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Intergenerational Equity, the Public Trust Doctrine, Norway and North Sea Oil

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Abstract:

Norway's management of its North Sea oil endowment, especially its future generations Oil Fund, is considered the global best practice. Some practice aspects such as no flaring of gas or a moderate pace of extraction go against standard economic theory. The public trust doctrine in law provides a useful lens to understand Norway's model, and provides lessons for mineral owners world-wide.

1. Intergenerational Equity Principle

Intergenerational equity ("IE") is the idea that future generations have as much right to inherited natural resources as we do. We, the present generation, have a duty to ensure that future generations inherit at least as much as we did – we must first maintain our capital. Only if we fulfill this duty may we consume the fruits of our inheritance, the usufruct. Put differently, the present generation is merely a steward over natural resources for the benefit of future generations.

IE, or capital maintenance, is a foundational principle. If each generation consumed some of the inherited natural resources, eventually there will be nothing left. And no usufruct for future generations either. Nauru's inheritance of guano (phosphate) has been exhausted and the sale proceeds consumed, leaving behind an impoverished present generation with a

bankrupt state surviving rental income as a refugee camp for Australia, and the highest rates of obesity and diabetes in the world.¹

The IE principle has deep roots in our civilization, but unfortunately has been obscured over time. Consider endowment funds, where the capital is conserved and only the income used. Consider inheritance law and “*entails*”, again the idea that inheritors of property are simply custodians for future generations of the family.² In many cultures, there is the rich good-for-nothing heir who lives by selling off the family silver, unfairly impoverishing their future generations. A core principle of accounting is the idea of stewardship, the idea that capital must first be conserved. In economics, Hicks (1946) famously defined income as the surplus available for consumption after keeping capital constant. Environmental economics has the sustainable yield principle – we can only consume that amount which doesn’t endanger the capital. Many nations around the world incorporate the intergenerational equity principle in their Constitutions (Dirth, 2018).

2. Public Trust Doctrine

From a legal perspective, in most countries, minerals are owned by the state (Flomenhoft, 2018). The Public Trust Doctrine (“PTD”) considers natural resources to be held by the state as a trustee on behalf of the trust beneficiaries, the people and especially future generations. The PTD has its roots in Justinian law from the Roman empire, and is applied to different extents in various national legal systems. The PTD is a common law legal principle. Civil law countries have the equivalent concept of the “public domain” with the same Justinian / Roman roots. Under the 1982 UN Convention for the Law of the Sea (UNCLOS), minerals in the areas beyond national jurisdictions (the deep sea) are the

¹ <https://www.diabetes.co.uk/in-depth/i-have-seen-so-many-funerals-for-such-a-small-island-the-astonishing-story-of-nauru-the-tiny-island-nation-with-the-worlds-highest-rates-of-type-2-diabetes/>

² A legal principle that limits the inheritance of property to certain heirs over a number of generations.

Common Heritage of Mankind. This article focuses on natural resources owned by states, not the Common Heritage of Mankind and other global commons such as Antarctica, the Moon, outer space, the atmosphere/climate, etc., all arguably a part of a Planetary Trust (Weiss, 1984). Note that this legal principle is distinct from John Locke's concept of "trust" in politics (Locke, 1689).

Despite its deep origins, the public trust doctrine has long languished in obscurity. This has changed in recent decades (especially in the US) and jurists have also drawn on natural law as well as the IE principle to derive the PTD. The PTD may provide a key legal framework for the implementation of intergenerational equity and the survival of our civilization.

If we see natural resources as a public trust, then there is a series of implications. First and foremost, states must deal with natural resources as trustees, not as proprietors. What does this imply?

2.1 Duties of a public trustee

In *Pennsylvania Environmental Defense Foundation v. Commonwealth*³, the Supreme Court of Pennsylvania declared that since state parks and forests, including the oil and gas they contain, are owned by the Commonwealth of Pennsylvania as a trustee, the Commonwealth must act as a trustee — with loyalty towards the beneficiaries, prudence in management of the corpus and impartiality among the beneficiaries. The Commonwealth cannot act as proprietor towards natural resources. Further, the proceeds of extracting and selling oil, gas & minerals forms part of the corpus of the trust and must be used accordingly. The proceeds cannot be used by the government as its own funds.

³ №10 MAP 2015, Pa. June 20, 2017, http://www.pedf.org/uploads/1/9/0/7/19078501/supreme_court_opinion_062017.pdf

Natural resources are a shared inheritance, the subject or corpus of the trust, the *res*. The goal of the trustee (the state) is to ensure that the corpus of the trust is “conserved”. This means that the corpus of the trust must be kept at least constant in real terms. If there is an income, this may be distributed to the beneficiaries, treating them as equal beneficiaries. For certain natural resources such as the sea shore, forests and water, enabling access and protecting use rights is important.⁴

The trustee has a fiduciary duty to act strictly on behalf of the public beneficiaries. Steadfast and unbending loyalty to the beneficiaries remains the essence of any trust. Wood (2014:238) suggests the substantive fiduciary duties required of a public trustee include:

- (a) protecting the *res*;
- (b) conserving the natural inheritance of future generations (the duty against waste);
- (c) maximizing the societal value of natural resources;
- (d) restoring the trust *res* where it has been damaged;
- (e) recovering natural resource damages from third parties that have injured public trust assets; and
- (f) refraining from alienating (that is, privatizing) the trust except in limited circumstances.
- (g) acting impartially among the beneficiaries of the trust.

Procedurally, Wood (2014:266) suggests a trustee has five main duties:

- (a) maintaining uncompromised loyalty to the beneficiaries;
- (b) adequately supervising agents;
- (c) exercising good faith and reasonable skill in managing the assets;

⁴ The author thanks Roopa Madhav for this point.

- (d) using caution in managing the assets; and
- (e) furnishing information to the beneficiaries regarding trust management and asset health.

3. Mineral inheritance and the Public Trust

Minerals are a natural resource, a part of the public trust in most countries. When we extract minerals, we impact a bundle of inherited assets which deplete with mining. This constitutes the corpus of the public trust, the *res*. These include:-

- (1) the environment impacted by mining & related activities,
- (2) the social capital of the local communities impacted by mining & related activities,
- (3) the opportunity associated with the mineral, including
 - (a) earning income (salaries, transportation, etc.) associated with mining,
 - (b) creating assets such as vertically and horizontally integrated industries, shared infrastructure and core competencies,
 - (c) using the mineral ore for useful things – swords or ploughshares,
- (4) the in-situ value of the mineral, the "family gold", and
- (5) the timing of the sale – now or later.

There may be others.

4. Implementing IE & the PTD for minerals

Arguably the simplest way to fulfill the trust obligations is to simply leave the minerals where they are. Absent invasion, we would have ensured that the mineral inheritance is received intact by future generations.

However, minerals in the ground earn zero and need protecting, so we may consider extracting the minerals and selling them to create new assets that would earn a positive return after we first ensure the trust corpus is kept whole. If we do extract the minerals, how should states as trustees ensure future generations receive their inheritance?

4.1 Environment

As far as the environment is concerned, we must first identify areas that are critical in nature and should not be disturbed. For example, clear-cut old-growth primary forests will take centuries to be replenished, if ever. In many countries, protected areas like wildlife sanctuaries are off limits for mining.

Next, we must set appropriate restrictions where the impacts are not fully understood. For example, the Netherlands found after years of extracting natural gas from the giant Groningen field that their land had subsided (a big issue since most of the Netherlands is already under sea level), plus it has made the area much more earthquake prone.

Next, since mining is rarely by one entity to the exclusion of all other extractors or activities, thresholds are required to be set to ensure that point and cumulative impacts of all activities in an area do not exceed acceptable limits.

Next, to the extent possible, waste must be minimized, both at the point of extraction as well as at the time of disposing the final productions. This in turn requires efficient extraction, extracting as much as possible and creating value from everything extracted. Since the final products from minerals are often traded globally, control over the waste disposal of the final products is currently more difficult. In the case of oil, waste includes methane emissions at extraction, and final waste includes carbon dioxide when used for energy and petrochemicals like plastics, fertilizers and pesticides after use. Ideally, a circular zero-waste system must be set up.

And finally, there must be an effort to at least offset the residual damage by improving natural resources. The UK's 25 Year Environment Plan has the goal of increasing the total amount of natural resources measured in physical terms – areas under forest, streams with clean water, etc.

If none of these are possible, then there must be compensation under the Polluter Pays Principle.

4.2 Social capital of local communities.

For social capital (of the extraction-affected communities), a framework similar to that for the environment can be applied. Sacred spaces and other human heritage should be no-go areas for mining. A cautious approach should be taken in extraction to minimize cumulative long-term impacts on communities. Of course, offset damage. Lastly, compensate fully for losses caused.

Free, Prior and Informed Consent (FPIC) is essential whenever local communities are impacted. Further, local communities must have a say in how extraction is conducted both as users of the local ecological services as well as those most familiar with the terrain.

4.3 Opportunities associated with the mineral

There are many opportunities linked to the minerals that deplete with extraction. We can benefit from the opportunity because the minerals have been inherited intact. If we extract the minerals, we deplete the associated opportunities as well. If the societal value of the inheritance is to be maximized, each of these opportunities must be properly capitalized upon, usually with the goal of creating local and then global core competencies.

Often, private individuals benefit from these opportunities, as they are hard to capture by society at large. Therefore, some reduction in the corpus is likely, and must be compensated for. Worse still, in many cases, we find that these opportunities are captured by

entities that are not even designated beneficiaries of the local public trust (e.g. foreign extractors).

(a) Opportunity to earn income from extraction & related activities

The work of extraction and the jobs and income opportunities are linked to the minerals and deplete with extraction. A common response is to mandate local employment and local procurement so that part of this value is captured. However, since extraction is a one time opportunity to earn income for work, maximizing its social value implies it should not displace other work opportunities like agriculture or manufacturing.

In certain small commons, it may be possible for the commoners to contribute their labor for free, and share the output. For modern mining, this is clearly not feasible. Since we cannot capture the income from the work into the commons *res* (so far), we must ensure that future generations also can benefit from the mining work. This calls for a cap on the pace of extraction.

(b) Opportunity to integrate vertically, horizontally, & to create shared infrastructure

A related opportunity is to integrate upstream, downstream and sidestream activities (such as deep-water-rig building, refineries and data analysis) so that value addition is also captured.

A connected aspect is to require necessary investments like transport links be developed as open access shared infrastructure, in order to prevent an effective monopoly. This would avoid leakage of value as well as make the entire economy more competitive (Collier, 2017).

(c) Opportunity to use the minerals for useful things

Minerals are essential for energy, iron & steel, and a variety of other uses. If minerals are exhausted, they would have to be recycled or imported. This could raise strategic issues

for the nation, and potentially lead to a ban on exports of minerals in short supply. Some countries have created strategic reserves, or simply kept some areas for future generations to exploit, preferring to meet their current needs by purchasing the inherited mineral wealth of other nations.

4.4 The mineral value

Minerals, even when in the ground, can have considerable value. Minerals are inherited wealth, our family gold. Mining usually results in the sale of the minerals. The proceeds of mining are the consideration for the mineral. Therefore, our first objective is to ensure we get the full value of our minerals, Zero Loss mining.

Minerals are often associated with others in nature. For instance, gold and copper are often found together. Oil and natural gas. Coal and methane. It is preferable to separate all parts that are of value & use them to maximize the social value and avoid waste. Similarly, it is preferable if the maximum possible amount of minerals is extracted, instead of leaving them stranded.

4.5 The ongoing *res*

The new income earning assets created from the mineral sale proceeds must continue to be a part of the *res*, owned by the state as a trustee on behalf of the people and especially future generations. Potentially, this corpus can be used towards offsetting damage to the natural resource inheritance (environmental damage) and towards finding more efficient use or alternatives to the minerals (eg, renewable energy instead of energy from fossil fuels) so that future generations can also benefit from the finite resource.

After ensuring the corpus is kept whole, any real income should be distributed equally to all the trust beneficiaries who are alive. Future generations will inherit the corpus, and receive similar distributions in their turn.

4.6 If and when to extract

The right to decide when to extract our minerals is a real option. Can we extract and ensure we get the maximum societal value, and safeguard the new assets in perpetuity?

As humanity learns continuously, the mineral may be more or less valuable in future. Techniques to extract with lower effort. Techniques to separate minerals more finely. Techniques to utilize the minerals for more valued uses (clay for bricks to pottery to face packs). Improved social institutions to protect the trust corpus from theft, loss or waste. If minerals are left underground and we prevent theft, then our children would inherit the minerals, and could realize the higher value.

On the other hand, humans are constantly developing alternatives – artificial diamonds, or fertilizers from oil. But it would be foolhardy to assume that progress goes only one way. All previous civilizations have collapsed. We have only recently rediscovered the secret of Roman concrete.

Is the right time to sell our mineral wealth? The China boom was certainly not the peak for all times. Should we be setting a minimum price for selling our mineral wealth, as we can only sell it once?

5. Norway and the public trust⁵

Norway is recognized across the planet for having one of the most forward-thinking policies towards their large North Sea oil inheritance. Norway is a large country and has several other minerals. In many ways, Norway has implicitly followed the principles of intergenerational equity and the public trust doctrine.

5.1 Ownership, intergenerational equity, public trust doctrine

⁵ Section drawn from “The Norwegian Oil Experience: A toolbox for managing resources?” by Helge Ryggvik (2010) and other sources.

Norway's constitution doesn't directly recognize either the intergenerational equity principle or the public trust doctrine. Future generations are recognized in article 110b / 112 of the Constitution of Norway, which states: *“Every person has the right to an environment that is conducive to health and to a natural environment whose productivity and diversity are maintained. Natural resources shall be managed on the basis of comprehensive long-term considerations which will safeguard this right for future generations as well. In order to safeguard their right in accordance with the foregoing paragraph, citizens are entitled to information on the state of the natural environment and on the effects of any encroachment on nature that is planned or carried out. The authorities of the state shall take measures for the implementation of these principles.”*

Even the title to sub-soil minerals isn't entirely clear as the constitution protects *allodial*⁶ titles. However, a cabinet decree on 31st May, 1963 laid claim to offshore resources for the people, saying *“The ocean floor and the underground of the underwater areas off the coast of the Kingdom of Norway are under Norwegian sovereignty as regards the exploitation and research of natural deposits ...”*

Prior to oil, Norway had experience with managing natural resources in the form of hydro power, “white oil”. In the early 1900s, a number of foreign companies set up hydro power plants after acquiring rights from private landowners. In response to this, inspired by Henry George (1879), Norway put in place the “waterfall” laws^{7,8,9}. These laws legislated public ownership of the energy of falls of water above a certain size, and that the ownership of hydro power plants must “fall back” or be handed over to the state after a concession

⁶ **Allodial** title is a real property ownership system where the real property is owned free and clear of any superior landlord. Usually this means sub-soil minerals are also owned by the land owner.

⁷ Svein Ivar Angell, <https://www.magma.no/den-historiske-bakgrunnen-for-heimfallsinstituttet>

⁸ <https://no.m.wikipedia.org/wiki/Hjemfallsretten>

⁹ https://en.wikipedia.org/wiki/Concession_laws

period initially of 50-60 years¹⁰. This is similar to a Build-Operate-Transfer (BOT) Public Private Partnership (PPP). Control over these hydro plants started transferring in the early 1960s, and Hydro Norway generated most of Norway’s electricity. This experience was useful in framing mineral resources as public wealth.

Timeline of Norway	
When	What
1905	Norway gains independence from Sweden
1906-17	Laws to regulate the access to and utilization of Norwegian natural resources - forests, mines and waterfalls
31 May 1963	Cabinet decree laying claim to offshore minerals
Autumn 1969	First discovery - Ekofisk field, a giant
1971	10 Oil Commandments
1972	Formation of Petroleum Directorate and StatOil
1974	“The role of petroleum activities in Norwegian Society” – MoF White Paper, “moderate” level of extraction
1974	Increase in tax rates to ensure near zero loss, i.e., capture of full value
1983	StatPipe starts operations
1983	Permanent Fund proposed by Tempo Committee on grounds of intergenerational equity
1984	Creation of SDFI (State’s Direct Financial Interest) to clip StatOil
1990	Oil Fund set up
1991	Carbon taxes imposed
1992	Constitution Article 110b – right to environment
1996	First transfer to the Fund
2004	Ethical investment guidelines set up for the Fund

After the first set of offshore oil blocks were allocated, no oil was found for many years. It was in the final well that Phillips Petroleum drilled that oil was discovered in late 1969. It turned out to be Ekofisk, a giant field. This kicked off a period of discussion in Norway on how to best manage the oil. The overall picture that emerges is one of prudent management in an intergenerational framework.

¹⁰ In 1918, the Supreme Court upheld these laws even though ownership over the waterfall was changing from private to public.

The first step was the famous 10 Oil Commandments set down in 1971 in the report of the Parliament's extended industrial committee, to ensure that "natural resources in the Norwegian continental shelf are exploited in a way to benefit the whole society"¹¹. Protection of nature and the environment was included.

Norway's 10 Oil Commandments (1971)

1. National supervision and control must be ensured for all operations on the Norwegian Continental Shelf (NCS).
2. Petroleum discoveries must be exploited in a way which makes Norway as independent as possible of others for its supplies of crude oil.
3. New industry will be developed on the basis of petroleum.
4. The development of an oil industry must take necessary account of existing industrial activities and the protection of nature and the environment.
5. Flaring of exploitable gas on the NCS must not be accepted except during brief periods of testing.
6. Petroleum from the NCS must as a general rule be landed in Norway, except in those cases where socio-political considerations dictate a different solution.
7. The state must become involved at all appropriate levels and contribute to a coordination of Norwegian interests in Norway's petroleum industry as well as the creation of an integrated oil community which sets its sights both nationally and internationally.
8. A state oil company will be established which can look after the government's commercial interests and pursue appropriate collaboration with domestic and foreign oil

¹¹ Innst. S. [recommendation to parliament] no. 294 (1970-71).

interests.

9. A pattern of activities must be selected north of the 62nd parallel which reflects the special socio-political conditions prevailing in that part of the country¹².
10. Large Norwegian petroleum discoveries could present new tasks for Norway's foreign policy.

5.2 Zero waste, zero loss

The remarkably prescient ban on flaring was to avoid waste of valuable natural resources, not to avoid the climate emergency. Interestingly, Norway also insists on minimizing stranded oil, which is another form of social waste, managing to recover 45% of the deposit against an industry average of 25%.

In 1972, the Norwegian Petroleum Directorate was set up to regulate the sector. StatOil was set up to take ownership shares of 50% in all new blocks. Soon after, the fiscal regime was changed so that Norway would ensure near zero loss in the value of its minerals, i.e., capture the nearly the full economic rent of the oil & gas extracted. In 1974, a second important report titled "*The role of petroleum activities in Norwegian Society*" by the Ministry of Finance proposed a moderate level of extraction despite expecting a reduction in oil prices¹³.

In the late 1800s, Standard Oil in the U.S. had used its control of oil pipelines to effectively gain a monopoly on oil, which monopoly was famously broken up in 1911. Concerned about the market power that the pipeline owners would have over the oil, Norway insisted that oil & gas pipelines (initially for Ekofisk) should have a 50% ownership by the

¹² This was close to the northern limit of the boundary with the UK in international waters. International law on the limits of state sovereignty over the oceans were unclear beyond this point.

<https://draugen.industriminne.no/en/2018/03/19/opening-the-northern-ncs/>

¹³ St. meld. (white paper) no. 25. (1973—74), Petroleumsvirksomhetens plass i det norske samfunnet. [The role of petroleum activities in Norwegian society]

state. In 1981, parliament approved the construction of a technically difficult gas pipeline, StatPipe, which ensured gas landed first in Norway before processing and export to Europe. StatPipe started operations in 1983. In 1984, concerned by the economic power of StatOil, the SDFI (State's Direct Financial Interest) was created whereby the financial interest and the technical expertise were separated. StatOil was free to explore internationally, while SDFI was used to control the overall public ownership of the mineral wealth. In 2006, StatOil was merged with two other companies to form what is now known as Equinor. The Norway government initially owned 62.5% of the new company, and raised its stake to 67% by 2009.

5.3 Creating competencies

StatOil deliberately created technical expertise in both pipelines as well as drilling. In parallel, Norwegian shipyards built up expertise in oil rigs and offshore supply ships. However, oil refining never really took off in Norway.

Employment of Norwegians and Norwegian contractors was actively encouraged. Requirements on health and safety grounds that Norwegian be the language used for documentation and the working language on the oil rigs, and a requirement that operational headquarters be based in Norway helped. The education system responded as well to meet the demand for expertise in this sector, and state research institutes were created to support Norwegian companies. There is good evidence that the improvements in productivity have spread throughout the Norwegian economy (Bjørnland et al, 2019).

There is overt concern for the environment. Norway has implemented carbon capture and storage in the Snøhvit and Sleipner offshore platforms. Norway has a high carbon tax (~\$70 / ton), runs mostly renewable energy, and has a high proportion of electric vehicles. Very recently, the likely oil-rich area surrounding the Lofoten Islands has been declared a no-go area for oil drilling.

5.4 The oil fund¹⁴

It is not well known that Norway had a State Reserve Fund set up by the Storting in 1904 with Constitutional protection as a rainy day fund, financed by taking on debt.^{15,16} While the fund was invested in first-class British, French and German fixed income securities, it was not utilized during WW1. However, there was significant erosion of value due to inflation as well as borrowing from the fund into the budget. Eventually, the fund was liquidated and abolished in 1925 for around half its original value.

There was a subsequent experiment with a national insurance fund in the early 1960s, designed to finance a consolidated national old age pension scheme, with earmarked financing. In practice, the fund corpus was used to artificially depress interest rates and finance state banks, resulting in consistent negative real returns. Expenditure proposals were outside the budget and were not linked to the returns from the fund, which led to growing mismatches. By the mid-1970s, the state effectively merged the fund with its budget, bringing it under legislative control.¹⁷

In 1983, the Tempo Committee suggested the creation of a permanent fund based on the proceeds from oil, for the fund to be invested overseas, and the utilization of the income from the fund through the Norwegian budget “at a tempo suited to fiscal and economic considerations”, as Lie (2018:290) put it. The fund was set up in 1990 and the first deposit was made in 1996. The stated aim of the Petroleum Fund is to “*ensure responsible and long-term management of revenue from Norway’s oil and gas resources in the North Sea so that this wealth benefits both current and future generations.*” Prior to 1996, the government used

¹⁴ <https://www.norges-bank.no/en/news-events/news-publications/Speeches/2006/2006-11-02/>

¹⁵ https://no.wikipedia.org/wiki/Statens_reservefond

¹⁶ https://www.norges-bank.no/globalassets/upload/publikasjoner/penger_og_kreditt/2005-03/hylland.pdf

¹⁷ Einar Lie (2018) Learning by Failing, *Scandinavian Journal of History*, 43:2,284-299, DOI:10.1080/03468755.2018.1430657

the proceeds from oil to pay down debt and to build up universal public services. In 2006, the fund was renamed the Government Pension Fund Global.

Despite the lack of constitutional protection, Norway has so far strictly followed the fiscal rule that the entire net cash flow from extraction is directly deposited into its fund. Interestingly, Norway saves everything from extraction, including direct and indirect taxes, SDFI and dividends from Equinor. Arguably a part of the corporate income tax on extractors, equivalent to what other companies pay, is due to the government and not part of the trust corpus. This is a hidden enhancement to the corpus of the trust and could represent making the corpus whole from hidden losses or waste, or it could be considered part of the bequest of the present generations to their descendants.

It should also be noted that while the government owns 67% of Equinor worth US\$ 35 bn¹⁸, and has invested proprietary funds to raise its stake by 4.5% (currently worth US\$ 2.35 bn), all its dividends from Equinor are deposited into the fund. In effect, the economic interest in Equinor is treated as a part of the corpus of the inheritance. In this manner, Norway fulfils its public trust duty to capture the value of the opportunity to create core competencies. Note that the equity stake in Equinor is not formally counted as part of the future generations fund.

Norway also withdraws only up to the estimated real returns of the fund. However, for most periods, the withdrawals have been lower than the realized real returns, implying the fund corpus is growing due to reinvestments. This is another enhancement to the corpus of the trust. By contrast, Singapore follows a stricter fiscal rule of only spending 50% of the real income of its funds, resulting in the gradual growth of the funds, leaving a legacy for future generations (Singapore, 2020).

¹⁸ <https://finance.yahoo.com/quote/EQNR/>, accessed on 11-Aug-2020

Norway has also implemented “ethical” investment guidelines. A recent decision is to divest from fossil fuel extractors and invest more in renewable energy companies. However, continued extraction of oil by Norway is contributing to the climate emergency, which in turn threatens the value of the fund investments. In the *People vs Arctic Oil* case, the Borgarting Court of Appeal in Oslo “*acknowledged current and future generations’ right to a healthy environment and that this right also includes the duty to take into account the full emissions from the burning of Norwegian oil.*”¹⁹ If there were major global unrest or worse still, a civilization collapse, the trust corpus risks significant losses. However, Norway granted 78 new oil leases in 2018 and recently proposed to grant a further 136 blocks for licencing.^{20,21}

5.5 Treating beneficiaries equally

The simplest way of treating the trust beneficiaries, the present and future generations, equally would be to distribute only the real income of the fund as a dividend, equally to all, as a commons dividend or a Citizen’s Dividend. Future generations would benefit in turn. However, Norway prefers to use the real income of the fund through the government budget. Seen through the lens of the public trust, it is in effect a hidden per head tax, poll tax or a negative universal basic income. Presumably, given the fund name, the fund income is intended for funding pension promises. This effectively means only pensioners are beneficiaries of the trust – anyone who dies earlier is discriminated against. If instead the real income of the fund were paid out as a commons dividend or a citizens dividend, fulfilling the duty to treat beneficiaries equally, the dividend could be treated as taxable income, thereby further strengthening the social contract – tax explicitly and spend.

¹⁹ <https://cer.org.za/virtual-library/judgments/foreign-and-international-courts/the-people-v-arctic-oil-nature-and-youth-greenpeace-v-norways-ministry-of-petroleum-and-energy>, accessed on 11-Aug-2020

²⁰ <https://www.maritime-executive.com/editorials/a-peek-at-norway-s-environmental-hypocrisy>

²¹ <https://www.regjeringen.no/no/dokumenter/horing-om-25.-konsesjonsrunde/id2715680/?expand=horingsbrev>, accessed on 11-Aug-2020

5.6 Furnishing information to beneficiaries

Norway is a global leader in transparency on both its mineral resources as well as the management of its future generations fund. The Ministry of Petroleum and Energy of Norway, in cooperation with the Norwegian Petroleum Directorate (NPD), published an annual book on the Norwegian petroleum sector, Facts 2014, now replaced by a set of websites.²² The websites give a comprehensive overview of the petroleum activity on the Norwegian continental shelf (NCS). The management of the future generations fund is also notable for a high degree of transparency in its investment strategy and its management.

5.7 Trouble ahead?

Recent events indicate that some troubles may lie ahead. With globalization, a number of the Norwegian origin companies have been bought by or become multinationals, lessening the connection to building local strengths. Surprisingly, Norway is one of only five countries that permit dumping of mining wastes in the ocean, and has recently permitted the dumping of the waste from a copper mine in a nationally protected salmon fjord.²³

The moderate pace of extraction has also been abandoned with the objective to convert oil wealth into diversified financial wealth which earns real income. Indeed, the real income from the fund is now more than the annual proceeds from extraction. While more rapid extraction may be logical for this reason, it is also attributed to the Norwegian oil industry pushing for quicker extraction, using economic downturns as a reason (Ryggvik 2010:90). The result is that since the turn of the century, prices for domestically provided services have increased faster than productivity, implicitly capturing the mineral value in an

²² <http://www.npd.no/en/Publications/Facts/Facts-2014/>, now replaced by

<http://www.norsketroleum.no>

²³ <https://thebarentsobserver.com/en/industry-and-energy/2019/11/norway-greenlights-copper-mine-tailings-dump-arctic-fjord>

indirect fashion, and Mork (2020) estimates “about half of the resource rent may have leaked out to the private sector in this period.” In effect, a loss rate of 50%, with the value being captured unevenly by the present generation of Norwegians, significantly diminishing the trust corpus. Further, when extraction ends, overcoming this broad economic dependency on extraction will create enormous pain for the Norwegian economy.

Lindset & Mork 2019:2 find that while “the share of public spending funded by draws on the GPFG increased from 8% to no less than 19% in 2018”, the real returns from the fund “are procyclical whereas the fiscal needs are fairly stable over time or even countercyclical”. As the proportion of the budget financed from the real income of the fund increases, the volatility of the fund returns will create new challenges.

Worryingly, a recent IMF report suggests that the financial buffer of the income from the fund has led to a significant fiscal imbalance driven by rising pensions, and while current public sector net worth is estimated at 342% of GDP, in order to prevent inter-temporal public sector net worth from going negative would require a fiscal consolidation by the government of 4% of GDP (Cabezon and Henn, 2018). The alternative would be the depletion of the fund corpus to finance government spending. By extension, in order to maintain the inter-temporal public sector net worth at its current level, a fiscal consolidation of nearly 10% of GDP would be required.

6. Norway as a public trustee of its mineral resources

Norway’s model for mineral resources meets most of the duties of a public trustee. It has ensured low losses when selling the minerals, saved the entire proceeds in a future generations fund and only utilized the real income. It has increased societal value and reduced waste through vertical integration leading to creation of world class companies, retained control over the use of the minerals, ensured minimal flaring, high oil recovery rates, and by reinjecting CO₂, through its stake in StatOil/Equinor, innovatively captured the

opportunity to create core competencies, applied conservative fiscal practices that could compensate for losses, has refrained from alienating the trust (except for the minerals), but has kept the real value largely intact. Procedurally, it would seem to have adequately supervised agents, exercised good faith, reasonable skill and caution in managing the minerals and the fund, and has been a world leader in transparency.

And all of this has been achieved with top scores on many world indices. There is no question that Norway is a world-leading practice in these areas, and exemplar for all other countries to emulate.

On the other hand, Norway hasn't done quite as well in maintaining uncompromising loyalty to the beneficiaries, and acting impartially among them. Oil has been extracted very rapidly, large losses are now apparent and pensions seem to have gained a disproportionate share of the income from the Fund at the expense of those who may perish younger. Further, the corpus of the fund is an extremely attractive target for unscrupulous politicians. Perhaps, Norway could follow Alaska's lead and pay out a Citizen's Dividend while simultaneously increasing income taxes to offset the budget impact.

Unfortunately, the environmental record is catastrophic. While there are high carbon taxes, and carbon dioxide is being reinjected into oil wells, permits for dumping toxic mining waste into a protected fjord is quite surprising, and increasing oil & gas extraction in the face of the climate emergency simply unconscionable towards its future generations.

7. Conclusion

Norway has been exceptional in fulfilling most of the duties of a public trustee; especially the duty to conserve the *res*. Mineral owners around the world can learn much from Norway's example.

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