise and recreational traffic			
Rural Non-Road Ground Transportation		EA-4		
Ice Road Impacts	Reduction in season length			
Other Business Impacts and Opportunities		EA-5		
Other Business Impacts (e.g., Insurance)	Individual and government insurance impacts	5.1	Federal "all perils" insurance guarantee program	
		5.2	Reward climate protection at residential and commercial properties	
		5.3	Encourage private insurers, as investors, and the state pension funds to consider climate impact prevention in the prudent investment of portfolios.	
		5.4	Explore potential of insurance industry to contribute to funding as beneficiaries of reduced risk	

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		5.5	Create incentives for private investment in creating 'climate safe' development	
		5.6	Anticipate and address increased insurance costs	
		5.7	Encourage private insurers to invest in climate science as a 'present value of avoided future costs' strategy.	
		5.8	Consider future income for selling carbon credits and offsets	
Energy Supply Impacts	Increased demand for new and diversified energy sources	5.9	Explore, install, permit new wind, geothermal, solar, and other renewable energy projects	
Regulatory Changes	Increased need for related permitting, siting, regulatory changes	5.10	Address increased staffing and data needs in regulatory agencies	
		5.11	Assess permit needs for safe drinking water and sanitation in villages	
Tourism and Recreation		EA-6		
		6.1	Develop economic analysis of potential decline of tourism and impact on state revenues.	
Downhill Skiing	Less snow, less cold weather	6.2	Consider use of higher elevation lands for skiing	
		6.3	Study increased cost of snow production	
Other winter tourism	More comfortable temperatures for some locations	6.4	Study likely impacts on winter tourism	
		6.5	Consider benefits of warmer, but sub-freezing temperatures, for selected locations	
		6.6	Explore alternative winter tourism options	
		6.7	Address road, airport, bridge maintenance needs to support tourism	

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Summer and shoulder seasons	Damaged roads, diseased or dying forests, smoke	6.8	Market longer summer season, deal with damages and health	
		6.9	Extend services for longer season	
		6.10	Permit and other changed itinerary requirements	
		6.11	Address tourist health issues from smoke	
		6.12	Locate/re-locate visitor centers	
		6.13	Expansion of cruise tourism into Arctic Ocean	
Boundaries and Ownership		EA-7		
Outer Continental Shelf	Arctic countries surveying and "laying claim" to Arctic Ocean submerged lands	7.1	Advocate for Law of Sea Convention Treating provisions	
		7.2	Conduct field research re: Outer Continental Shelf	
Boundary Adjustments	Coastline changes and property ownership – e.g., state/federal changes	7.3	Establish new boundary dispute protocols as needed	
	River erosion and property impacts	7.4	Establish new boundaries	
	Changes in ownership of submerged lands			
Energy Demand		EA-8		
Costs to Businesses		8.1	Reductions in winter fuel needs	
		8.2	Reductions in peak demand	
		8.3	Increase in summer demand for cooling	
Evolving Alaska's Jobs and Economy		EA-9		
		9.1	Long and short term jobs analysis to identify which sectors/occupations will be positively/negatively impacted, with an eye towards job creation opportunities	

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		9.2	Education and job training programs to re-tool workforce to take advantage of green economy growth	
		9.3	Make Alaska a world leader in the climate adaptation field: engineering and design services, climate-sensitive infrastructure systems, etc.	