


Climate change, energy production, and Arctic tourism: A case study analysis of northern Alaska

Research Article

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Abstract

Historically, there have been two kinds of economic activities in northern Alaska. The first and oldest is the subsistence lifestyle of the Indigenous peoples. The second and more recent is the development of the oil and gas industry, which began in earnest in 1977 with the competition of the Trans-Alaskan Pipeline and construction of a new road, the Dalton Highway. Although first used only by commercial traffic for the oilfield, in 1994, the highway opened to the public and is now frequented by tourists travelling above the Arctic Circle. In this paper, we analyse the future of northern Alaska tourism by considering evolutionary economic geography and the area's likely reduction in oil and gas activity. We consider how climate change may serve as a trigger, impacting tourism through the rise of last chance tourism, and conduct a scenario-based analysis. We argue that the oil and gas industry is likely to continue along its current path, exhausting accessible resources and innovating technology to push into new territories in the far north. However, should the culmination of extraneous factors render climate change a trigger, industry decline could be offset by investments that repurpose the area's industrial heritage into tourism sites.

Introduction

The area of Alaska above the Arctic Circle comprises over 100,000 square miles of territory but just a few tens of thousands of people. A large number of these are Indigenous peoples, such as the Inuit or the Gwich'in, who have lived on these lands for thousands of years. For most of that time, these Indigenous peoples engaged in subsistence activities and are still invested today in the management of their cultural heritage and legacies in the form of both living and nonliving resources. These traditional legacies and resources benefited from the remoteness of the territory, which made it difficult for outsiders to travel to the region and encroach on Indigenous activities.

However, when oil was discovered in Prudhoe Bay in 1968, many things changed for the Alaskan Arctic. The development of the Trans-Alaska Pipeline System (hereafter TAPS) and the consequent exploitation of the oil reserves of the region brought new people and infrastructures to the region. The oil industry built its northern headquarters in the camp town of Deadhorse, perched on the Arctic Ocean, and industry employees and suppliers travelled to the region via an industry chartered plane or the single road available, built to enable the construction of the pipeline and called the Haul Road.

The oilfield camps, as well as the Haul Road, were strictly used by only those connected to the industry. But in 1994, the Haul Road, now called the Dalton Highway, opened for public use, connecting the Alaskan Arctic with the city of Fairbanks (see Figure 1). The Dalton Highway, despite its name, is not a highway in the usual terms – it is a 414 mile long two lane road that has large unpaved sections and requires a four-wheel drive vehicle to access. There are few facilities, and it can take hours to clear the road in case of an accident. With the exception of a few cabins in small towns like Wiseman, most overnight facilities take the form of primitive campgrounds or tents pitched in turnoffs alongside the road.

Despite the harsh travelling conditions and the lack of dedicated tourist facilities, Arctic Alaska has begun to see a rise in tourism since the opening of the Dalton Highway to the general public (Everett, 2007). The federal government maintains the Arctic Interagency Visitors Center in Coldfoot, Alaska, 60 miles north of the Arctic Circle. The town itself is described by the United States Bureau of Land Management thusly: “Coldfoot is not much more than a wide spot in the road. If you cross the bridge over Slate Creek, you've gone too far!” (BLM, n.d.)

In this paper, we seek to understand whether tourism is likely to develop into an economic rival to the oil and gas industry in northern Alaska. In so doing, we use the lens of evolutionary economic geography (EEG) to understand the growth and scenarios for the future of the tourism industry. Specifically, we want to address the possibility of transition from an oil and gas-based economy in Alaska to one based on tourism, using the concept of climate change as a trigger point to produce the change.

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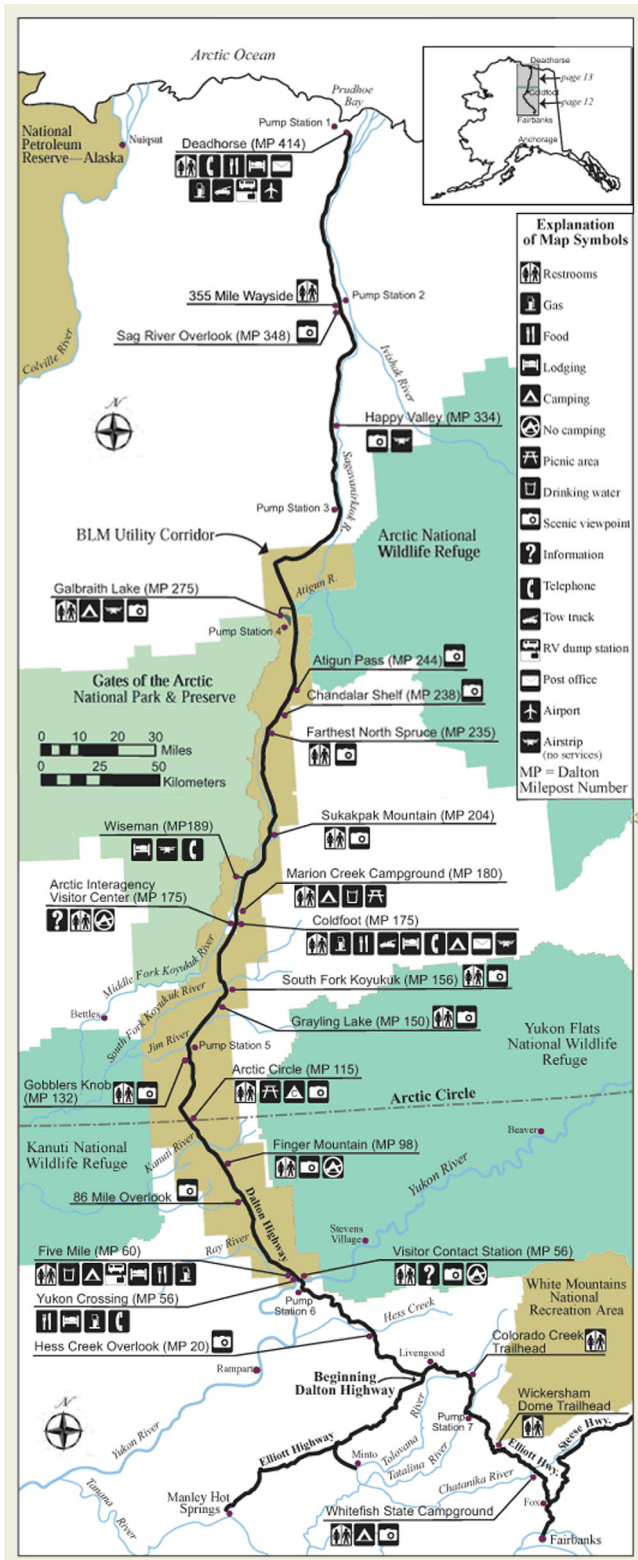


Figure 1. The Dalton highway.

Theoretical background

In recent years, scholars have identified EEG as a promising area of research in the study of tourism geographies (Brouder, 2017; Brouder & Eriksson, 2013; Ioannides, Halkier, & Lew, 2014). EEG,

which posits that places consist of complex, co-evolving socio-economic and institutional dynamics, has three theoretical antecedents: (1) complexity theory, (2) generalised Darwinism, and (2) path dependence (Brouder, 2017). While all three are applicable to tourism geography, we are particularly interested in the latter. At the centre of path dependence is the notion of lock-in, which relies on an equilibrium-based understanding of economic change and argues that once historical mechanisms stabilise, economic structures tend towards the status quo (Brouder & Eriksson, 2013). In essence, structures become path-dependent until a trigger event creates a new path. Butler (2014), who argued that triggers are understudied in tourism geography, described them as “key agents of change . . . that affect the transition process from one stage of development to another” (p. 218). Triggers may be spontaneous and consist of shocks or crises, such as a war, pandemic, or natural disaster, or they may be selective and related to structural or agency-based factors, such as the development of new bureaucratic infrastructure or changes in policy (Sanz-Ibanez, Wilson, & Anton Clave, 2017). Here, we are particularly interested in how climate change as a trigger event may affect the resistance, renewal, or reorientation of development paths within the tourism and oil and gas industries in northern Alaska.

The choice to concentrate on oil and gas as a site of tourism is deliberate. Most studies of the relationship between oil and tourism focus on the impact that oil prices have on tourist activities (S. Becken, 2011; S. Becken, 2015; Yeoman et al., 2007) or on the relationship between the environment, tourism, and the oil and gas industry (Stoddart & Graham, 2018; Widener, 2009). We choose to focus on the possibility of a potential coexistence or transition, to see if there is the possibility for a less adversarial relationship between the two industries than is commonly discussed. Thus, our work focuses on the potential paths that could be taken in Northern Alaska and the potential outcomes of these paths.

It is important to note that the term “Arctic tourism” has a distinct meaning in academic literature – Arctic tourism is that which leans into particular stereotypes about Arctic spaces as cold, remote, isolated, and untouched (see for example Saarinen & Varnajot, 2019; Varnajot & Saarinen, 2022). Some of the tourism we discuss in this paper would fall into that category, particularly with regard to the seeing wildlife on in the difficulties of accessing certain parts of the Alaskan Arctic. However, other parts would not fall into this category – seeing the apparatus used in oil and gas extraction, for instance. Therefore, we use the more inclusive term “tourism in the Arctic” to avoid any confusion.

In this EEG consideration of the future of tourism in the Alaskan Arctic, we employ scenario-based analysis. According to Mitchell and Shannon (2018), recently, EEG scholars “have realized that path-dependence does not always yield a steady, or equilibrium, condition (Martin, 2010)” (p. 22). Change, Mitchell and Shannon explained, “is a consequence of economic crises or shifting demand,” and “path development is driven by ongoing innovation . . . and that plasticity” (p. 31) We posit that in the event of a trigger, climate change especially, multiple pathways are possible, all of which maintain some historical continuity. This, Mitchell and Shannon (2018) argued, “paves the way for alternative scenarios” (p. 22). Scenarios are created by taking the existing situation of interest and projecting various potential futures (Barma, Durbin, Lorber, & Whitlark, 2016). They are popular with policy scholars (Barma et al., 2016; Menzies & Middleton, 2020), business managers (Wack, 1985a,b), and in the organisational learning literature (Burt & Chernak, 2008; Van der Heijden, 2000). Unlike simulations, which try to represent the

current status of a real-world example (Asal, 2005), or forecasts, which try to project future outcomes, scenarios include uncertainty to illustrate a range of potential futures (Menzies & Middleton, 2020).

Methodological approach

Data for these scenarios were collected through participant observation by the authors on a three-week research trip to northern Alaska, which included travel to the Arctic National Wildlife Refuge and the oilfields of Deadhorse in the Prudhoe Bay region. These sites were chosen due to their significance to both the oil and gas and tourism industries. The Arctic National Wildlife Refuge is protected wilderness that is politically controversial in that it has faced many proposals to be opened up to oil and gas exploitation. The refuge is also an increasingly popular site for adventure tourists, drawn to its remoteness and abundance of wildlife. Like many visitors, we hired a professional guide who arranged access to the site, which required air taxi travel and considerable preparation for self-reliance, due to its remote nature and extreme conditions. Deadhorse is the main hub for North Slope drilling and is one of the few oil fields that grants limited access to the public. In Deadhorse, visitors, such as ourselves, are permitted to stay and mingle at hotels that primarily house oilfield workers, as well as to access the Arctic Ocean via a security guarded-operated shuttle. The guided tour provides a rare glimpse into the oilfields, which otherwise have restricted access.

According to Kawulich (2005), participant observation is the primary method used during fieldwork and entails “the systematic description of events, behaviours, and artefacts in the social setting chosen for study” (Marshall & Rossman, 1989: 79). The method involves active looking, informal interviewing, and the writing of detailed fieldnotes (DeWalt & DeWalt, 2011). The degree to which a researcher engages in participation varies. We engaged in “observer as participant,” which Kawulich (2005) describes as a stance that “enables the researcher to participate in the group activities as desired, yet the main role . . . is to collect data, and the group being studied is aware of the researcher’s observation activities” (p. 9). Although our observations were primarily of landscapes, infrastructure, and artefacts, when we did meet individuals in the field, we introduced ourselves as researchers, relayed the purpose of our study, and gave out contact information, when appropriate. Because no formal interviews were conducted, no documentation of informed consent was necessary. All observations were recorded as detailed fieldnotes within 24 h of the event. We also collected relevant documents, such as government and industry reports, promotional material, newspapers, and magazines, that we encountered in the field. These documents, along with our fieldnotes, comprised the data that we used to inform the scenarios.¹

In this case, we consider the current state of both tourism in the Alaskan Arctic as well as the current main economic driver of Arctic Alaska, which is the oil and gas industry, to expound different potential futures for the region. We first detail the scenarios, which are then mapped on the EEG framework laid out in Mitchell and Shannon (2018), which we detail in Figure 2. Mitchell and Shannon (2018) developed the scenarios described below by drawing on EEG scholarship, particularly findings on pathways that develop from the presence or absence of particular

EEG Scenarios
(Adapted from Mitchell and Shannon (2018))

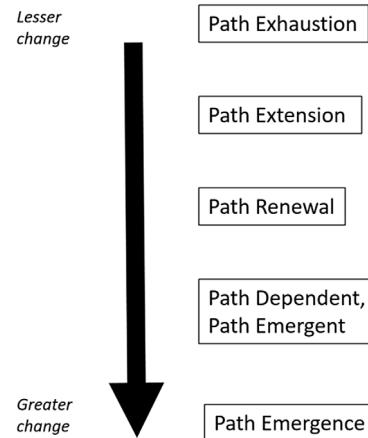


Figure 2. Scenario paths.

path development mechanisms. Scenarios work well with the EEG framework because they allow for consideration of potential futures spinning off of a fixed starting point. Since the future is uncertain, scenarios illustrate how an area or an industry could develop from its present state, and how outside changes could impact these future possibilities. These scenarios, which posit five different future pathways for tourism in Northern Alaska, range from a continuation of the status quo up to the potential changes that may come from catastrophic climate change. We finish by discussing the likelihood of climate change, or the imposition of new policies related to the prevention of climate change as a trigger point that could alter the future of both tourism and oil and gas in Alaska’s far north.

Results of scenario analysis

Mitchell and Shannon’s (2018) first scenario is path exhaustion, which is a type of negative path development. According to Isaksen and Trippel (2016), path exhaustion “refers to situations wherein the innovation potential of local firms has been severely reduced or innovations take place only along a restricted technological path” (p. 69). Admittedly, within the EEG literature, scholars have tended to focus on growth paths and have not systematically examined the so-called “dark side” of path development (Klitkou, Capasso, & Hansen, 2021). Only until recently, most research on negative path development had examined issues of industry diversification in old industrial regions, which are generally understood to inhibit change via lock-in (Blazek, Kveton, Baumgartinger-Seiringer, & Trippel, 2020; Jolly & Hansen, 2021). Mitchell and Shannon (2018) succinctly summarised this research, arguing that path stagnation is typified by industry fragmentation and organisational thinness (Salamonsen, 2015), both of which result in a dearth of individuals with the resources needed to facilitate innovation. Lack of connectivity can result in negative lock-in, whereby stakeholders fail to adapt to a changing environment (Martin & Sunley, 2006; Mitchell & Shannon, 2018).

At present, oil and gas development on the Alaska North Slope is headed toward path exhaustion. Although Alaska contributes only four per cent of US oil and gas development, associated revenues comprise two-thirds of the state’s budget, and this is despite a steady

¹This project was approved by the [REDACTED] Institutional Research Board, project number IRB2021-0547.

decline in production since its peak at 2 million barrels per day in 1988 (Szymczak, 2021). This decline is not due to a lack of resources. According to the Resource Development Council for Alaska (2022), which regularly publishes newsletters on industry outlooks, an estimated 40–50 billion barrels of oil are undeveloped on the North Slope and in the Alaskan Arctic offshore waters. Much of this resource, however, is located on federal lands and development is hindered by federal policy and environmental litigation. Despite such obstacles, both state and industry have worked to expand production. Business journal *ArcticToday* recently ran a story detailing how ConocoPhillips sought to invest \$6 billion to develop an oil field within the Alaska National Petroleum Reserve, which would produce an estimated 160,000 barrels per day (Rosen, 2022). The project is currently caught up in litigation (Grove & Ruskin, 2023), with environmental and Alaska Native organisations alleging the extant environmental impact study was insufficient. The Trump administration's auction of 1.1 million acres of the coastal plain of the Arctic National Wildlife Refuge (ANWR), which netted \$14 million, is another example of work to expand production (BLM, 2021). In reference to the auction, Chad Padgett, BLM Alaska State Director, stated, "Today's results reflect industry and the State's commitment to responsible oil and gas development... the Northern Slope of Alaska will remain an important asset in meeting the energy needs of our nation" (BLM, 2021). While the Biden administration suspended the ANWR leases, its ongoing support for the Willow project demonstrates state and industry commitment to the current path trajectory.

The oil and gas industry's continuation towards path exhaustion is further evidenced by changes in industry behaviour. When we toured the oilfields in Deadhorse, we heard concerns that the failed lease sales would lead to further industry divestment and declines in state revenue. Here is an excerpt from our fieldnotes:

I brought up the failed lease sales and how that must be concerning for the state, given its reliance on the declining industry. One of our fellow tourists, an Alaskan native, piped up, stating that she thought "Alaskans were missing the writing on the wall." She went on to explain how the "big boys" were pulling out and selling their assets to smaller companies that would siphon off the remaining reserves before dismantling and auctioning off what was left of their assets.

According to Gaffney Cline (2022), an energy consulting firm, large companies have initiated extensive divestment initiatives in the region over the last decade. As Gaffney Cline (2022) explained, despite significant discovered resources, Alaska oil companies face a challenging and high-cost operating environment amidst decelerating demand due to changes in the energy mix, investments in energy efficiency, and competition with lower-carbon producers. Additionally, over 80 global financial institutions have restricted lending and over 100 have announced divestment from fossil fuels, including Arctic drilling (Alaska Oil and Gas Association, 2022). Simon (2022), writing for *Alaska Business* magazine, used ConocoPhillips as an example to illustrate the Alaska oil and gas sector's declining competitiveness, stating "At one time about 40 per cent of the company's portfolio was Alaska, but expansion beyond the North Slope, including major assets in the West Permian basin of Texas, means that Alaska is now only about 12 per cent of ConocoPhillips' portfolio. That means ConocoPhillips' Alaska team has more projects to compete with for the company's limited capital outlays."

While this may seem indicative of an industry slowdown, as Gaffney Cline (2022) explained, when large companies divest, opportunities open for smaller companies, as well as for proactive

governments to reconsider incentives to ensure continued exploration and development. This is certainly what we have seen in Alaska. Governor Dunleavy recently announced his administration's intent to introduce legislation that would require state departments and agencies to halt business with financial institutions that refuse to finance Arctic oil and gas exploration and development (State of Alaska Office of the Governor, 2020). Alaskan voters seem to agree with the state's pro-industry stance, having recently voted down Ballot Measure 1, known as the "Fair Share Act," which would have increased taxes on large oil producers operating in the North Slope. Such state initiatives do seem to be effective in driving industry towards path exhaustion. Following the defeat of the Fair Share Act, ConocoPhillips (2022) issued a news release, with president Eric Isaacson stating, "Following more fiscal certainty with the defeat of Ballot Measure 1 and the improving market conditions, ConocoPhillips continued with investment in Alaska of nearly \$1 billion in capital in 2021."

In this scenario, the oil and gas industry would continue to dominate the North Slope. However, it does not preclude the existence of any tourism whatsoever, as is currently seen in the limited access to the Arctic Ocean that the oilfields must provide for visitors (though at a fee). Under path exhaustion, this would simply mean that this very limited view of tourism is likely to remain an afterthought, not be eliminated entirely.

The second of the five scenarios laid out by Mitchell and Shannon (2018) is path extension. Path extension occurs when new technologies and learning are incorporated into the ongoing industry. Brekke (2015: 206) describes path extension as a "positive lock-in" for the industry in a region, whereby learning and innovation occur but from within the same industry. The industry continues to move forward by incorporating new ideas and techniques, but the overall pattern of activities changes very little. Currently, we see signs of this in the northern Alaska oil and gas industry, as they use new technologies to access new reserves in areas that were inaccessible in the late 1960s when the Prudhoe Bay reserves were discovered. This new technology has helped allow for the continued life of the North Slope area drilling, as the reserves had been expected to be depleted by 2007 (BP, 2017). Instead, production has seen over three billion more barrels of oil than predicted, and work continues in the oilfields today (BP, 2017).

Like with path exhaustion, tourism would remain limited under path extension. Tourism could benefit from increased oil and gas infrastructure development, but that is only a possibility and not a guarantee. Furthermore, in this scenario, tourism would remain an afterthought – not something considered by or interacted with the dominant oil and gas industry.

Path renewal, our third scenario, occurs when you have cross-industry cooperation. Currently, there is very little tourism infrastructure for the oil and gas industry to cooperate with, but there are a few areas where cooperation happens. As mentioned above, as part of the agreement for the construction of the oil and gas headquarters in Deadhorse, the industry had to allow for public (tourist) access to the Arctic Ocean. This means that the oil industry is tangentially involved in tourism, as they require visitors to use a shuttle and wear protective glasses to travel through Deadhorse to the Arctic Ocean. Tourists thus get a glimpse of life in an oil camp while finishing the last few miles of their travel up to the Arctic Ocean, and the oil industry provides a driver and guide to point out features of the oil camp as they travel. Likewise, tourists can spend the night at one of the oil camp hotels, providing that there is availability, and experience some of the industry

lifestyle for themselves. However, the proportion of tourists is small compared to industry employees. Here is an excerpt from our fieldnotes, describing our experience checking into the Aurora Hotel in Deadhorse:

After the long drive down the Dalton, we eagerly jumped out of the truck and lugged our gear past long rows of parked industry vehicles, most of which read “Alyeska: Nobody Gets Hurt.” Upon entering the hotel, we immediately encountered a big sign, prompting us to put on blue booties to prevent getting mud on the clean carpet. That was our first sign that this was not like other hotels. As we approached the front desk, we began to introduce ourselves, but the receptionist interrupted, stating that she had our reservation handy. I was initially confused by her quick recognition of us. She went on to explain that meals were included in the cost of our lodging, so to head down to the cafeteria at dinner time. She also explained that there were free on-site (industrial) laundry facilities, which included detergent and fabric softener. She labored that we needed to use their detergent, as they have had issues with people using their own in the past. Only later, after dinner and a quick wash at the laundromat, did I realize why she instantly recognized us. We very well may have been the only tourists checking in that day!

Because so few tourists visit the oilfields, greater cross-industry cooperation has yet to occur. Limitations in cross-industry cooperation are also in part due to its compulsory history. That is, cooperation has largely been driven by state-mandated public access to the Arctic Ocean. While the potential for greater cooperation exists, very little has occurred outside this mandate. Demand for travel has been increasing, including travel at long distances (D’Souza, Dawson, & Groulx, 2023). If the tourism industry grows in the north of Alaska, then it is likely that more formal tourism-based cooperation will occur between the two industries. The current facilities for tourists in and around Deadhorse allow for a small number of visitors, but if that number were to grow then new services and amenities would be needed, such as additional overnight accommodations, restaurants, and travel facilities. These amenities would also likely need to be added along the Dalton Highway to accommodate the influx of travelers. As described in our fieldnotes, accommodations were sparse:

After an overnight stay in Fairbanks and a quick stop at the local grocery for supplies, we headed north up the old Haul Road. After a few hours on the road, I understood why our guide had instructed us to stock up at the grocery store. There was a whole lot of nothing until you hit Coldfoot, which with a population of 34 was easy to miss. When I say nothing, I mean the built environment. What we encountered along the Dalton were expansive landscapes with some modifications. There were designated spots to pull off and enjoy the scenery that always included the pipeline, which parallels the road. Periodically, we also encountered old gravel pits, which as our guide explained, often serve as make-shift campgrounds. There was also an occasional outhouse, but other than that, there were no facilities to accommodate travelers on this long road.

The need for greater accommodations is not outside of the realm of possibility. There has been a global rise in ‘last chance tourism’ or ‘climate tourism’ in particularly environmentally delicate areas (Lemelin, Dawson, Stewart, Maher & Lueck, 2010), and the Alaskan Arctic could be such a location. In their discussion of last chance tourism, Lemelin et al. (2010) say this about the Arctic: “This rush to the Arctic provides communities in the polar north, and tour operators with opportunities to benefit economically from last chance tourism, at least in the short to medium term.” Concerns about last chance tourism, particularly climate-based last chance tourism, stem from the fact that travel to the regions affected by climate change may in and of itself lead to greater climate problems (Dawson, Stewart, Lemelin, & Scott, 2010;

Lemelin et al., 2010; Olsen, Koster, & Youroukos, 2012). While it is undoubtedly true that travel to northern Alaska creates carbon emissions, this concern is somewhat more complicated with regard to tourism around Deadhorse, as it is an oil community also responsible for carbon emissions. Thus, tourism in the Alaskan north could be painted as a more environmentally friendly alternative to the current oil and gas industry, and thus set it apart from other last chance destinations in the Arctic region. If so, then we could see the cross-industry cooperation required in a path renewal scenario.

The final two scenarios derive from radical innovation. The first, Mitchell and Shannon (2018) termed path-dependent, path-emergent. This pathway is concerned with how the emergence of a new industry is both enabled and constrained by the old path. Although EEG scholars typically frame path-dependent processes as constraining, that is limited by decisions and events of the past, more recent scholarship demonstrates how new developments often branch off from extant paths (Frenken, Izquierdo, & Zeppini, 2012; Steen & Karlsen, 2014). Steen and Karlsen (2014) suggested that path dependence be understood “along a constraining-enabling continuum” that “ranges from ‘locked-in declining trajectories’, which lack the dynamics of ongoing innovation and renewal, to ‘branch innovating trajectories’, in which regional assets recombine with new resources potentially leading to path creation” (p. 134). Critical to this pathway is the combining of sunk investments of the old industry with new capital assets of the emergent industry. Such recombination of assets is what produces the radical innovation (Frenken et al., 2012).

While there is limited evidence of this occurring in the Alaska North Slope, the path-dependent, path-emergent pathway remains a distinct possibility. Extant infrastructure could allow for conversion to tourism. The oil camps at Deadhorse could easily be converted into tourist hotels, and the oil infrastructure itself could become a tourist attraction in the form of a living museum, which would simulate or recreate the heyday of Alaskan oil and gas production. There is evidence of this occurring at other locales. For example, consider the Ocean Star Offshore Drilling and Rig Museum in the Gulf of Mexico. The jack-up drilling rig, which drilled over 20 wells between 1969 and 1984, now hosts over 40,000 visitors a year, educating them about “the vital role oil and gas plays in our daily lives” (Oilfield Energy Center, 2020). Along with oil and gas, other forms of industrial heritage converted into tourism sites, such as mining, have been well-documented (Conesa, Schulin, & Nowack, 2008; Coupland & Coupland, 2014; Kruczek & Kruczek, 2016; Metsaots, Printsman, & Sepp, 2015; Price & Ronck, 2018).

The last scenario, path emergence, occurs when instead of incorporating any of the existing industry in a region, economic drivers instead focus on the development of something brand new. In this case, there are a few reasons why we might see path emergence concerning tourism in the north. First, the oil and gas industry is inextricably linked to climate change and carbon emissions. As Gaffney Cline (2022) discussed in relation to energy transitions, the “global energy mix is decarbonising, and the pace of change is accelerating . . . carbon producers with the highest costs and highest carbon emission intensity products will be the first to be impacted.” Should there be a trigger point around climate change, and there is every indication that there will be, such a linkage could be impossible to overcome in the eyes of the travelling public, and they may wish to avoid the environmental costs of that industry. There are two ways tourism could develop

independently then in a post-extraction climate. First, the results of climate change could enable increased visitor travel to the region by opening up the northern Alaskan coast to cruise tourism, which is already highly popular in southern Alaska. And second, –we could also see a changing of focus away from oil and gas entirely to instead concentrate on the cultural heritage and environmental stewardship of the Indigenous peoples of the region.

Cruise tourism is big business for southern Alaska. There are three main types of cruises in the state – ones that travel from the south (Seattle or Vancouver) up to the Alaskan panhandle (Juneau, Sitka, Ketchikan, and/or Skagway), ones that travel from Alaska to the south or vice versa (Seward to Vancouver, or Seattle to Seward), and ones that combine cruise and land travel (travel from Vancouver to Seward, take land transportation to Denali National Park, return home via air out of Anchorage). The Cruise Lines International Association Alaska estimates that 60% of summer visitors to Alaska travel there via cruise, and in 2023 this brought 1.65 million passengers to the state on 700 cruise ship visits (CLIA Alaska, 2023a). The Alaskan cruise season is also lengthening, in part due to climate change, from four months to seven (CLIA Alaska, 2023b). In total, the cruise industry brings nearly \$170 million to Alaska every year (CLIA Alaska, 2023b).

Expanding this northward could be a possibility as the climate warms. Though rare, cruise ships already visit northern Alaska, with five ships making a stop in Point Barrow, Alaska, the northernmost part of the United States (CLIA Alaska, 2023c). These five ships are all built for polar travel and also take passengers to the Antarctic during the austral summer. As the Alaskan season grows longer, there may be more room for northern Alaskan cruises to grow from the current small niche they currently occupy in the Alaskan cruise industry. This would require port development also the Alaskan coast and additional infrastructure for tourist transportation and activities.

With regard to tourism and Indigenous peoples, there are two kinds of tourism that could potentially impact the native peoples of the region. The first is tourism that takes place on lands that have been traditionally inhabited by Indigenous peoples. In northern Alaska, many small towns have a majority Indigenous population, and visitors to these areas may cause disruption no matter what their purpose in visiting may be. The second kind is tourism that involves Indigenous peoples and/or their practices specifically, such as visits to the Sami reindeer herds in northern Scandinavia. The definition of “Indigenous tourism” could include both of these (Viken & Muller, 2017).

Indigenous tourism has been around for centuries (Whitford & Ruhanen, 2016). Unfortunately, it has also been tied up with racist depictions of Indigenous peoples as “others” or “uncivilised” (Weaver, 2010; Whitford & Ruhanen, 2016). Consider this excerpt from our fieldnotes that depicts our experience visiting the Simon Paneak Memorial Museum, which focuses on the local history, culture, and traditions of the Nunamiut or Inupiat of the Central Brooks Range, located at the village of Anaktuvuk Pass:

After a quick breakfast, we arrived at the museum to find it closed. As we waited for it to open, two older white couples approached us, asking where the museum was. Our guide responded that they had found it – that it was here – but that no one was here yet to open it. Finding the door unlocked, one of the ladies poked her head in and looked around. She immediately declared that this could not be the museum, as there was nothing on the walls but pictures. She suggested that maybe this was the school. The other woman in their party suggested that “maybe this was a museum to them.” One of the gentlemen in their party suggested as they waited for the museum to open that they go use the indoor plumbing at the ranger station.

He asked if we would mind watching their bags until they returned. We started to respond, “of course,” but before we could finish, one of the women cut us off, declaring that they would “not leave anything here.”

On the other hand, “othering” can be a marketing strategy (Viken & Muller, 2017). Viken and Muller (2017) point out that tourism to a certain extent is about experiencing the “other,” and that Indigenous peoples recognise this just as other tourism providers do. This of course raises questions of authenticity; tourism may help strengthen ties to heritage and culture, but it may also result in changes to these by catering to what tourists may want to see (Notzke, 1999; Pashkevich & Keskitalo, 2017).

Thus overall benefits of tourism for Indigenous peoples are difficult to assess, since the positive aspects of income generation and funding for cultural preservation may be outweighed by negative impacts, such as ethnocentric visitors, cultural commodification, and the erosion of Indigenous rights (Whitford & Runhanen, 2016). In northern Alaska, it is unclear whether a tourism industry around the lifeways of the Indigenous peoples would be preferable to having the oil and gas industry operating. Many of the Indigenous peoples of northern Alaska still engage in traditional subsistence practices and have rightful concerns to the extent that tourist activities would impinge on their heritage. It is a potential scenario, certainly, but one that would have to be very cautiously planned and discussed in order to be successful.

Discussion

There are several notable weaknesses of EEG as a lens through which to consider studying tourism. As such, it is important to understand and account for the drawbacks of this theoretical framework. One such weakness would be a lack of accounting for political economy (Britton, 1991; Ioannides & Brouder, 2016). Political and economic events at any level – local, state, or international – can play a large role in the evolution of tourism in a particular area (Sanz-Ibáñez & Clavé, 2014). These weaknesses can and have been addressed in studying tourism using the EEG lens (Ioannides & Brouder, 2016), but they need to be accounted for.

This is particularly relevant in the case presented here, as the two industries under consideration are the two largest industries in Alaska, and as such present a great deal of political importance. The oil and gas industry is the primary driver of the state’s budget, contributing over \$3 billion to the state and local governments in 2019 (Alaska Oil and Gas Association, n.d.). This represents about 90% of the state’s revenue from business and 38% of the wealth in the state’s General Fund in 2019 (Alaska Oil and Gas Association, n.d.). And this is not a new trend; historically, the oil and gas industry has been the major driver of the Alaska economy.

There are major economic drawbacks to this dependence, namely that the revenue of the state rises and falls with the global oil and gas market. Because the industry is so vital to the Alaskan economy, it wields significant political power in the state. Additionally, about one-quarter of Alaska jobs are in oil and gas (Resource Development Council for Alaska, 2022). Residents are also invested in the continuation of the oil and gas industry because of the Alaska Permanent Fund. Created in 1976, the Alaska Permanent Fund is meant to convert state oil and gas revenue into a renewable financial resource for residents. This adds to the industry’s power locally and across the state as a whole, creating a unique political dimension that is heavily invested in the status

quo. To ignore this would be to leave out an important part of how the oil and gas industry works in Alaska.

The other element worth considering is that of the impacts of the tourism industry itself and its potential expansion. It is clear that tourism brings in outside revenue for the state; in 2019, it is estimated that visitors spent nearly \$3 billion in the state on tourism-related activities (McKinley Research Group, 2021). However, while tourism is a large and important industry in Alaska, for the most part it is historically most prevalent in the south and southeast of the state (Colt & Fay, n.d.). The cruise industry takes passengers to Glacier Bay National Park, and nearby cities like Juneau or Sitka, and land tourism is popular in the south of Anchorage around Prince William Sound and in the north of the city around Denali National Park. These are the areas most accessible by water or road, and thus are easiest to reach for out-of-state visitors.

The north of Alaska is a different story. As of now, the cruise industry has had only a limited impact on northern Alaska, as discussed above. This could change with climate change opening the waters and the length of the cruise season, but that would also require a major infrastructure investment. The lack of roads means that visits involve expensive bush planes, and the lack of hotels and restaurants means that tourists must rely on either backcountry camping or the limited accommodations found in the small, mostly native towns of the north. Expanding the tourism industry to this location would potentially impinge on Indigenous peoples' lifeways by interfering with traditional migration patterns or hunting spots, by the potential environmental impact made by larger visitation, and by forcing Indigenous peoples to accept visitors that may not be welcome on their lands. Such a concern is outside the traditional considerations of EEG, but it is an important consideration for the extension of tourism in the region. Any tourism industry in the Alaskan Arctic would depend on the cooperation of local peoples, and that includes the Indigenous residents.

And like with the oil and gas industry, overreliance on tourism can have drawbacks. This was seen most recently with the COVID-19 pandemic and subsequent closure of borders and precipitous drop in tourism. CLIA Alaska (2023b) estimates that Alaska's closure to tourism in 2020/2021 resulted in a \$3.3 billion economic loss. Since northern Alaskan communities have more limited access to medical care, many of them remained closed to outsiders after state regulations changed to allow visitors once more.

Conclusion

If things continue along the current paths, then a combination of path exhaustion and path extension is likely to be seen. While the oil and gas industry has become better at accessing reserves for production, the decline in reserves will eventually outstrip the innovative technology used to access new pockets of petroleum. Thus, we are likely to see the use of this new technology as an argument for pushing into new territories in the far north or a demand for government subsidies to allow an otherwise unprofitable industry to continue.

However, there is another possibility. Climate change could be a trigger point to bring path dependence and path emergence. The viability of the oil and gas industry in the north depends on many external factors such as the global price of oil, the state's willingness to cooperate with the industry and with the continued reliance on oil and gas as a primary source of energy worldwide. These are all aspects that can change with a revision of thinking about global

climate change. International treaties such as those developed by the United Nations' Intergovernmental Panel on Climate Change, or domestic unwillingness to continue contributing to global greenhouse gas emissions could change thinking at the state and local levels. Whether or not climate change will be seen as a trigger point depends on the regional and global impacts of emissions, and the extent to which it becomes seen as a major problem that is worth the investment of altering the status quo.

These scenarios, created under the auspices of EEG, are helpful in understanding what role climate change could play as a trigger point for the tourism industry in northern Alaska. Foundational to EEG is the concept of path dependence, which recognises that present and future conditions are based on historical realities. However, as Mitchell and Shannon (2018) pointed out, path dependence does not mean trajectories continue in perpetuity along continuous paths. Rather, different outcomes can arise, all of which would maintain continuity with the past. For this reason, scenario-based analyses are particularly well suited for evolutionary studies of tourism. They allow for greater consideration of the evolutionary path that tourism and other industries can take, while considering both the likelihood of change as well as the importance of sharp external shocks like trigger points. As demonstrated in this case study, the five scenarios are examples of when we could see change, as well as when that change is unlikely to come. The future remains uncertain, but consideration of scenarios like those we discussed above can help stakeholders adapt and respond to the tourism industry's potential for growth in the far north of Alaska.

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