

Scottish Land Commission & Dark Matter Labs

Land Governance Futures Towards Common Relationships

A Discussion Paper (November 2023)



SCOTTISH LAND COMMISSION
COIMISEAN FEARAINN NA H-ALBA



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*Land Governance Futures is an initiative at the intersection of
Radicale Civics and Property & Beyond Lab within Dark Matter Labs.*



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Introduction

Scottish Land Commission and Dark Matter Labs

Recognising the core role of land in meeting Scottish and global challenges in economic and climate systems change, the Scottish Land Commission and Dark Matter Labs have agreed to collaborate to explore options for different futures in land governance.

Both organisations have independent workstreams underway which offer synergies and opportunities for shared learning, wider engagement, and multiplying our impact.

In the Scottish Land Commission's advice and recommendations, the Commission has consistently highlighted the need to develop more diverse governance models as integral to diversifying the pattern of land ownership. Questions of governance are currently gaining increased focus, particularly relating to natural capital investment. We have stated in our advice that we see more inclusive and accountable governance models as a key part of diversifying power and control in land ownership. However, there has been a lack of significant traction in the development of new governance approaches.

Through Dark Matter Labs' work on land, property, and governance from contexts around the world, we also recognised the commonalities across contexts and the value of building an international ecosystem of ideas and learnings over reimagining our relationship with land. Combined with the Scottish Land Commission's contextual expertise and relationships with stakeholders in Scotland, this collaboration hopes to pursue common ideas grounded in local context.

Our collaboration will explore different governance models for land rights and ownership, challenging existing conceptions of land rights, exploring different framings, and identifying practical examples and opportunities for different models. Acknowledging that our current system is the product of centuries, this work will be principled, thoughtful, and with a dual focus on the immediate practical challenges as well as long term systemic and culture change.

This paper sets out a series of provocations around what future land governance models could look like. This includes potential new models of ownership and tenure, reframing land rights, and exploring the supporting infrastructure a modern system of land governance needs to be effective.

The Future of Land and Value

Real estate consists of roughly half of total household wealth in Scotland¹, with much of that value coming from land directly or indirectly. For the 65% of Scottish households that own property², that property wealth primarily comes from owning their home. The logic of home ownership, as a means of meeting both housing needs and a vehicle for wealth accumulation, seems like second nature. The market for land too is partly driven by speculation enabling the extraction of the unearned value of that land's potential.

Yet this conventional wisdom is being confronted with the realities of the climate, housing and other crises, which is increasingly revealing the deficiencies of understanding and governing land through the lens of property alone: the exclusive rights of an owner can be isolated from the wider interrelationships of that land, from its social function, productive and use potential, and relationships with its neighbours and communities, to the ecological systems of which it is a part and the common material resources in and on the land. For example, while our current system values land for its development potential and rewards its owners for it, the impact of greenhouse gas emissions from soil degradation falls onto the commons, even though this may have been the consequences of individual owners' actions. While regulations can act as blanket, sometimes blunt measures, they perhaps disguise a deeper, systemic problem unaddressed by day-to-day political priorities. In recognising that land is a finite resource, we also need to recognise the opportunity costs to the commons of misusing that land. This questions whether our current system, in its orientation around the privilege of property rights without a balanced assertion of its responsibilities, is optimised for stewarding land in the best possible way for the commons.

1

Bell, T., & Arcy, D. (2018). The £1 trillion pie: how wealth is shared across Scotland. → <https://www.resolutionfoundation.org/app/uploads/2018/06/Trillion-pound-pie-web-slides.pdf>

2

Wealth in Scotland 2006-2020. (2020). Gov.scot. → https://data.gov.scot/wealth/#Who_owns_property

But a rebalancing of rights and responsibilities of ownership is not enough. The idea that land can be governed as individual parcels is reductive, failing to recognise land as a system of interrelationships and its emergent value that is greater than the sum of its parts. Flood risk in urban areas is an example: the risk of flooding is shaped by a complex interaction between land use behaviours on individual property (impermeable surfaces, SUDs), shared infrastructure (sewers, road surfaces, drains), the topography and hydrology, with cause and effect relationships across the watershed. Furthermore, the use of nature-based solutions for risk reduction will also have multiple co-benefits. The liability of flood risk and the value of flood risk reduction therefore does not fall neatly within divisions of responsibility implied by property boundaries. There is also an additional layer of how local sensor data and citizen monitoring can become a form of valuable collective intelligence to support the modelling of flood risk and target the strategies for risk reduction. When recognising the systemic realities of land, it may require rethinking our conventional understanding of valuable assets from property, to the place-based relationships that define them.

This discussion paper hopes to explore an alternative vision for the land system that recognises land as unboundable and exists as a network of relationships and suggests pathways to work towards this vision. Scotland, uniquely in Europe, exists at the intersection of multiple legal traditions, with both civil and common law influences, multiple cultural traditions, and furthermore a strong momentum towards land reform and innovation. We believe Scotland's land is a fertile space for exploring new possibilities and kickstarting a necessary civic conversation on the future of common goods, and the future of what we understand as value.

Reframing land

This discussion paper suggests a portfolio of provocations that build pathways towards a new vision for how we relate to land, one which not only recognises but also realises the balance between rights and responsibilities¹, and one that accounts for the multiple forms of relationships and value that intersect with land. This section explores the research and conceptualisation process behind these provocations.

¹
2022 Land Rights and Responsibilities Statement. (n.d.).
Www.gov.scot. → <https://www.gov.scot/publications/scottish-land-rights-responsibilities-statement-2022/pages/3/>

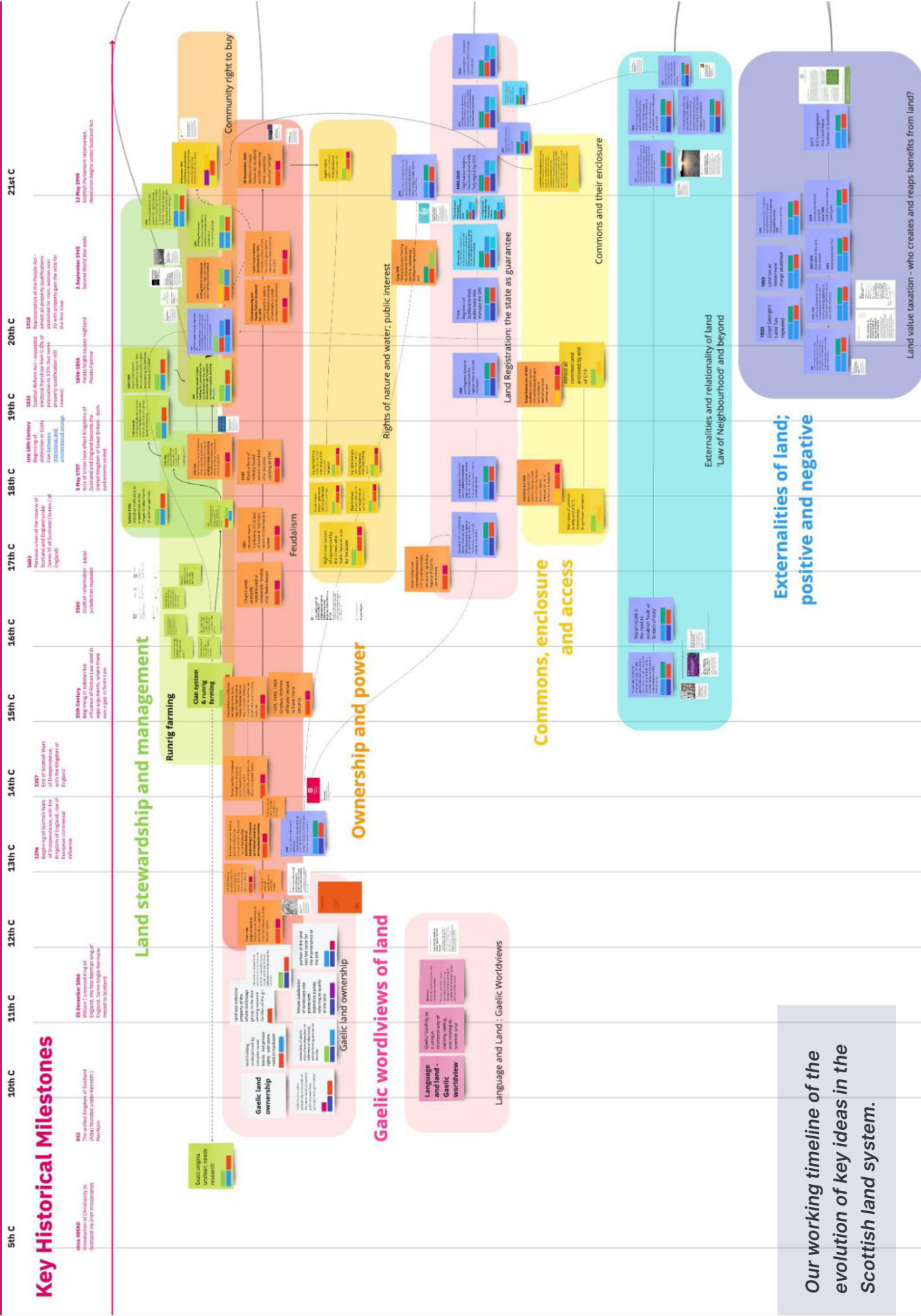
Revisiting Scotland's Land History

These provocations were informed by background research into the history of Scotland's unique land system, tracing how key ideas and themes on relationships with land have evolved over the centuries, especially how individual and common interests in land have been reconciled through various laws, instruments, policies and models. These include:

- **Cultural worldviews about land:** examining Gaelic attitudes towards land based around kinship and lineage groups, the collective allocation of land for needs across the community, and social, place-based (rather than commodity-based) relationships with land.
- **Feudalism and its abolition:** the introduction of the Norman-influenced feudal system where social hierarchies defined relationships with land, and the gradual reforms towards tenants' rights until the abolition of feudal tenure in 2004.
- **Stewardship:** examining land management practices that considered wider social and ecological interests in land, such as the collective and rotational runrig system and the emergence of crofting and common grazings in the wake of the Highland Clearances.

- **Rights of nature**: exploring how the interests of natural commons such as the sea, foreshore, tidal rivers and certain natural resources are held in trust for the public through the Crown (inter regalia, regalia majora, and regalia minora)
- **Land registration**: the history of the state as a source of truth over property titles; the transition from the conveyance-based General Register of the Sasines to the map-based Land Register.
- **Commons and their enclosure**: such as commonties and burgh commons, and the reforms established by the Scottish Outdoor Access Code that re-established public rights of access to land.
- **Mechanisms for property-to-property relationships**: examining the Scots law concepts of delict and nuisance, and also title-based conditions such as real burdens (including conservation and climate burdens).
- **Land value taxation**: including various historic attempts to deal with the 'unearned increment' problem, where value created by the commons is captured as private land value gain.

Scottish land system evolution



Our working timeline of the evolution of key ideas in the Scottish land system.

Towards Relational Land

To complement the research on the Scottish land system, we examined additional case studies that deal with ideas about land from across the world, including:

- The introduction of cartography and surveying technology in shaping our understanding of land, shaping human control over land by treating it as bounded, discrete parcels (e.g. Roy Military Survey of Scotland and Down Survey of Ireland).
- Land governance that tries to undo the effect of these boundaries, such as bioregional and water basin-based approaches, and frameworks for governing flows across fixed territories (e.g. Hague Conventions)
- Non-cartographical ways of describing land, such as Indigenous artwork depicting the cultural and spiritual significance of places (e.g. *Ngurrara Canvas II*) and Indigenous understandings of territory as non-exclusive and non-static.
- Rights of nature movement where natural systems such as rivers are not treated as objects of property but legal persons/capacity-holders in their own right.
- Bundle of rights property theory, how these bundles of rights have been reformulated, and examples of commoning from around the world.

By considering the problems created by our existing approach to land, and how some of these begin to be addressed through precedents from Scotland and beyond, we coalesced around a set of emerging principles for a future vision of land governance:

1. Land is not bounded, but exists in a network of relationships

Understanding land as bounded plots tends to divide everything between the interests of the owner, and 'externalities'. How can future land governance recognise the interconnected and overlapping relationships of land and the wider systems of which it is a part?

2. New modes of relating to land need to be reciprocal

Property rights are often treated as abstract entitlements, but this does not recognise these rights are created by the responsibilities of other parties, and in turn the responsibility that comes with the privilege of exercising these rights. How can we move towards a mutualistic approach to land governance?

3. Land and natural systems should be recognised as having their own agency

Treating land and nature as property risks reducing them to inert objects, whereas in reality, the flora, fauna and earth systems themselves are interdependent parts in an ecosystem with their own agency. How might a future land system recognise the agency of each part of the ecosystem?

We summarised these principles as a **shift from treating land as “property”, to developing “proper ties” with land**, a future governance that recognises the world as a system of agents engaged in a network of interdependent **relationships**:



When we use the word ‘relationships’, we define them to have certain characteristics:

Agent-to-agent: a relationship connects two or more agents, which can be humans or non-humans, living or not; e.g. the relationship between the homeowner and their next door neighbour, the relationship between the loch and all the fish that live in it, including salmon and trout.

Value and directionality: a relationship between agents often convey value provided from one party to another, e.g. the value of shelter provided by a forest to animals, the value of carbon sequestration provided by a forest to humanity.

Greater than the sum of its parts: in a system that reflects the complexity of the world, the aggregation of many relationships also creates an emergent value of its own (see next page).

Once we reorient around this approach towards land, we also recognise that there will be distinct types of value relationships that will be relevant to land. Crucially, value can also be an emergent property of this complex system of relationships (for example, from individual relationships of habitation between flora, fauna, and geography emerges the biodiversity value of the ecosystem). We have organised them into a non-exhaustive taxonomy to address the most commonly recurring value relationships around land.

Agent-to-Agent Value

Emergent Value



Use: Who has the right to occupy and use land, and for what purposes? Who gets the right to enjoy and profit from that land, and on what terms?

Use: How can we create equitable allocation of use rights such that individual and collective needs are met and balanced?



Social commons: Who are the communities around that land and their relationships with it? What is the social function of that land/property?

Social commons: How does a culture of place, a sense of belonging and community arise from relationships around land?



Materials: Given the scarcity of resources, who has the right to benefit from and control material flows on and under land?

Materials: How can we ensure a fully circular economy with minimal resource depletion through our land system?



Energy: How can land be used to create energy? How is energy supplied to land?

Energy: how can we create a resilient energy system across the land?



Ecological commons: What roles does the land have towards different parts of the ecosystem?

Ecological commons: How can that land be managed to maximise biodiversity and ecosystem health?

These provocations drew inspiration from both historic precedents and current instruments that already exist in the Scottish land system that begin to address these types of value relationships. By intentionally reconciling these different types of value relationships in a way that helps transition the current system of treating land as individual parcels of property, to a governance model that recognises the common interests in land as an entanglement of relationships, they chart pathways towards an alternate vision of the land system. Through these provocations, we are establishing new forms of commons and commoning:

- 1. Commons stewardship:** establishing relationships to land/property beyond the exclusive control of ownership, in recognition of responsibilities and opportunity costs to the common interest when land is held by an individual party.
- 2. Partial commons:** overlaying mechanisms across multiple land/property titles so they can be governed as in effect as commons, as a transitional pathway towards land as genuine commons.
- 3. Common flows:** governing flows of moveable matter, value and costs. This moves away from ideas of land/property as something bounded that contains these statically, to recognise the directionality of land-based relationships.

A blue-tinted photograph of a rocky coastline. The image shows waves crashing against a dark, craggy rock face. The water is white with foam from the breaking waves. The sky is a pale, hazy blue. The overall mood is dramatic and powerful.

Provocations

Crofting 2.0



Image

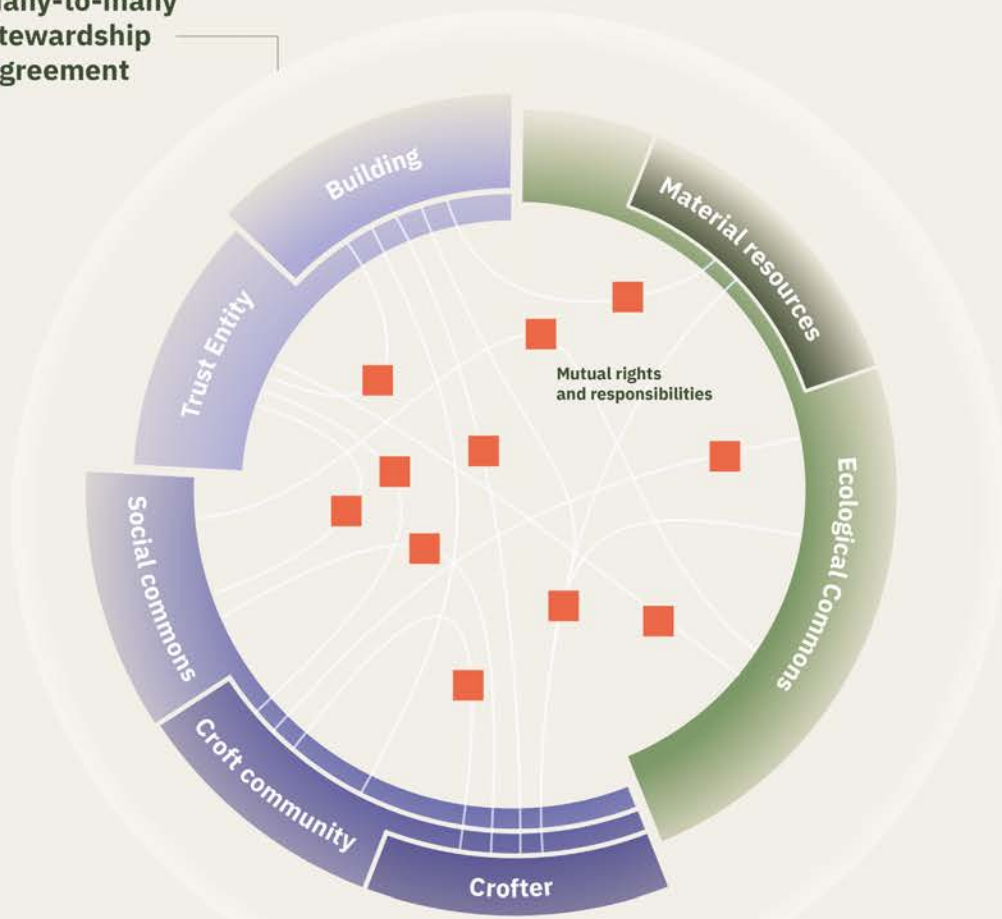
Alan Reid and licensed for reuse under this Creative Commons Licence. → <https://www.geograph.org.uk/reuse.php?id=4696495>

Precedent: Crofting

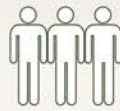
Crofting is a unique form of small-scale land-holding which provides the crofter with regulated rights, such as regulated fair rents, tenure security and inheritability. This is balanced with certain responsibilities for the crofter, defined by crofting legislation, to not “neglect” or “misuse” the land, but to use it for “productive” (agriculture and related) uses, and preserving the rural community, the culture of Highland and Islands, and the environment.

This form of property tenure is unique in that it is not simply a one-to-one relationship between landlord and tenant, but also involved the Crofting Commission and the Land Court as a party in this relationship to represent ‘externalities’ and wider interests around the use of land, such as defining productive uses, the opportunity cost of that land being neglected, and the community networks around land (crofters are required to be ordinarily resident within 32km of their croft).

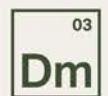
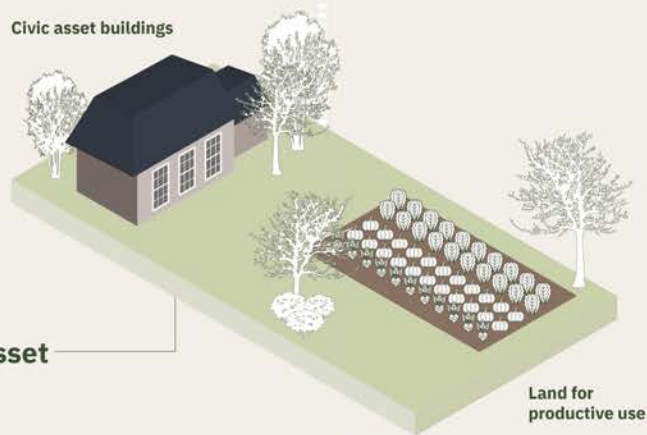
Many-to-many
Stewardship
Agreement



Live-in Crofter



Crofted Civic Asset



Reimagining Crofting – Stewarding Rural Civic Assets

Rural depopulation and ageing is a key problem recognised by Scotland’s national population strategy¹. A side effect of this depopulation is that civic assets, such as churches, village halls, pubs, etc. are underused or vacant. These civic assets face the risk of being privatised and redeveloped into property that comes at a social cost to the local community (e.g. holiday homes which are vacant in parts of the year with transient residents). Could crofting be a model for these rural communities to be repopulated in a way that creates long-term integration in the community, and allow these civic assets to be stewarded rather than sold off? There are stakeholders and potential civic assets where this could be applicable:

Former Churches: For example, for organisations such as the Church of Scotland, up to 400 of their property holdings² (primarily churches and manses, etc.) are facing sell-off due to lack of congregations and ministers. There are concerns over what these buildings are used for when redeveloped, but ongoing maintenance cost is a liability and results in economic pressure for disposing of these assets.

Civic assets in villages – These can consist of:

- **Village halls:** their ownership is varied, some are owned by local councils, village trusts or other forms of unincorporated associations. There have been precedents of community benefit funds (e.g. wind farm revenues) being used to restore these buildings.
- **Village shops and pubs** in rural villages, under individual private ownership.
- **Village schools:** usually owned by the council, rural depopulation and council budget cuts has led to village schools being aggregated into larger schools, leaving school buildings vacant. Some of these school buildings already have residential properties attached.

1
A Scotland for the future: opportunities and challenges of Scotland’s changing population - gov.scot. (n.d.). → www.gov.scot/publications/scotland-future-opportunities-challenges-scotlands-changing-population/

2
Scottish churches look for a miracle in race to save buildings and treasures within. (2023, January 15). The National. → <https://www.thenational.scot/news/23251258.scottish-churches-pray-miracle-save-buildings-treasures/>

Concept: Civic Crofts

Can the crofting model be adapted into a stewardship agreement for re-inhabiting rural civic assets? Learning from the crofting model, can the terms of this agreement balance the rights and responsibilities of the inhabitant with the wide relationships of that piece of land, such as neighbours and the local community, to the environment? Some of these rights and responsibilities could be:

Rights: right to use (but not own) the crofted property; affordable and regulated rent; security of tenure (length of term, reasons for termination); access to certain standards of infrastructure (e.g. internet access).

Responsibilities: use the property for 'generative' purposes and not neglect it; care for and maintain the property and its grounds; live on the property and be part of the community; environmental obligations towards land management such as SUDS, biodiversity, prevention of carbon release, etc.

Opportunities for demonstration

A Civic Croft could demonstrate the terms of stewardship tenure **through testing with a private contract** as a precursor to policy-level changes. As an alternative to a single third party such as the Crofting Commission, multiple parties with an interest in the land could be recognised in a multi-party contract, including the steward, the asset, and other parties with an interest (e.g. local community, environment).

The experiment could demonstrate the scalability of the Civic Crofting model by creating the policy infrastructure, such as template contracts, steward selection process, decision-making and management platform, etc.

Reimagining Crofting – Crofting for Ecosystem Services

Crofts are currently under statute required to “cultivate” the croft or put it to “purposeful uses”; these are currently understood to be largely agricultural uses. Other complementary “purposeful uses” for diversifying croft business models¹ have emerged. This has included renewable energy and agrotourism in recent years. This is statutorily defined as

“any planned and managed use which does not adversely affect— (a)the croft; (b)the public interest; (c)the interests of the landlord or (if different) the owner; or (d)the use of adjacent land.” – Crofting Reform (Scotland) Act 2010

This is subject to landlord or ultimately Croft Commission consent, but the legislation leaves room for flexibility.

Forestry uses have also been included in crofting legislation, allowing crofts and their common grazings to be cultivated as woodland; this has led to initiatives such as Woodland Crofting and the Woodland Trust’s Croft Woodlands Project². With the emergence of natural capital markets in Scotland and their potential for value extraction and speculation from remote ESG investment, land use is facing new demands based on shifting value paradigms. The intersection between crofting and environmental value is already being recognised, albeit through the lens of engaging with existing crofters³.

1
Croft Diversification | Crofting Commission. (n.d.) → <https://www.crofting.scotland.gov.uk/croft-diversification>

2
Trust, W. (n.d.). Croft Woodlands - Woodland Trust. Woodland Trust. → <https://www.woodlandtrust.org.uk/about-us/where-we-work/scotland/croft-woodlands/>

3
Land, Environment and Biodiversity. (n.d.). Ww.gov.scot. → <https://www.gov.scot/publications/national-development-plan-crofting/pages/10/>

Concept: Ecosystem Crofts

Can the “purposeful use” be proactively expanded to the provision of ecosystem services (e.g. such as carbon sequestration, natural flood management, biodiversity restoration)? Can crofting as a model allow ecosystem services to be provided in a way that recognises how these services impact local communities and ecologies?

Some researchers have explored the viability of costed business models for peatland restoration crofting using revenues from carbon credits (R. Yeh, 2023). The 32km residency requirement for the crofter could help ensure integration into the local community and the consideration of its needs when developing nature-based solutions.

Opportunities for demonstration

As the Crofting Commission is the arbiter of what a “purposeful use” is, there is an opportunity for proactive policy development to encourage croft diversification through the provision of ecosystem services. This would involve exploring how ecosystem services can be provided in harmony with the crofters’ other duties.

As part of the above, there is an opportunity to develop business models with crofters that recognise other forms of value, such as social and environmental value creation as part of its economic activities. Support infrastructure can be piloted to enable the viability of Ecosystem Crofts, such as impact modelling, outcome contracting, and platforms for planning, managing, and investing in nature-based solutions (such as [TreesAI](#)) etc.

Questions for Discussion

- What is the appropriate balance between rights and responsibilities of a Civic Crofter and an Ecosystem Crofter to make this a viable proposition?
- Can 'productive use' be expanded to include ecosystem services? What kind of democratic processes could be put in place to allow this definition of 'productive use' to be iterated as the land economy evolves?
- How can the parties be held mutually accountable without a centralised enforcement body? Can other stakeholders and interests be part of the agreement, beyond being represented by the Crofting Commission?

Layered Commoning



Image

Bill Boaden and licensed for reuse under this Creative Commons Licence. → <https://www.geograph.org.uk/reuse.php?id=6248130>

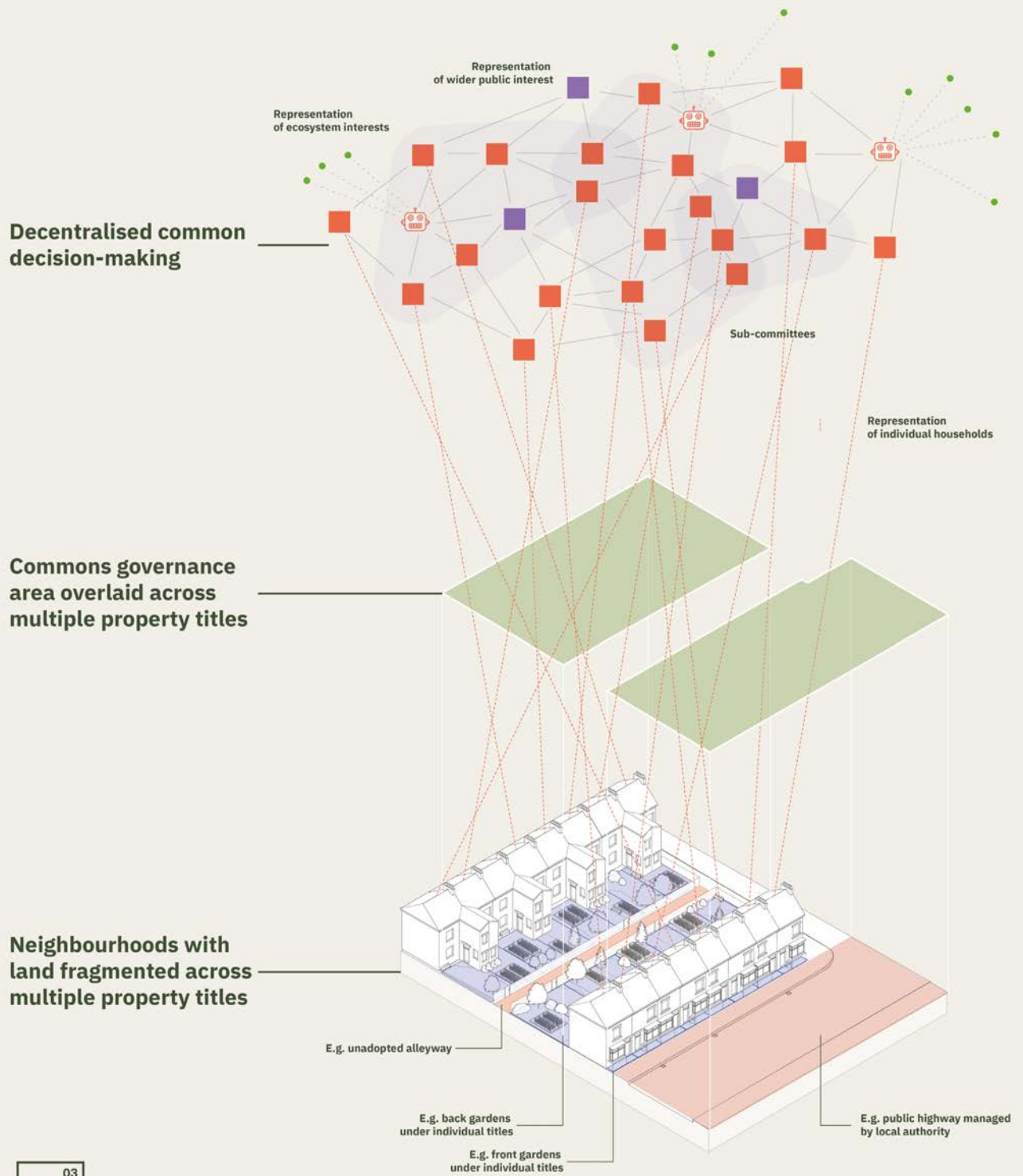
Precedent: Common Grazings

As part of the crofting model, crofters also have access to ‘common grazings’. Common grazings are pieces of land that are shared between crofters that are usually used for grazing livestock, even though the shared land is actually owned by a landlord, unlike other forms of common land.

Common grazings have a management model where Grazing Committees, appointed by crofters, manage this common resource and how rights and resources are distributed, and create Grazing Regulations. They have rights to use and develop certain things on the land subject to landlord or Crofting Commission consent, such as forestry, and in recent years, renewable energy projects.

Similar examples of commoning certain rights of private property exist, such as the shareholding model of Edinburgh New Town’s garden squares, and Development Management Schemes of new developments.

The common grazing provides a template for creating **partial commons** over privately-owned land, without needing to change the ownership title. What if this model can be applied to contexts where commoning approaches are needed across individual property lines?



Concept: Neighbourhood Commons Assembly

This framework of the partial commons can be developed to apply beyond the currently limited use cases, allowing a new range of possibilities that address the the boundedness and exclusiveness of private ownership.

In non-agricultural contexts, this could mean homeowners creating a common layer across their individual properties to develop shared projects such as commoning green spaces (e.g. back gardens), public realm improvement and management, and joint renewable generation projects (e.g. rooftop solar across a whole row of terraced houses).

There is an opportunity to design the process for users in establishing partial commons and acting on key leverage points, such as:

- **Consensus-building process:** How does the social process of reaching out to neighbours and agreeing to enter into a partial commons work? What processes might need to be followed to ensure consensus is built?
- **Contracting framework:** Are there certain governance standards that should be met to protect parties involved? What are the transaction costs associated with the legal design of a partial commons?
- **Scaling framework:** supporting the replication and scalability of these processes, such as playbooks, platforms, open-source contract templates.
- **Decision-making processes:** Innovations can also be in the form of new governance mechanisms, such as decentralised discussion and information sharing, decision-making methods, and collective management of shared finances. These

governance mechanisms can also consider representation of the local ecosystem and the ability of the wider public to participate, especially when considering the wider impacts of the common property.

Possible contexts for demonstration

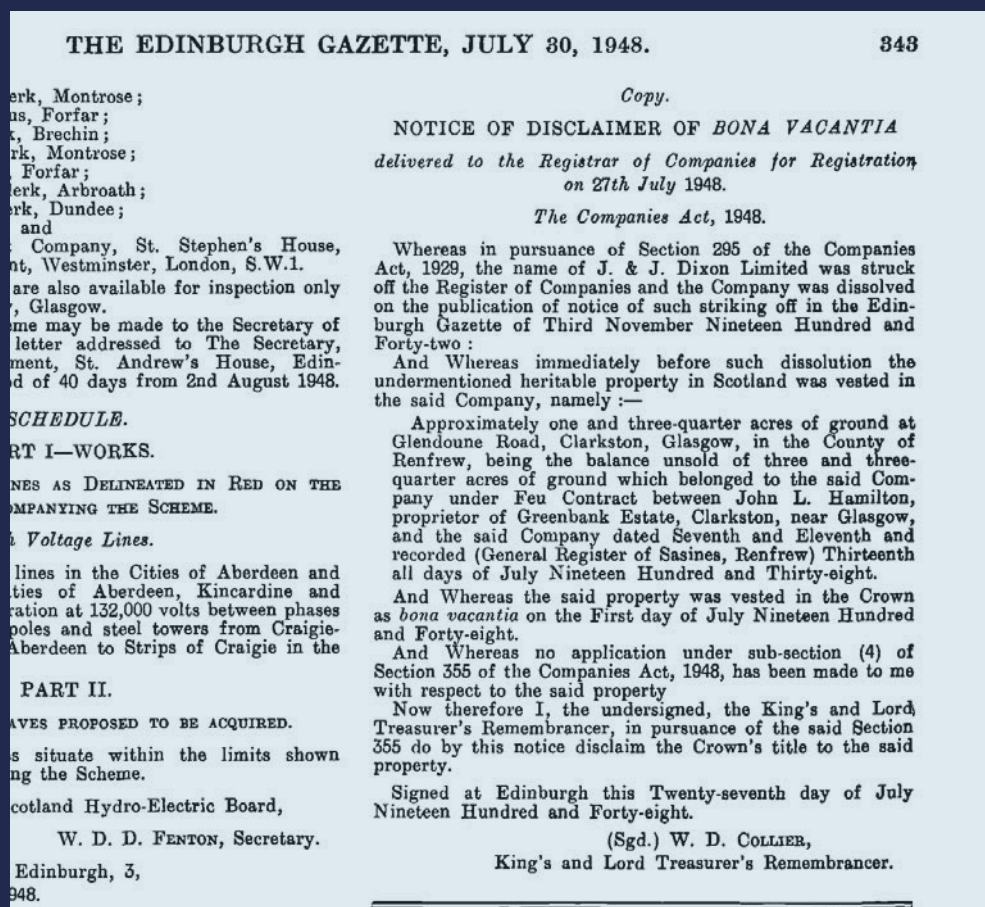
One possible existing instrument that can be built on is the Development Management Scheme (DMS). This is commonly used for new housing developments in Scotland, and is a commons-like governance structure which allows owners to participate in collective decision-making, management and maintenance of common property, and where membership of the scheme is registered in the property title. There are cases where only new-build homes are included in the DMS, but existing homes are not currently part of the same Development Management Scheme as the houses being built and there is no clear existing pathway for the accession of existing homes.

There is a potential to demonstrate the process for allowing extant property owners to join the DMS, and test the leverage points above, especially decision-making infrastructure that are more participatory and decentralised, going beyond the existing requirement for annual general meetings. These learnings can also be applied to contexts where existing neighbourhoods may choose to establish a DMS from scratch.

Questions for Discussion

- How far can Development Management Schemes be evolved to expand their potential use cases? When might new mechanisms of layered commoning be needed and what form would they take?
- How can we develop democratic governance mechanisms of layered commoning beyond the current model of AGMs and committees to be more participatory, agile, decentralised and transparent?

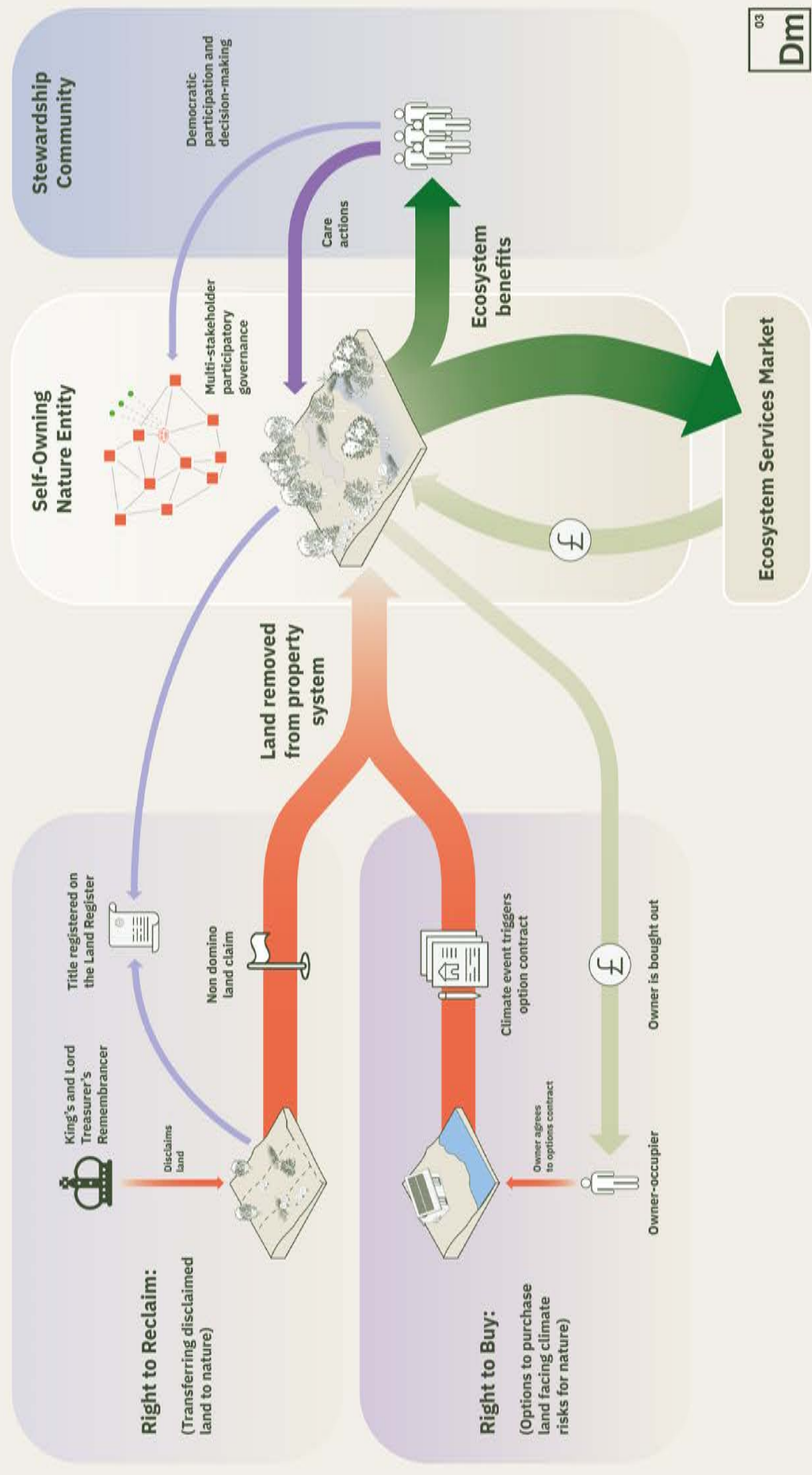
Nature Right-to-Reclaim and Right-to-Buy



Image

King's and Lord Treasurer's Remembrancer's Notice of Disclaimer in the Edinburgh Gazette (1948).

One of the critical future risks the land system in Scotland faces is that the climate crisis could induce shifts in how we value land, at least on the land market. There are two key scenarios which could lead to significant changes, but also provide opportunities for proactively transferring the land from private ownership to being held in trust for conservation, cared for by **commons stewardship**.



Scenario 1: ‘valueless’ land becoming valuable due to natural capital

One of the scenarios is that land previously considered of low market value will become valuable due to its potential for natural capital investment. If that land is currently unowned, it may shift incentives to make the transaction costs of claiming that land worthwhile.

The Land Register of Scotland currently has registered almost 90% of the land mass of Scotland, and is aiming to be functionally complete by the end of 2024. As a byproduct of this process, land that is unowned - some of which will have been “disclaimed” by the Crown (via the King’s and Lord’s Treasurer Remembrancer) - will be revealed.

Property is disclaimed normally because it has no economic value due to lack of use or developable value; these disclaimed lands can be verges or small infill plots. However, these lands will have other forms of value. The KLTR are already beginning to recognise community value (the **Ownerless Property Transfer Scheme**¹), and are starting to hand over land to the local community for nominal sums instead of disclaiming.

As natural capital becomes more prominent in the land economy, this may shift the valuation of this formerly valueless land as a new source of speculation based on ecological value (e.g. sale of biodiversity credits) arises, leading to potential *non domino*² claims on disclaimed land, and a new form of enclosure based on ecosystem value speculation.

1

Consultation responses and analysis. (n.d.). KLTR. Retrieved October 30, 2023 → <https://www.kltr.gov.uk/bona-vacantia/ownerless-property-transfer-scheme-opts/opts-consultation-and-analysis-report/>

2

Acquiring ownership to land by possession: is possession really nine-tenths of the law? | Shepherd and Wedderburn. (n.d.). ShepWedd.com. Retrieved October 30, 2023 → <https://shepWedd.com/knowledge/acquiring-ownership-land-possession-possession-really-nine-tenths-law>

Scenario 2: once valuable land becoming valueless due to climate risks

The climate crisis is posing a risk to landed property, especially residential property, due to sea level rise, flooding, coastal erosion, etc. rendering such land potentially uninhabitable and negatively impacting its market value.

This could have knock-on social costs, for example in residential properties, the negative equity could limit the ability to sell, disrupting retirement planning, in addition to forced relocation from homes. These risks, if underaccounted, can also affect an insurer's abilities to pay out in the case of exceptional climate events.

A managed retreat strategy can enable an orderly relocation of households in at-risk areas, which will often include acquisition of the affected property. While such property may have diminished value for human use, such land will have ecological value, such as providing increased habitat and allowing river systems to flood naturally to reduce flood risk downstream in the river system.

Concept: Self-Owning Nature Trust

These impending value shifts provide an opportunity to remove land from the property system. Both of these cases feature land that has value that should be preserved for the ecological commons. Each of these cases suggest a potential mechanism for transfer away from the property system, and both require the means to hold and manage the land once it has been transferred.

Nature's Right-to-Reclaim

What if nature itself had a right to reclaim land that is ownerless, and hold and maintain that land for the benefit of the ecosystem?

What would be the steps needed to allow nature to own itself, including identifying sites of strategic ecosystem value, making a *non domino* claim over the land, and developing a long-term management plan?

Can the potential value flows around ecosystem services allow it to self-sustain its operating costs, rather than be extracted from? What business models might be required?

Nature's Right-to-Buy

What if as part of a managed retreat strategy, nature itself had the right to buy land that is facing climate risks, and hold and maintain that land for the benefit of the ecosystem?

Can instruments such as options contracts be used to make this an orderly process for existing owners? Currently, options contracts are often used for land speculation for private development which brings **its own issues**¹. What kind of measures are needed to ensure that options are used in an accountable and transparent way?

Can this be used to take over the spiralling insurance liabilities as an alternative to reinsurance? What sort of funding would this need, and what would be a fair price for existing owners given its the land's future risks? For example, could insurance companies help fund the acquisition of land upstream for nature restoration to prevent flooding downstream and therefore reduce their potential liabilities? Insurance and pension funds are already buying land as part of their portfolios – could a Nature Right-to-Buy approach be an investment that delivers multiple value (liability reduction, environmental, social)?

1

Scottish Land Commission: Transparency of option agreements. (2023). Diffley Partnership → https://www.landcommission.gov.scot/downloads/64e33ff4e5519_Diffley%20Transparency%20Research%20Report.pdf

Self-Owning Nature Entity

Both of these approaches would require the creation of a legal entity that represents nature and owns its land assets. What is the governance structure of this entity? How can this be designed to ensure stewardship is in the best interest of the ecosystem? What kind of regional and national support might support communities in performing their stewardship duties in accordance with best practices?

In the USA, the precedent for self-owning nature has been set, through holding the land through an unincorporated association where the associated members are ecosystems, achieving tax recognition from the Internal Revenue Service, through the work of Thomas Linzey of the Center for Democratic and Environmental Rights. What would be the Scots law-compatible equivalent for entities to hold these land assets?

Opportunities for demonstration

As the *non domino* claims process already exists, a piece of ownerless land can be claimed in a pilot in order to test and design the governance structure of a self-owning nature entity. Alternatively, as the King's and Lord Treasurer's Remembrancer is the sole body through which ownerless property is managed, there is an opportunity for proactive policy development, similar to their Ownerless Property Transfer Scheme, with the explicit aim of transfer to a nature conservation entity. One-off precedents already exist, such as the Culduthel Woods², the land on which is originally disclaimed by the KLTR. A purpose-designed pathway can ensure the scaling of this approach beyond exceptional individual cases.

2

Group, C. C. W. (n.d.). Culduthel Community Woods | Land-Ownership. Culduthel Community Woods. → <https://www.culduthelwoods.org/land-ownership>

This can be done in tandem with a framework establishing the governance design and standards of the local entity for holding the land, and stewardship guidelines and processes to ensure care of the land is done in accordance with best practices appropriate to the local ecosystem, possibly co-designed with a natural heritage agency.

Nature's Right-to-Buy can be demonstrated through a study modelling the potential impact on value across an ecosystem area (e.g. a river basin or coastline), and also by modelling the potential ecosystem value of reclaiming the most impacted properties back for nature conservation. The transfer mechanism can be piloted through the drafting of a private options contract, testing the optimal parameters. The party owning the option can also be a self-owning nature entity, and can be set up and tested as above.

Questions for Discussion

- What other impending shifts in the land economy could benefit from transfer to a Self-Owning Nature Trust?
- Does this land need to be 'self-owning' in a *de facto* or *de jure* way? What are the mechanisms in Scots law that allow land to own itself?
- What are the minimum criteria for land to be self-owning (e.g. an asset lock that prevents future sale, agreements for maintaining that land)? What would be the best practice for governing self-owning land?

Land Relationships Register



Image

Sasine ceremony for the transfer of House of the Binns to the National Trust for Scotland in 1944. (Source: National Trust for Scotland)

Precedent: General Register of Sasines

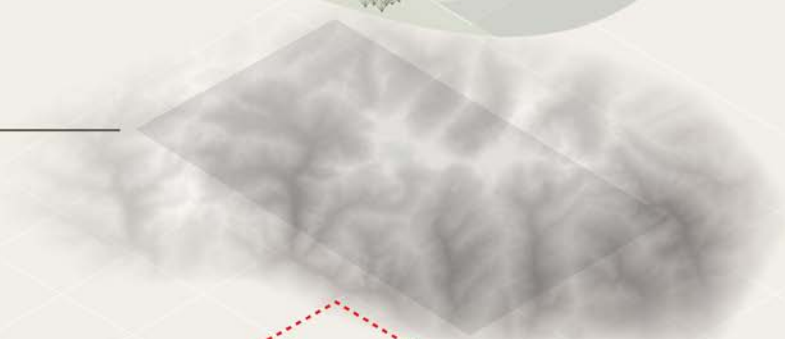
Scotland has the oldest national public land register in the world, the General Register of Sasines established in 1617. It is a relational register, recording the transactions over land/property, i.e. the relationship between the incoming and outgoing owners during the act of transfer, rather than ownership as a static fact.

Since the Land Registration (Scotland) Act 1979, Scotland has introduced a cadastral (map-based) Land Register of Scotland, based on the Ordnance Survey, recording title. While some forms of property-based relationships are recorded, such as burdens and servitudes, information for identifying a fully relational connection to the benefited property is not always straightforwardly available, especially for older entries.

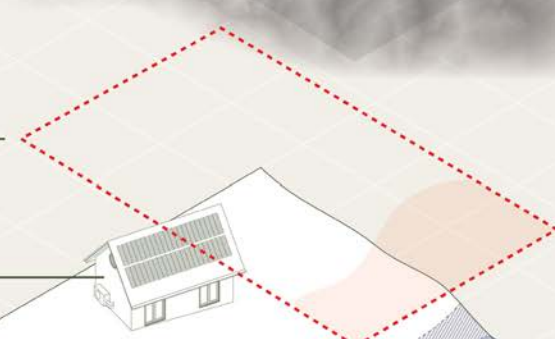
Ecosystems and habitats



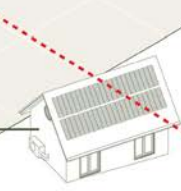
Hydrology, catchment-based relationships



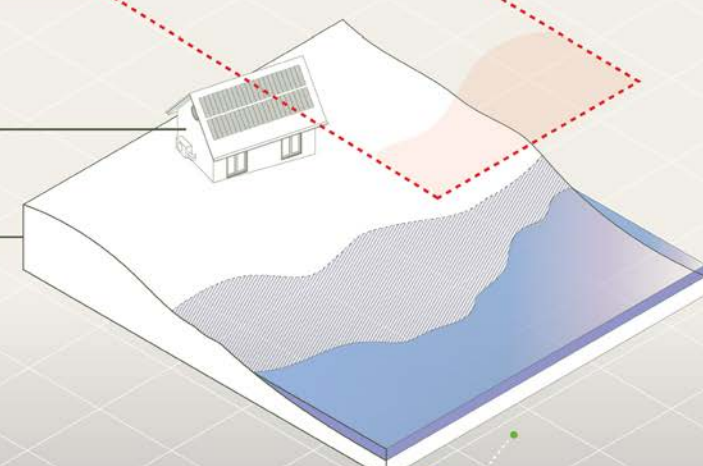
Property boundaries, servitudes and burdens



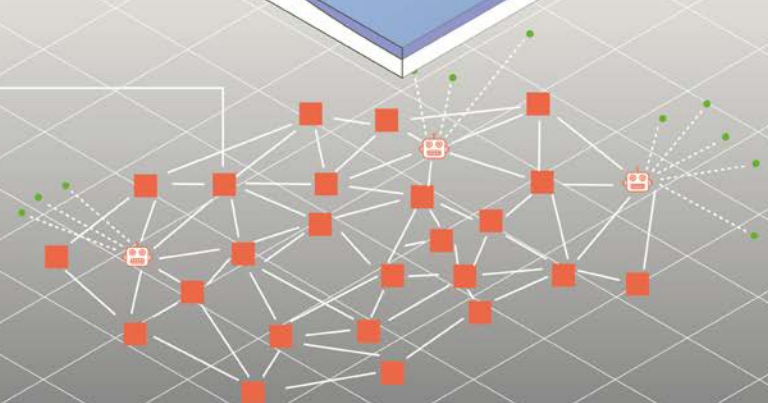
Land use, planning, townscape



Topography and geology



Relationships and agreement-making



Concept: Land Relationships Register

As Scotland transitions to a cadastral system, land is being reduced into bounded territories, rather than understanding them as existing in a web of relations, from those with the land's immediate neighbours and local communities, to the habitats and ecosystems with which the land intersects. What if the Land Register is reoriented around the relationships around land, in a Land Relationships Register?

Opportunities for demonstration

The Land Register already has available an open dataset of the cadastral parcel, showing how land is currently bounded by property boundaries. This can be presented alongside other datasets, many open and publicly-available, that show other forms of land-based relationships, such as:

- Property-based relationships (e.g. property-to-property relationships such as burdens, servitudes, securities)
- Social-based relationships (e.g. administrative and ecological boundaries, proximity to social infrastructure such as schools, GPs and their catchment areas, post offices, transport)
- Ecology-based relationships (e.g. habitats, geological zones, watersheds)

As a first provocation, this can be presented either as a civic tech online platform or as an art installation. This demonstration

can be prototyped relatively quickly by mapping the already available open datasets. The interaction design can be as simple as allowing users to look up their property, and explore the relationships of which their land is a part. Initiating this conversation in a cultural context can start addressing land relationships in a more intuitive and relatable way.

Once the platform is built, it can also serve as the starting point to build additional interfaces, such as a platform for forming and registering voluntary commitment-based agreements with land and other agents based on new forms of relating to land, as new forms of **partial commons**. For example, property owners could voluntarily commit to new forms of informal conservation and climate burdens that go beyond the current definition and register their commitments publicly (currently, climate burdens are defined by statute as burdens on the property titles that require the land when developed to comply with specified greenhouse gas emissions mitigation standards). This can be in the form of:

- Committing to a 'servitude' to a rivers trust that allows a portion of riverside land to be flooded naturally, reducing risks downstream.
- Committing to a 'servitude' to a wildlife trust that allows maintaining a passage for certain migratory species
- Committing to a 'burden' to downstream land that requires retention of a certain percentage of stormwater.

In common law jurisdictions such as the USA, conservation easements are already well-established for encoding ecological considerations into property titles. Starting land-based agreements in a voluntary, cultural space can help kickstart a civic conversation over the rights and responsibilities of possessing land, made relevant through personal interaction.

Questions for discussion

- What new relationships could be recorded, and how could these be represented and communicated?
- What parties might have relationships with land that need to be additionally represented?
- How might making these relationships visible impact the way we use, develop and care for land, reevaluate the concept of property boundaries, and reveal our common responsibilities?
- Can this Land Relationships Register serve as a platform for new forms of relationships and agreements to be made between parties?

Carbon Storage Lease



Image

Ian Shiell and licensed for reuse under this Creative Commons Licence. → <https://www.geograph.org.uk/reuse.php?id=3730924>

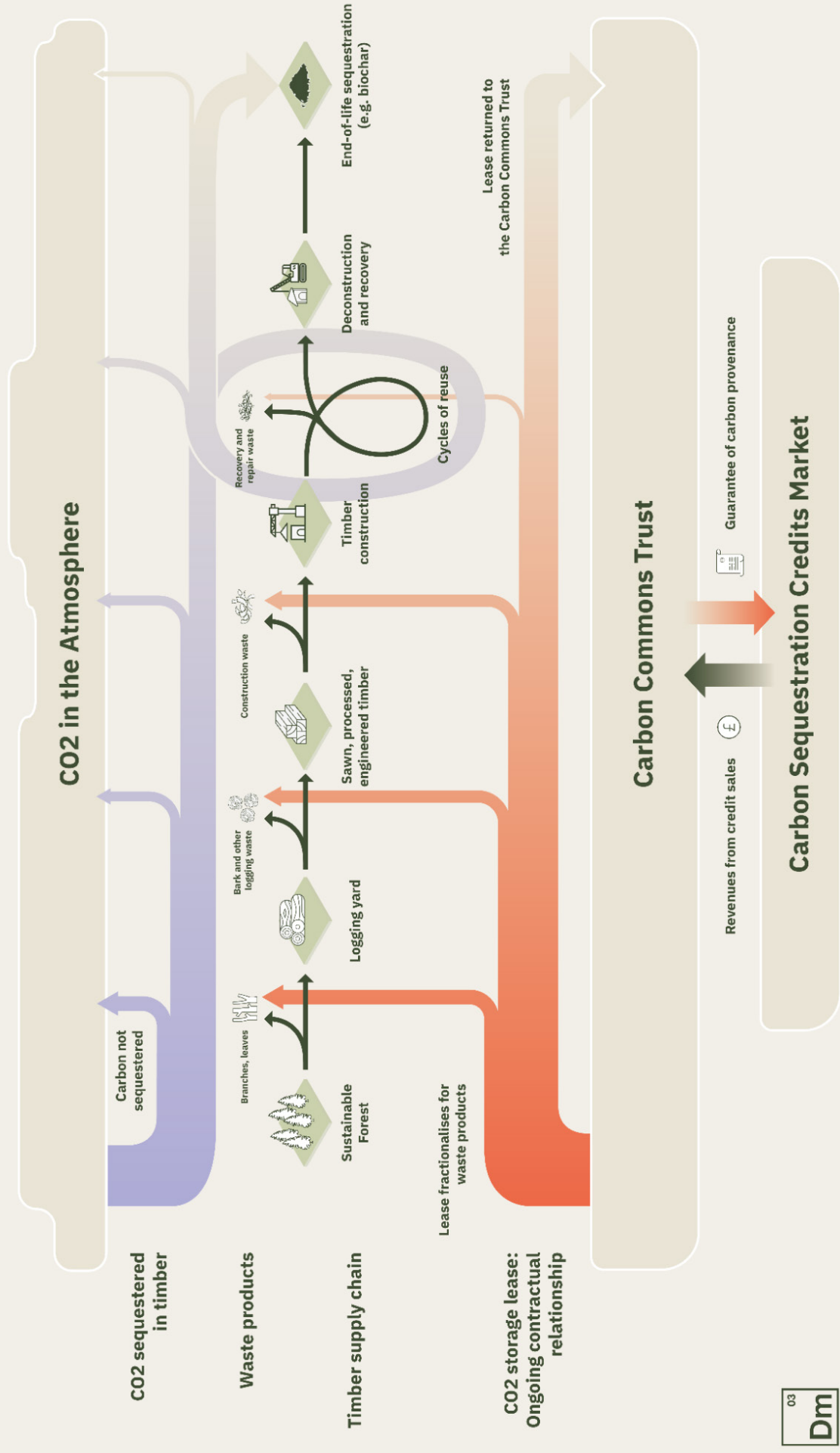
Precedent: Sharing Flows – Riparian Rights

Material and mineral rights generally come with land ownership. Some mineral rights are exempt from private ownership being reserved to the Crown (see the inter regalia), common or state interest (e.g. oil, coal, gold, silver). Rights over these materials are reallocated based on separate ownership title, or licences. The licensing system recognises the common interest in scarce or nationally significant material resources and establishes an ongoing relationship with a body to represent this interest, in this case, usually the UK government and its agencies. But are there other ways of recognising that materials, in an increasingly resource-scarce world, are part of our common heritage?

One critical fact to recognise is that many materials are not fixed, but exist in flows through the land – for example, in the case of construction, they may remain in the land until they are mined, become part of a supply chain flow until they are assembled on as a building, before being deconstructed at the end of the building's life for secondary reuse as part of a circular flow of materials. So how does the land system currently deal with flows?

Water (riparian) rights in land recognise the different approach needed to govern **common flows** over land, such as for streams that run across property boundaries. For example, a landowner downstream, or adjacent, is entitled to receive the natural flow of the river, undiminished in quantity and quality – this places obligations on owners upstream not to diminish the flow and limit the amount that can be extracted.

How can we reimagine the way our land system deals with material flows, as we move towards a fully circular economy?



Reimagining Flows: who owns sequestered carbon in timber?

Commercial forestry for timber in Scotland is a substantial potential source of carbon sequestration and storage, but is currently not eligible for carbon credits. This is due to the Woodland Carbon Code¹ scheme administered by Scottish Forestry, which requires a financial additionality test:

“Under the financial additionality test, a project is only ‘additional’ if it requires carbon income to be financially viable. [...] Where a project has significant revenue opportunities, say from timber production, it is vital that due diligence is applied as to whether carbon payments are needed.”

– Pat Snowdon, Woodland Carbon Code²

This restriction also recognises one of the material risks of using construction timber for carbon storage: for it to be a meaningful step towards decarbonisation, carbon sequestered by timber should in theory store the carbon for a long term timescale (e.g. 100+ years), i.e. the timber cannot be burned or decomposed releasing the carbon back into the atmosphere – currently once the timber is sold there is no means of tracing or ensuring that this happens. If this carbon provenance across the timber’s lifecycle can be assured for construction timber, the use of carbon credits for construction timber could potentially recognise the added value of timber construction and subsidise its costs, to make it additionally competitive with concrete construction (which has a low cost that masks its wider environmental costs), and also incentivise its long-term care and reuse, as part of a critical realignment of incentives needed to ensure sustainable building.

1

Forest Carbon | The Woodland Carbon Code | UK government backed standard. (n.d.). [Www.forestcarbon.co.uk. → https://www.forestcarbon.co.uk/knowledge-base/woodland-carbon-code](https://www.forestcarbon.co.uk/knowledge-base/woodland-carbon-code)

2

Williams, S. (n.d.). Blog: new additionality rules for the Woodland Carbon Code. Scottish Forestry → <https://forestry.gov.scot/news-releases/blog-new-additionality-rules-for-the-woodland-carbon-code>

Concept: Carbon Storage Lease

Can a long-term / perpetual instrument such as a lease agreement be used to ensure the carbon remains stored throughout the lifecycle of the timber?

This instrument could have certain characteristics to ensure that the outcomes of maximum carbon storage and circularity are realised. For example:

- **A lease:** a legally binding, transferable, and ongoing agreement that the carbon remains stored in the timber through the lifecycle, with obligations on its use, repair, and disposal. The lessee party to the lease is transferred with the timber along the supply chain.
- **Fractionalising:** the lease is linked to the quantity of carbon stored in a given mass of timber. Wasted material during processing splits the lease and its obligations. This ensures there is an incentive to minimise waste, or if waste is unavoidably created, there is an enforceable obligation for it to be disposed of in a carbon-storing way.
- **Lease-issuing entity ('Carbon Commons Trust'):** certifies the ongoing storage of the carbon and acts as an intermediary with the carbon credits market. The entity acts as the permanent lessor party to the lease.
- **"Rent":** an ongoing payment to the current holder of the timber as an incentive for the storage of the carbon; it could be a mechanism to distribute the value created by natural capital to the many stakeholders involved.

Opportunities for demonstration

The lease system could be tested for different stages of the timber life cycle, as preliminary steps prior to a full test across an entire supply chain, its secondary reuse, and end-of-life disposal.

For example, by partnering with a commercial forestry company, the issuing of a lease can be tested. This test can demonstrate the calculation of carbon sequestered during new forestry, the mechanism for transferring the lease as the raw lumber is transferred to the sawmill, and also test the fractionalising component of the lease by measuring the quantity of material wasted during milling.

The construction of temporary timber structures, such as exhibitions or pavilions, are also a useful demonstration opportunity that can cover the sourcing, construction, use, and deconstruction stages of the lifecycle in a relatively short time. The carbon already stored in the timber can be calculated, and the wastage of materials across the different stages can be tracked.

There is also an opportunity to test the incentive structures behind the lease, by testing the terms of the lease through a digital platform rather than an actual legal contract. This platform could test the material registration, carbon storage measurement/estimation, the materials tracking protocols and the 'rent' payment infrastructure.

Questions for discussion

- **Incentive structure and financial flows:** how can the incentive structure be designed to ensure all parties comply with the obligations for storing the carbon? How can the financial flows be designed to balance the one-off sale of the carbon credit and the ongoing cost of storing the carbon? How can the value created by this kind of natural capital be shared with the communities affected by it – for example, can it be used for the common good in the forestry’s neighbouring areas, e.g. establishing a Community Benefit Fund?
- **Ownership of material:** does the timber itself need to be owned by the entity and leased to provide the mechanism for enforcing the terms of carbon storage?
- **Shifts in forestry practices:** by offering potential additional revenue from forestry, can this shift incentives from prioritising volumes of production to quality and sustainability of timber produced?

Next steps

We will use this paper as the basis for engagement on land governance futures, bringing together a broad range of stakeholders and potential partners across the public, private and civic sectors, to explore these provocations, their viability, and opportunities to collaborate.

We will iterate this discussion paper into a paper jointly published by SLC and DML to share the next iteration of these ideas and the learning from the workshop.

We hope this will be an opportunity to kickstart a new civic conversation on land, and be a springboard for demonstrators, experiments, and help reimagine our land system from the bottom up.

