One billion trees – thoughts on gaining and maintaining a social licence to operate

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Slash piles that may contribute to social licence to operate problems

Abstract

The 1 Billion Trees Programme (1BT Programme) has the potential to significantly transform New Zealand's landscape for decades to come by introducing one billion trees to the land. This is not without risks, particularly where landowners and communities may harbour concerns with potentially long-lasting, large-scale changes through afforestation. This paper raises a number of questions in order to start a discussion between government proponents of the 1BT Programme, foresters, landowners, and interested and affected communities. We hope that by opening up an opportunity for dialogue it will result in a broad acceptance of these changes by all involved.

1BT Programme goals

The New Zealand Government, as a component of its Provincial Growth Strategy, announced that it would support the planting, including 'business as usual' replanting, of at least one billion trees over the next 10 years – 2018 to 2027. The programme, led by Te Uru Rākau – Forestry New Zealand:

… supports landowners to grow both native and exotic trees to create employment and workforce development, optimise land use, mitigate climate change, support Māori values and aspirations, protect the environment and support New Zealand's transition to a low emissions economy.'

(Te Uru Rākau, 2018: 1)
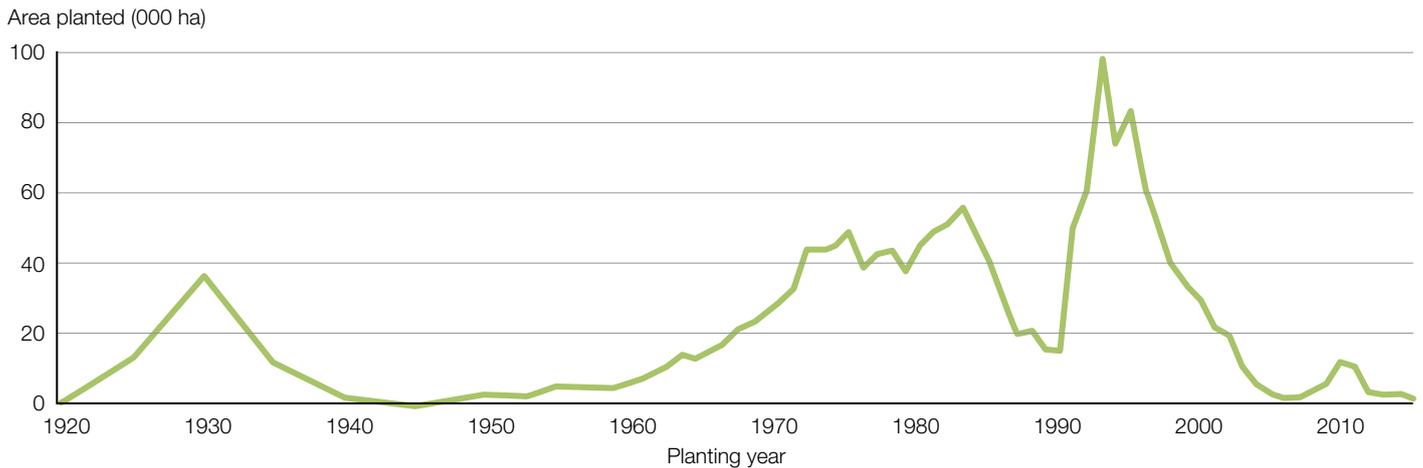
One billion trees

Figure 1: Area planted in trees in NZ since 1920. Source: Data from the MPI National Exotic Forest Description (NEFD) statistics
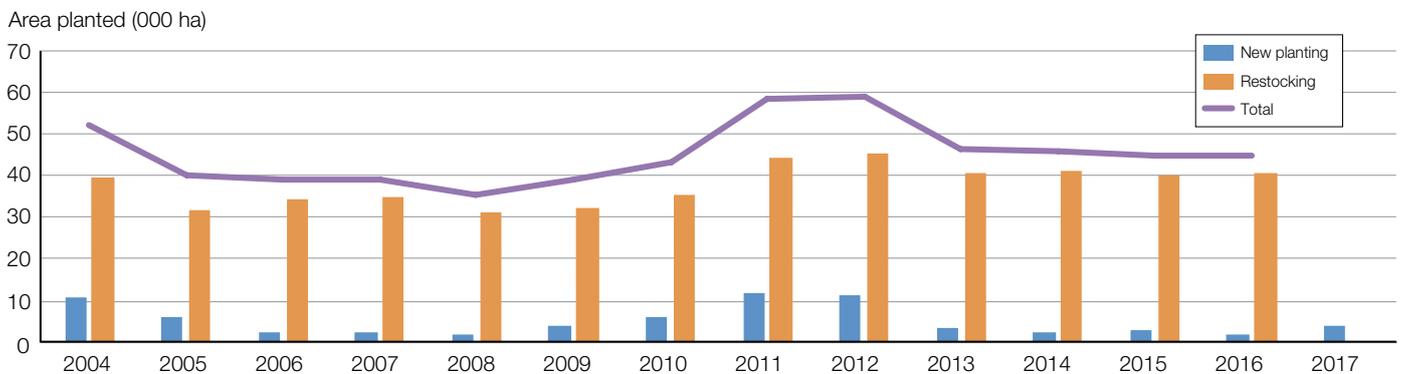

Figure 2: Total area of exotic tree planting in NZ over the period 2004–2017. Source: Data from the MPI NEFD statistics

With these goals, the 1BT Programme needs to navigate sometimes competing environmental, social, economic and cultural goals within a sustainable development framework, balancing these four elements.

NEFD statistics

One billion trees over 10 years seems a large requirement, if planted all in exotic species. This equates to an average of 90–100,000 ha/p.a. if stocked at 1,000–1,100 stems/ha. Such a planting rate has not been seen since the peak of the 1990s planting boom (Figure 1).

Much of the planting over the past 15 years has been from restocking of harvested areas, with only a limited amount of afforestation (Figure 2). A significant proportion of the peak of new planting (of a little more than 11,000 ha/year in 2011 and 2012) was due to imputation corrections for small forest growers with less than 1,000 ha, correcting differences between annual nursery surveys and official figures. [MPI surveys forest owners with less than 1,000 ha every 10 years, rather than every two years for larger forest owners. There is uncertainty as to whether and how much these small-scale forest owners replant and this is corrected every 10 years.]

However, with the Government planning for two-thirds of the new planting to be in native species, less land would be needed due to much higher stocking rates for native planting. The Ministry for Primary Industries (MPI) do not currently cover native species planting rates in the same manner as the NEFD, but as the 1BT Programme develops, such data will need to be collected and monitored.

Similar overseas initiatives

New Zealand is not unique in introducing a large-scale (one million or more trees) afforestation policy. Inspired in part by India's 2016 initiative to plant 50 million trees in a single day, many tree planting initiatives are currently underway internationally, mostly in response to climate change. China has mass tree planting initiatives (Stanway, 2018). Zambia has a 'Plant a Million Trees' fund, while on Earth Day 2018 America's National Forest Foundation launched a scheme to plant 50 million trees (Coleman et al., 2018). Cities are also getting in on the tree-planting bandwagon. Both Auckland and New York City have initiatives to plant one million urban trees within their cities.

In the case of international tree planting initiatives, these have not been without issues (Marritz,

2012; Pincetl, 2010; Kaminski, 2016). While India overshot their one-day target with 66 million trees planted, alongside Pakistan being ahead of schedule (Hutt, 2018), wealthier nations have not fared as well. Ireland is behind on their tree planting schedule (Finn, 2018), with general concerns that mass tree planting has changed the land ecology and endangered other flora and fauna species (c.f. Veldman et al., 2015). New York City's million tree urban afforestation has the public concerned about the long-term management of the trees, particularly the increased aboriculture and pruning that would be required. Other urban concerns include impacts from increased shading once mature, improper spacing (Gromke & Ruck, 2009), and who pays for sidewalk and drainage repair costs due to large root invasion from planting the wrong species. In Auckland, concerns have arisen about views, and a small winter window for community planting (Pasley, 2016). These concerns demonstrate the need for social acceptance of not only the vision, but the impacts and implications of what large-scale afforestation will require.

Previous NZ mass planting schemes

Prior to the 1BT Programme, the largest mass planting scheme in New Zealand occurred between 1925 to 1935 with an estimated peak of 37,000 ha planted in 1930 (NEFD, 2014). Many State Forest areas were established during this time, the Kaingaroa State Forest being the largest. More recently, there was commercial expansion of radiata planting in both the late 1970s (with an average of 44,800 ha/p.a. planted between 1974 to 1983) and the 1990s, peaking in 1994 with 98,200 ha planted.

Mass tree-planting, or even hillside regeneration, may impinge on the cultural and landscape values of local peoples within of a region. Historically, large-scale planting has led to the development of a commercial forest industry supporting new employment, infrastructure and regional economic development. But it has also seen a shift in how people from a region associate with the land and the local industries that support local economies, and a shift in the value of key skills. Landscape-level change can also mean permanent shifts, not only in societal make-up and identity but in land ecology and biodiversity.

Social licence to operate

The 1BT Programme comes at a time where forestry has had its image somewhat tarnished by high levels of harm in the industry (Adams et al., 2014), poor perceptions in the aftermath of extreme weather events and debris floods (c.f. Bayne et al., 2019), impacts on rural communities (Robertson, 2017), and chemical use and public safety. Considering the 1BT Programme in the context of the social licence to operate, it has a number of laudable goals but must still contend with community perceptions and acceptance of forests and forestry (Macfie, 2018).

The slogan 'Right Tree, Right Place, Right Purpose' denotes a commitment to ensuring that trees planted are appropriate to the circumstances. This begs the question of what circumstances are deemed 'appropriate' afforestation, and by whom? One billion trees planted with no plan around future use of the forest resource created could be a large impediment to both confidence in landowners planting, including market development, regional industrial processing and new business creation that the Government and sector desire (c.f. MPI, 2019).

The 1BT scheme in New Zealand has also met with a degree of scepticism, mainly arising from already apparent labour shortages to plant trees, species mix, and the need for private landowners to commit to tree planting. Tree planters are already in short supply (c.f. Skerrett, 2019), and nurseries are concerned that increasing wages will only see their margins per tree further squeezed (c.f. Hancock, 2018).

Results from the 2016 Public Perceptions of New Zealand's Environment survey suggest that the public perceives the management of native bush and forests as 'good', but the quality of native bush and forest is declining (Hughey et al., 2016). Given that two-thirds of planting will be of native species, this element could contribute positively to the programme's public perceptions.

Federated Farmers have voiced concerns about the impacts on small rural communities, including school numbers, through loss of traditional sheep and beef country to forestry (Rennie, 2018). Health impacts from greater pollen loads also need to be anticipated.

Forest management in New Zealand has evolved into a two-fold forest concept of 'Conservation management' (natives), and 'Production forestry' (timber). Since both the demise of the Forest Service in 1987 and the creation of the conservation forest estate, the concept of forest and its use has been changing, led by:

- Diversification in forest revenues

- Changed ownership models

- The growth of agroforestry linked to carbon markets

- The importance of biodiversity and nature values

- Greater forest access with recreational facilities in production forests.

The recent announcement of the Labour-led Government to plant one billion trees by 2028 further purports a change in the nature of forest conceptualisation, particularly in respect to establishment, ownership, management and product markets.

The social licence to operate, or social licence, was originally popularised in the mid-1990s in the mining industry. Social licence has increasingly been applied

to other industries involved in public and private resource development and management, including aquaculture, agriculture, forestry, energy generation and conservation management (Edwards et al., 2019). This broader application of the social licence to operate to other industries has been driven by changing community expectations that they should receive a greater share of benefits from industries in their communities (c.f. Prno, 2013).

The social licence to operate has been generally defined as broad community acceptance of a resource operation (Boutiller, 2014), but according to Joyce and Thomson (2000: 52) 'such acceptability must be achieved on many levels, but it must begin with, and be firmly grounded in, the social acceptance of the resource development by local communities.' Social licence is a metaphor that can be both tangible and intangible, as acceptance or opposition by communities can be expressed and felt in significant ways, and intangible in that it is not like a legal licence (Nelsen, 2006; Moffat et al., 2016).

Conceptually, social licence 'presents a radical challenge to some pervasive tropes in contemporary discourses about transnational corporations and communities' (Boutilier, 2014: 266). When the issue at stake is a government initiative, the legal role and standing of community stakeholders becomes more complex and potentially fraught. This makes early consultation and 'socio-political groundwork' (Boutilier, 2014: 267) with communities imperative.

Four levels of social licence

Social licence is not static, but dynamic, requiring renewal and re-evaluation at each step of a project as it gets underway and over the entire life of the project. The renewal and re-evaluation involves examining multiple elements of social licence, including credibility, legitimacy and trust (Thomson & Boutilier, 2011), and procedural fairness, social infrastructure, governance, distributional fairness, and trust, leading to acceptance (Moffat & Zhang, 2014).

Each of these elements, whether Thomson and Boutilier's (2011) or Moffat and Zhang's (2014) model, are closely linked. Thomson and Boutilier (2011) suggest four levels of social licence:

- **Non-acceptance**
- **Acceptance** – linked to legitimacy, or the acceptance by society that an organisation or entity has the right to exist and pursue its matters (c.f. Knoke, 1985)
- **Approval** – the next higher level is approval, linked to the entity's credibility, which is a foundational pillar of trust and trustworthiness
- **Psychological identification** – the highest level is psychological identification, linked to trust between the company and the community, where trust can be defined as the willingness

to be vulnerable to others based on the positive expectations of the intentions or behaviours of others (c.f. Rousseau et al., 1998).

Thomson and Boutilier (2011) highlight that legitimacy can be earned through simply listening to others, while credibility requires the company to act on what they have heard.

Moffat and Zhang (2014) and Moffat et al. (2017) do not distinguish levels of social licence, but provide insights into what communities perceive as most important in granting acceptance of mining activities in Australia. Fairness, governance and trust were identified as key elements of a social licence to operate. Procedural fairness is where communities perceive that they have a reasonable voice in decision-making, while distributional fairness is where they perceive that the benefits of a resource operation are distributed fairly, including whether the government receives a fair share of tax (Moffat et al., 2017).

Governance is described as the perceived ability of legislation and regulation to hold industry to account; trust is the perceived levels of trust in key stakeholders in resource development. Moffat et al. (2017) expanded on Moffat and Zhang (2014) with the addition of an extremely strong factor called 'balance of benefits and impacts'. In the balance of benefits and impacts, communities' perceptions of whether the benefits they receive (e.g. employment and community benefits, regional infrastructure or general economic benefits) outweigh the impacts they may have to live with (e.g. environmental impacts, impacts on other sectors and cost of living) (Moffat et al., 2017).

Questions

In considering the 1BT Programme and social licence, along with examining a range of documents associated with the programme, a number of questions emerge that we feel merit a robust discussion. These will also provide food for thought for a wider discussion amongst industry, government, communities and researchers.

The overarching question that needs to be addressed is where do communities stand in the 1BT Programme, and should (or does) the programme need to think about its own social licence to operate?

In a more traditional sense of social licence to operate, questions have been raised as to whether government, in particular, requires social licence to undertake their activities (Malpass, 2013; Klenk, 2015). In the case of the 1BT Programme, by directly supporting, promoting and encouraging large-scale tree planting, Te Uru Rākau has entered a multi-faceted social, environmental and economic/commercial area that is facing rising stakeholder (and community) expectations and rising criticism (c.f. Bayne et al., 2019). By providing direct support for resource

development and extraction activities, Te Uru Rākau will likely need to consider its own social licence to operate, not relying solely on promises made during elections or government policy (that may not enjoy wide popular support).

With mass planting or regeneration in an ever-changing social environment, is there support locally, regionally and nationally for wholesale landscape change towards forests and forestry? Have communities and stakeholders been asked to think about the future issues that face forestry (such as post-harvest debris, worker safety and trucking) as part of gaining and maintaining social licence?

Further questions need to be considered including:

- What are the (wider) impacts on societal and economic systems due to the potential disruption to the 'status quo' forestry model of today: on forestry; on regional development; on land usage and community settlement patterns; on labour; on industry capacity and processing investment; on business and enterprise?

- What are the ripple effects of an extra one billion trees in the forestry estate 'mix'?

- What scale and diversity of issues (local, regional, national, international) need to be considered in relation to social licence to operate and stakeholders? Can a network approach to identify stakeholders reduce potential scale conflicts and facilitate understanding about whose stakes need to be taken into account?

- What new business forms, emergent sectors and policies are required to enable desired outcomes (including the creation of legitimacy, credibility, trust and entrepreneurial activities)?

- We suggest that an emphasis on the appropriate landscapes and the place of widespread afforestation within local landscapes through engaging with the public early may provide a better opening for community discussions and support for the 1BT Programme. In particular, the forest sector needs to work alongside those communities who will support the 1BT vision and share our values of a healthy, productive, sustainably grown, well-planned resource (c.f. Kaminski, 2016).

- In relation to the goals of the 1BT Programme overall, the elements of social licence may or may not be present. For example, does the programme have legitimacy, credibility and/or do stakeholders have trust in the programme and its stakeholders? Will communities have a voice in decision-making? Are current regulations and policies sufficient to ensure good governance? Will they receive benefits commensurate with the impacts on their communities?

Discussion

Trust between communities, industry and government needs to be improved. The Victoria University of Wellington public trust survey in 2018 found that while there was a slight rise in public trust in government, there was still significant distrust. Similarly, for industry in general the public held significant distrust towards them. With respect to forestry, in a 2017 MPI survey, 42% (down from 52% in 2008) of urban and 52% (up from 47% in 2008) of rural respondents had positive views of the forest sector. With 13% of urban and 11% of rural respondents having negative views of the forest sector, the three primary reasons given were foreign ownership, perceptions that it is a dangerous industry and it does not take its environmental obligations seriously (MPI, 2017). Conversely, on the positive side, MPI (2017) found that forestry was good for the economy, provided employment for rural areas and was positive for climate change. These positive aspects are certainly highlighted in support of the 1BT Programme.

Inverting the 1BT slogan

We posit that from a community perspective, where it is unlikely that they have been involved in the decision process to plant trees on particular tracts of land, the 1BT Programme slogan of 'Right Tree, Right Place, Right Purpose' can be seen to pre-suppose that trees are the solution to whatever problems landowners are facing. We suggest that the slogan should be re-examined in order to be more 'engaging' with communities and landowners. To this end, we believe an inversion of the slogan provides more opportunity for community input and ultimately acceptance:

- By first engaging with landowners and their communities about the problem they are trying to solve (right purpose), a determination whether trees are the best solution can be made

- Once trees have been determined to be the right solution, then decisions on where trees should be planted should be made (right place)

- Then the determination of the most appropriate tree species for the stated purpose (right tree) can be made.

This new conception follows best practice in establishing multifunctional forests (Tim Payn, Personal Communication, 13 February 2019). Mirroring the social practice described above, best practice in multifunctional forest establishment involves knowing and understanding the purpose of the forest as the first step.

From there one must ask and decide the right location for the forest, then determine the regime, and finally determine what tree or mix of trees will achieve the stated purpose in the proposed location.

Right purpose, right location, right regime, right tree(s) (Tim Payn, Personal Communication, 13 February 2019). This suggests that forest policy-makers, landowners and forest managers should mirror good forest establishment practices in order to help them gain and/or maintain their social licence to operate – this is not to say that following these steps will guarantee a social licence.

Figure 3 provides a graphic representation of the parallels between forestry planning and the idea of first understanding the needs of the community (determining the purpose for which trees may be needed), before then deciding where and what to plant, if appropriate.

As forestry in New Zealand becomes more complex, viewing our forest estate as an open and dynamic integrated social-ecological system can be helpful in formulating the necessary paradigm shifts required in the forest sector, for industry, science and government, in order to create a more responsive, adaptive sector. While it adds complexity, the inclusion of both exotic commercial and native species in the programme provides some level of balance – the public are generally supportive of native bush and forests (Hughey et al., 2016). However, this must be balanced by the thinking that native species may be used for commercial ends and the social and cultural risks and issues associated with this (along with the risks and issues associated with traditional commercial forestry).

More specifically related to social licence, with at least half of the proposed planting to be commercially harvestable species, the 1BT Programme does not necessarily consider the implications in the future of

issues that may be contributing to current community disquiet around forestry. These issues include post-harvest debris, worker safety and trucking. While it is possible to discern how today's community members feel about these issues and others, and whether they accept the associated risks, it is not possible to know what future community members will accept as forestry technology and practices change over the next 30 years. Future foresters, communities and government will have to negotiate acceptable outcomes for all concerned in the future – under future conditions.

Conclusions

With the current state of knowledge it is difficult, if not impossible, to answer many of the questions that we pose. While we do not have answers to all of these questions, we hope that this provokes thought and dialogue around the 1BT Programme and social licence to operate. Significant enquiry into community perceptions of issues and the acceptance of forestry now and on an ongoing basis is needed to understand the impacts of forests and forestry on communities. This understanding of the changing community dynamics will be vital for government, industry and communities themselves to negotiate an appropriate balance between benefits and impacts, provide a community with a voice in decision-making, and build stronger trust relationships between these three parties.

To this end, there should be more engagement with communities by landowners undertaking significant land use change, forest companies and government, with appropriate action taken on what

Which attributes should we be selecting for/breeding for

Tree attributes

Which attributes does this species possess?

What species would be best to plant for this market and site?

Function

What function(s) utilise these attributes?

We have land available here

Site

Optimise functional performance through site selection

Want to provide x market

Silviculture
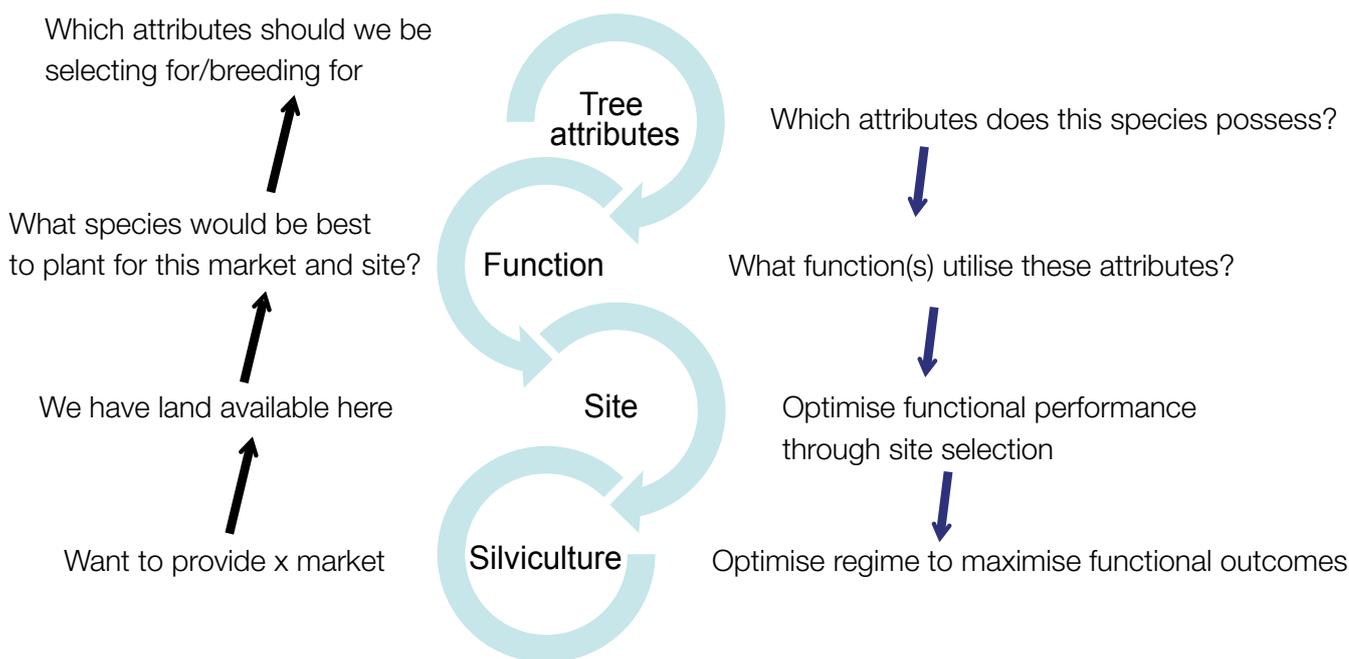
Optimise regime to maximise functional outcomes

Figure 3: The need to think about EITHER the function (ecosystem services) desired from the trees on the landscape, or the market (utilisation) that is to be met for a business portfolio, BEFORE selecting species and/or site, thus meeting the 'purpose first' argument

is heard (builds legitimacy and credibility). Ongoing genuine efforts towards these ends could conceivably contribute to better trusting relationships over time.

As Te Uru Rākau becomes more involved in the large-scale promotion of long-term land use change that will ultimately alter the landscape and how communities live their lives, there is an imperative to gain acceptance for this 'resource operation'. Social risks and uncertainties must be adequately addressed. Despite indirect claims that the government does not need to gain and maintain social licence because they have it through the rule of law (c.f. Malpass, 2013), as it becomes more involved in commercial and development promotion (which may be beyond the traditional mandate of core government agencies) it will need to gain and maintain social licence. This would certainly need to be done in conjunction with its commercial, iwi and landowner partners but it is, of course, dependent on the specific contexts in which this is taking place.

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