Alberta is no island. But Alberta’s Nova Inventory Transfer (NIT) pricing hub lives on as the only “island” in North America where natural gas trades on a “notional” gas grid regardless of where the pipelines are—that is, where the gas market and physical system are unconnected.

As such, Alberta shares a main feature of the “entry/exit” system of gas transport that arose in the United Kingdom, where the gas market and physical system are also unconnected. Both systems contrast sharply with the way the rest of North America closely links the gas market to the locations and operational capacities of the physical pipeline systems.

Alberta shares a main feature of the “entry/exit” system of gas transport that arose in the United Kingdom.

How these two “island-based” notional pricing experiments arose and spread beyond their original borders—or did not spread—illuminates some important differences between how pipelines serve the very different North American and European gas markets.

### GAS MARKET DEPENDS ON ITS PIPELINES

Like other fossil fuels, the inland transport of gas is inconvenient, requiring uninterrupted pipelines all the way to the smallest consumers. Where those pipelines came from, and how regulators and governments treat them today, largely determines where gas is competitively supplied and where it is not.

In North America, investors developed the natural gas industry with little help or involvement of taxpayers, connecting nineteenth-century city gas companies with natural gas. US and Canadian federal pipeline regulation grew up around the investor-owned pipelines that bought and sold the gas they transported to their customers, mostly the local gas distribution monopolies. Naturally, pipelines required those monopoly distributors to sign contracts for the capacity built to serve them.

The major exception was Alberta, where taxpayers funded the development of its extensive gathering system starting in 1954, both to encourage and control gas production in the province. British Gas was the successor to the many gas utilities nationalized in the late 1940s by Clement Atlee’s government. By the time of its privatization in 1986, British Gas controlled an extensive UK transport system throughout its island, built with taxpayer funds and with no contracts within its vertically integrated structure.

In the early 1990s, reflecting a new worldwide focus on gas supply competition, both companies faced pressures to open their pipeline systems to...
the sale of competitive gas supplies. Through its now-private NOVA pipeline, Alberta adopted the NIT, where gas could trade anywhere within the extensive NOVA system. British Gas responded to a 1991 UK Office of Fair Trading review by launching an “entry/exit” regime to open its pipeline system to competitive gas trading (Exhibit 1). With entry/exit, gas would hypothetically move from one of the six “entry” points to the National Balancing Point (NBP), where it would trade, and then on to about 32 “exit” points.

Both NIT and NBP are “entry/exit” gas trading/transport systems, separating the market and physical systems. Both were expediencies to deal with pressures to permit gas trading within a publicly funded monopoly gas system operating without capacity contract paths. Both resulted in expense and controversy.

Exhibit 1. The Entry-Exit Versus Gas Flows

In Alberta, NOVA and the major local Alberta distributor, ATCO Gas, have generally had a running dispute about the overlap of NIT with the ATCO system, which has never been definitively resolved by Canada’s National Energy Board (NEB). In the United Kingdom, the commercial and logistic side of the entry/exit regime, the “Network Code,” had cost BG alone in excess of £180 million by 1996 and was viewed as difficult, obstructive, and unfair by gas users and shippers.

What happened to these expediencies? One has been contained to its “island,” and the other has spread to an entire continent. The NEB has three times prevented the spread of the NIT to other regions of Canada, while the European Union has imposed “entry/exit” on all member states.

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CANADA—CONTAINING ENTRY/EXIT IN A LARGER PHYSICAL PIPELINE MARKET

TransCanada absorbed the NIT when it bought the NOVA system in 1998. The NEB assumed jurisdiction over the NOVA system in 2009. TransCanada has tried three times to widen the scope of the NIT, and three times it has been rebuffed by the NEB. In 2011, as part of a major restructuring involving TransCanada’s response to the displacement of its long-haul Alberta shipments with short-haul Marcellus shale gas, TransCanada proposed to move the eastern NIT boundary toward eastern Canada markets, a move that would have shifted almost 400 miles of pipeline costs from “mainline” TransCanada charges to the notional NIT charges within Alberta. The NEB denied the request as unreflective of costs and an improper affiliate cross-subsidy.

Both in 2012 and 2014, TransCanada proposed to extend the boundary of the NIT westward into neighboring British Columbia along with pipeline expansions into new gas-producing regions. In rejecting both, the NEB found that these proposals would damage competition in the pipeline market in the region and place new pipeline construction costs unduly onto NIT system users who would not use such incremental facilities.

EUROPE—EMBRACING ENTRY/EXIT TRANSPORT ACROSS THE EUROPEAN UNION

With both the UK regulator and British Gas seemingly happy with (and industrial users eventually accepting of) the regime, the latest of three legislative directives from the European Commission—the “Third Package” reforms of 2009—mandates entry/exit pricing as the Gas Target Model for the European Union, forbidding pipeline charges based on physical contract paths. As of 2015, member states are in various stages of development needed to impose the administrative and technical needs of entry/exit systems.
The lives of the NIT and the NBP show that pipeline tariff regimes have a stubborn resistance to change. Such is true even though entry/exit tariffs are massively more costly to compute and administer (requiring “network codes” and “system operators” to reconnect actual operations with commercial needs) than simple distance-based pipeline tariffs based on readily measurable physical contract paths.9

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But the difference reflects more than just resistance to change. The rejection of expanded entry/exit in Canada and its embrace in the EU reflects a sharply divided opinion about what it means for a market to have “liquidity” and whether to promote competitive entry. Except for Alberta’s publicly financed gas-gathering system—which spawned the NIT—Canada, like the United States, looked to semi-rival investor-owners’ pipelines to serve its gas market.

Entry/exit tariffs are massively more costly to compute and administer.

Driven by the need to satisfy the capital markets that costs were efficient and that pipeline loans would be repaid, those pipeline companies naturally tied contracts and prices to their physical services. Such physical contract paths took North American gas markets much of the way toward a twenty-first-century regulatory system that encourages competitive entry in both pipeline transport and gas supply within a well-defined system of physical contract paths—North America’s definition of gas market “liquidity.”

Physical contract paths took North American gas markets much of the way toward a twenty-first-century regulatory system that encourages competitive entry.

The United Kingdom and Europe never had such advantages. Taxpayers built the EU pipelines (as in Alberta). As Alberta would look to protect its publicly funded pipeline system from rivals, so every EU member state has done within its own sovereign borders. With entry/exit pricing in each member state, market signals on where to invest are generally absent, pipeline investors withdraw, and central planners take over.10 But such a regime does effectively bar competitive entry while advancing the European Union’s definition of gas market “liquidity” that abstracts from the pipelines themselves to focus on a policy never pursued in North America—full retail choice for gas consumers.

And while entry/exit pricing obscures market signals and inhibits investor interest in building new pipelines, it does effectively bar competitive entry.

It is thus unsurprising that the spread of entry/exit would be coldly rejected by the NEB in Canada but warmly accepted by the individual EU member states.

NOTES
2. This map was part of presentations I made to industry groups on behalf of British Gas in 1996. In the end, the proposals to make entry/exit more physically reflective made little headway with either UK regulator Ofgas or BG itself. Ofgas liked the work and BG enjoyed the way in which an essentially hypothetical transport network essentially barred competitive pipeline entry. A map showing NIT versus the physical flow of gas in Alberta would appear much the same, only slightly more complicated.
3. NEB, Reasons for Decision, NOVA Gas Transmission Ltd. RHW-1-2010 (August 2010).