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Circular

Rapid Review: Taxation and Fiscal Policy for a Circular Economy

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Executive Summary

The current use of fiscal policy in Australia to drive a circular economy (CE) is extremely limited and warrants exploration for its potential to drive both businesses and consumers towards CE activities. This rapid review sets out to consolidate the international literature regarding fiscal policy to drive a CE, both in terms of proposals and experiences with implementation. Through this review, we identify current best practice and identify opportunities for fiscal policy reform in Australia.

The report provides a description of the basic structure of the tax system in Australia, followed by a review of the literature defining the various dimensions of a CE and the transition to a CE with the aim of highlighting some possible policy approaches. Some of the key points identified in this part of the analysis include:

- To enable the paradigm shift proposed in CE literature, a corresponding fundamental change will be required in the architecture of the tax system.
- In developing circular fiscal policy, it is important to distinguish between resources flowing through the economy and fixed assets and infrastructure that facilitate that flow.
- The design and location of infrastructure highlights the importance of a geographic or spatial dimension and opens the possibility for targeted, locality-specific fiscal policies.
- CE fiscal policy should be applied at three different levels—the micro (product) level, the meso (precinct/local neighbourhood) level, and the macro (state or national) level. Micro-level policies that focus on individual industries or resources should be complemented by meso- and macro-level policies that seek to manage the economy of a region more holistically.
- The transition of our trading partners to a CE will impact demand for Australian resources and therefore will likely have a substantial impact on Australian export income.
- As the Australian economy is structured differently from resource importing economies, the pathway to a CE for Australia will be unique to the Australian context. Consideration needs to be given to the distinctive characteristics of the Australian economy, including large distances, long supply chains and significant dependence on resource extraction and export.
- Striving for shorter supply chains—connecting local producers with local consumers and relying less on international trade—increases local resilience and economic prosperity, reduces energy use, waste, and pollution

- Meso-level strategies related to cities and precincts should engage with strategic town planning and property development, providing fiscal incentives for the delivery of circular infrastructure.
- Reducing overall demand (the preferred end of the waste hierarchy) and reducing production from virgin materials is critical for enabling a successful transition to a CE.

Having identified these possible avenues, a review of the international literature related to fiscal policy then explores possible policy settings to drive a CE. Key themes arising from this literature include the following:

- Several studies highlight the need for fundamental tax reform to drive a CE in shifting the focus of taxation away from income and towards consumption, in particular consumption of non-renewable resources
- Subsidies and charges should be redirected to support investment and uptake of CE activities and practices. For example, the current tax breaks for fossil fuels should be removed to level the playing field between renewable and non-renewable energy providers. Similarly, road user charges for low-emissions and zero emission vehicles are limiting uptake of these.
- With a reduction in the flow of resources, the tax base of governments will need to progressively shift towards taxing wealth, land and assets or the usage of land and assets. For example, through taxes on the unimproved value of land and taxes on wealth to enable an equitable transition.
- To encourage the shift away from polluting assets such as fossil fuel power stations, there are proposals to spread the depreciation of these assets over their lifetime to reduce the value of these assets from tax write-offs
- Given that the CE implies shorter supply chains and increased local resilience, attention should be given to increasing local economic activity in regional towns and villages. Local circular economic activity in regional NSW can be supported by fiscal policies that support decentralisation—incentives encouraging people to move from the cities to the regions.
- R&D tax concessions need to be much more accessible to a wider range of enterprises including small start-ups
- Tax holidays may be considered for specific circumstances, but need to be used judiciously
- Expanding patent box tax incentives could be considered for CE along with incentives for CE technology investment
- Differential adjustments to GST/VAT can be used to drive business decisions, for example to choose reused or recycled materials. Reductions in GST/VAT have also been used to

influence consumers to adopt CE practices such as repairing rather than replacing, or to increase public rather than private transport use.

- There are problems with this approach if taxation is not harmonised over different jurisdictions, and firms may shift their operations
- Experience in Sweden has shown that reducing GST/VAT on repair is not sufficient to ensure greater uptake for all product types. Such an approach must be incorporated with a range of other policy measures including awareness raising, regulation, product guarantees, greater labelling and information on reparability
- Waste levies are a foundational fiscal policy in use in Australia and elsewhere
- A progressive waste hierarchy linked waste levy has been proposed in Sweden, with a similar system in South Korea. Initial assessment of the Swedish example suggests a waste hierarchy based tax scheme needs to be carefully designed.

In the final section, we discuss the application of international experiences in the Australian context at all three levels of government, to identify specific opportunities for fiscal reform. Some key, specific recommendations include:

- At the Commonwealth level, reforms to the GST and resources tax have significant potential to drive change.
- At the state level, in conjunction with major tax reform, there are opportunities to reduce or remove payroll tax and increase land tax and mining royalties. Transport related levies are fairly well aligned with the circular economy in encouraging public transport and service use over private transport, but could be further tailored.
- At the local government level, strategic town planning, including land use and infrastructure planning, could be designed to enable the delivery of circular economy precincts. For this to be successful, they would need to be harmonised with the local Council costs and income from rates, fees and charges
- Fiscal policies will need to be accompanied by other policy instruments, so may be most usefully considered as part of a policy package

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1 Introduction

1.1 Study objectives

The current use of fiscal policy in Australia to drive a circular economy (CE) is extremely limited and warrants exploration for its potential to drive both businesses and consumers towards CE activities. While circular public procurement rules are being developed by various state governments and there have been direct grants for recycling infrastructure, the influence of taxation on the circulation of resources is largely limited to landfill levies, which are not consistently applied. In order to drive a CE for New South Wales and more broadly in Australia, it is important to understand the fiscal policies that may currently help or hinder CE activities, and to identify opportunities to implement fiscal policy innovations.

This rapid review sets out to consolidate the international literature regarding fiscal policy to drive a CE, both in terms of proposals and experiences with implementation. Through this review, we identify current best practice and identify opportunities for fiscal policy reform. Fiscal policy refers to the use of government spending and tax policies at all levels of government including federal, state and local. It includes the tax system as well as government procurement and subsidies, and in this review we include both, but focus more on taxation.

In this section, we explain the objective of this review and the basic structure of the tax system in Australia. Section 2 provides a review of the literature defining the dimensions of a CE and the transition to a CE with the aim of highlighting some possible policy approaches.

Section 3 provides an international literature review regarding fiscal policy settings to drive a CE. Then in Section 4, we review current state and Commonwealth fiscal policy in Australia and discuss opportunities for fiscal reform.

Finally in Section 5, we provide some recommendations for further consideration based on the international literature review and review of current fiscal policy in Australia.

1.2 Structure of the tax system at different levels of government

Nature and Purpose of Taxation

A tax is a compulsory, monetary and unrequited payment, enforceable by law, imposed by the government on individuals and businesses. Governments in Australia rely on taxes as the dominant source of revenue to finance their expenditures. In addition, taxes can also be used to encourage/discourage certain activities or behaviours, to stabilise the macroeconomy, and to

modify the distribution of income. Taxation can correct market failure, including negative externalities such as pollution and greenhouse gases emissions. It can also be used to foster the development of certain industry sectors or enticing foreign investment through either tax concessions or differential tax treatment of certain entities.¹

Classifying taxes and the tax structure

A tax can be classified in many different ways, including by reference to its jurisdiction (Commonwealth / State / Local), type (direct / indirect), base (income / wealth / production / sale and use of goods and services/ the performance of activities or broad-based / narrow-based), tax rate (poll tax / regressive / proportional / progressive or specific / ad valorem) and by spending intention (general revenue / earmarked). Most countries will apply a variety of taxes to satisfy the revenue needs of their government depending on the social, economic and political needs at play.¹ The system of tax classification developed by the Organisation for Economic Cooperation and Development (OECD) identifies six principal types of taxes:

- taxes on income, profits and capital gains;
- social security contributions (SGC in Australia is similar to employer social security contribution);
- employer payroll taxes;
- property taxes;
- taxes on goods and services; and
- other taxes.

Table 1 summarises the structure of taxes at different levels of government, and in the Appendix there is a table of tax revenue in Australia.

Table 1: Australia's tax structure by type and jurisdiction

	Commonwealth	State and Local
Income	Income tax including Medicare Levy and Capital Gains Tax (CGT) Minerals Resource Rent Tax (MRRT)	
Wealth or property	Leases on Commonwealth land	Land Tax, Stamp Duties, Municipal Rates, leases on Crown land (including pastoral and mining leases)
Production or employers' payroll	Fringe Benefits Tax (FBT) Super Guarantee Charge (SGC)	Payroll Tax

Provision of goods & services	Goods and Services Tax (GST), Wine Equalisation Tax, Luxury Car Tax Excises* & Levies Taxes on Foreign Trade	Gambling Taxes Insurance Taxes Waste levies Emergency services levy
Use of goods & performance of activities	Franchise Taxes*	Motor Vehicle Taxes Franchise Taxes
Use of assets and facilities		Road tolls, Road usage charges (for electric vehicles), Public car park fees

Note: * These include Tobacco Excise and Franchise Taxes collected on behalf of the States.

Source: ABS, *Taxation Revenue, Australia*, Cat no. 5506.0, Canberra: ABS, 2002.

The Commonwealth Government, via income tax and the GST, is the dominant tax imposer in Australia. The main sources of revenue of State Governments are employers' payroll taxes and taxes on property, while that of local governments are council rates and levies. By manipulating these different forms of taxes, governments can influence or modify aspects of social behaviour and provide benefits to society as a whole.¹

“... governments can use tax incentives (or tax expenditures) as a means of encouraging the development of an industry sector or enticing foreign investment. This can be achieved through tax breaks or concessions providing the taxpayer within, for example, the relevant industry sector, a smaller tax burden than otherwise would be payable. Further, particular industries or groups of special taxpayers may receive different tax treatment to the norm due to the way the industry operates or the way in which the special taxpayers earn their income. This can be achieved by providing some taxpayers with the opportunity to take advantage of particular deductions.”¹

Such tax expenditures have already been used in Australia to achieve environmental goals such as ‘promoting biodiversity conservation, reforestation, abating pollution and land degradation, and encouraging green technological innovations’.² This mechanism of utilising tax incentives, concessions and subsidies is based on the major source of government revenue, namely, income tax which effectively taxes labour, and is an intervention that offends the fundamental premise of any tax system, that is, neutrality.³ However, governments have justified the use of such tax expenditures in order to optimise the allocation of resources for the benefit of society, that is, correcting a failure of the free market.^{2,4,5} What this report will demonstrate is the variety

of alternative fiscal measures that have been used in other jurisdictions to encourage the CE . But first, the CE needs to be clearly defined.

2 Key aspects of the circular economy relevant to fiscal policy

This review acknowledges the reliance of industry on supportive fiscal policy settings to enable a successful transition and adoption of a circular economy. Yet there are widely divergent interpretations of a CE as the concept has emerged from a number of different fields of study. To effectively drive a CE in a comprehensive way, it is useful to define the variety of CE perspectives as these point to the range of fiscal policy approaches that may be adopted to facilitate the transition to a CE.

In this section we start from first principles: What is the scale and scope of the change proposed by a transition to a CE? What is an economic system? How do these broader questions inform the process of identifying the fiscal policy levers that should be considered?

2.1 Modifying the existing system or driving a paradigm shift

Numerous proponents of a CE argue that the transition to a CE is a fundamental change or paradigm shift in world economic systems, and not merely a modification of the existing system⁶⁻⁹. In seeking to adopt CE strategies, many businesses suggest they are 'becoming more circular'. That is, they are modifying existing processes or practices within the context of the prevailing economic paradigm. Weigend Rodriguez et al.⁹ suggest that CE debates rarely explore alternative futures. Few would ask: What would a fully circular, zero waste, zero pollution, economic system look like?

A review of the definition of a CE developed by Ellen Macarthur Foundation (EMF) offers a way of distinguishing between a modified linear economy and a fully CE:

1. 'Design out' waste and pollution
2. Keep products and materials in use (or 'in circulation')
3. Regenerate natural systems.

Strategies to reduce, reuse, recycle and the like, focus on particular resources or waste streams to reduce waste or pollution. They tend not to consider the effects on the economic system, as a whole, including the inter-relationship between different resources with the objective of achieving zero waste and zero pollution. There is a stark difference between incremental

strategies, and the objective of a fully circular economic system—one that is designed to continuously circulate materials, produce zero waste and zero pollution, while regenerating natural systems in the process. The former seeks to minimise harm, while the latter seeks to create an economy in which daily economic activities have a net positive impact on ecological systems.

An example of this is the New Zealand Taxation working group's report on green taxes. Their report includes Land Value Tax (LVT), fees on water and waste, cross subsidisation of public transit from fuel excise and prices on carbon, and find these measures aim to change the behaviours of economic actors while leaving the structure of the system untouched. By contrast, they suggest that measures indicative of a shift to a CE include incentivizing recycling throughout a product's lifecycle, shifting from a tax on labour to a tax on resources and comprehensive taxation of land to promote optimal use¹⁰.

Policy proposals should embrace the paradigm shift, whereby a desirable, fully circular, future is identified and then a path is plotted to achieve this goal. In discussing the implications for tax systems, Vence and Perez argue that the limited success of current, first generation, environmental taxes require a debate on the very architecture of the tax system. They recognise though, that "a radical and comprehensive change of this magnitude is unlikely to occur in the short term, it may be more effective to think of a sequence of target-oriented changes for the transition to CE."¹¹

Key point:

- The transition to a CE will require a restructuring of the architecture of the tax system. It is therefore important to be mindful of likely resistance to large-scale change and develop a process for targeted changes leading to the desired outcome.

2.2 A new economic system

An economic system is defined as follows: 'A system of resource allocation, production and distribution of goods and services within a given geographical area.'

In the transition to a CE there are implications not just for production processes and waste management, but also for systems of resource allocation and distribution. Indeed, the emphasis of the CE is on the circulation of resources, materials, products, and people within a geographical area. The movement or flow within the economy—from mine to factory to consumer to landfill—is dependent upon the fixed infrastructure in the subject precinct, town, city, or region. These provide the pathways upon which economic activity flows. For example, in a linear economy, water is harvested in a distant reservoir, piped through all the buildings in a catchment and then disposed of as waste into the ocean. Circular water infrastructure would harvest water locally, distribute it within a precinct, collect and clean wastewater and then recirculate it through the site.

The economy is writ large in the landscape and so a CE would be characterised by infrastructure that facilitates the circular flow of resources. By creating systems for retaining resources within the system the demand for new resources and the generation of waste both diminish.

Policies encouraging private organisations to construct and operate within the logic of a CE, should be complemented by fiscal policies supporting investment in infrastructure that supports the circular flow. This emphasis on the spatial, or geographic, circulation in addition to the temporal, life-cycle planning for products offers a more holistic interpretation of the CE.¹²

Figure 1 Economic flows in a linear economy

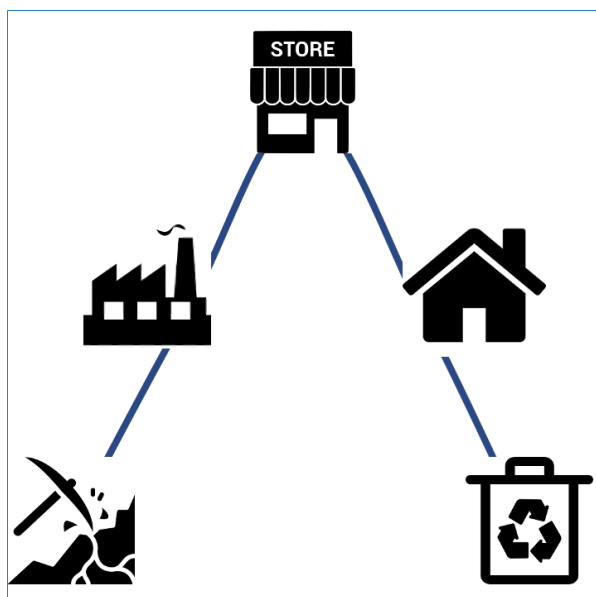
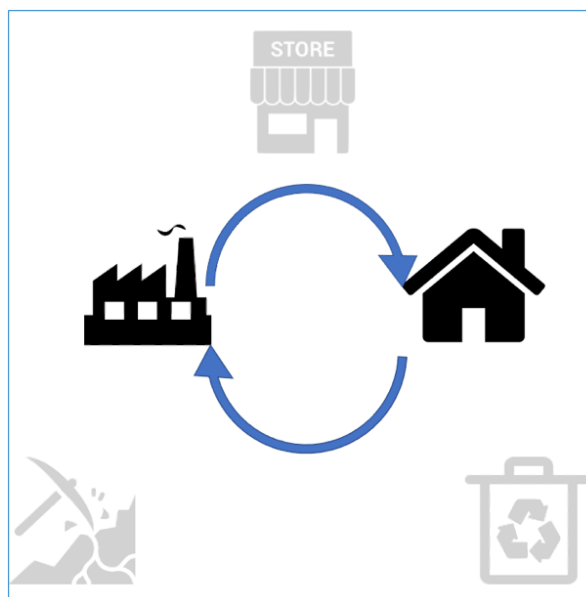


Figure 2 Economic flows in a circular economy



Key points:

- In developing circular fiscal policy, it is important to distinguish between resources flowing through the economy and fixed assets and infrastructure that facilitate that flow.
- The design and location of infrastructure highlights the importance of a geographic or spatial dimension and opens the possibility for targeted, locality-specific fiscal policies.

2.3 Macro-, Meso- and Micro-level Circular Economies

An economic system is anchored in the physical world, where prioritising local circulation can enable significant energy savings and avoid pollution compared to global supply chains. Policy proposals will therefore differ at different geographic scales, such as for Australia, for NSW, for a region, a major city, a small town, or an individual business. According to Su et al.⁵¹ the “successful implementation of the CE policy requires efforts at three different levels: micro-level, meso-level, and macro-level” (p. 216).

Micro-level CE

Micro-level CE policies refer to the life-cycle management of individual products or product categories. This tends to be the principal focus of discussions about the CE, resulting in the growing list of R-strategies—refuse, rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose, recycle, and recover. For example, the NSW Circular Economy Policy Statement (2019) and Recycling Victoria: A New Economy (2020), both focus almost exclusively on these strategies rather than meso- and macro- strategies.

Fiscal policy can be applied to drive the R-strategies, for example by reducing taxes on goods with recycled content or reducing taxes on repair services. Procurement policy can also be oriented towards the purchase of CE relevant products.

Meso-level CE

Meso-level strategies are those that encourage or seek to manage the circulation of resources or energy within a precinct. These are therefore place-based strategies that would engage with the property development industry and town planning processes. There is already a significant body of literature related to concepts such as industrial ecology, industrial symbiosis, urban metabolism and urban ecology. Each of these propose that the built environment could mimic natural ecosystems. They explore the inter-relationship between different co-located activities, seeking to improve the efficiency of an economic ecosystem, connecting outputs of all activities with inputs of other activities.

Strategic town planning and capital investment in this connecting infrastructure must be supported by fiscal policies that enable these emerging planning and investment strategies flourish. A key shift is from short-term speculative investment in development projects to long-term planning of the entire life-cycle of a development from planning, design, construction and then ongoing operation post construction.

A CE can also be interpreted as a way of keeping both money and resources circulating within the specified geographical area, maximising local economic benefits as well as local resilience by reducing dependence on exports and imports.

Macro-level CE

Macro-level strategies consider the net result of all activities within a nation or state, while meso-level activities examine the net result of all economic activities within a city or precinct. To determine relevant national and state policies, it is useful to firstly contrast the Australian economy, with those of the European Union (EU) and China, both of which offer many examples of CE policies. Australia has a relatively small manufacturing sector (6% of GDP, World Bank 2022) and high dependence on resource exports (68.6% of exports, RBA 2022), while the EU and China have much larger manufacturing sectors (14% and 24% of GDP respectively) and are highly dependent on resource imports.

While this review will draw on examples from the EU, the transition process will necessarily be different and must be tailored to the uniquely Australian situation—an economy that is dependent on selling virgin resources and importing manufactured goods. As others, particularly trading partners like China, transition to a CE, they will require fewer Australian resources, reducing their manufacturing costs but also reducing revenue for Australia. Therefore, the transition to a CE requires that Australia re-imagine its role in the global economic system and actively manage the costs and consequences that arise due to the actions of other nations. Policies at this macro level should seek to enhance the benefits of the transition to a CE and manage these risks.

Another macro-characteristic of the Australian economy is the large distances involved in the distribution of goods. This immediately suggests that costs across the entire economy could be reduced by decreasing dependence on oil imports, which provide transport fuel, perhaps through the transition of our transportation sector to electric vehicles.

Key points:

- In developing circular fiscal policy, it is important to recognise opportunities at different geographic scales (national/ state/ city/ town / neighbourhood).
- Micro-level policies that focus on individual industries or resources should be complemented by meso- and macro-level policies that seek to manage the economy of a region more holistically.
- The transition of our trading partners to a CE will impact demand for Australian resources and therefore will likely have a substantial impact on Australian export income.
- As the Australian economy is structured differently from resource importing economies, the pathway to a CE for Australia will be unique to the Australian context.
- Striving for shorter supply chains—therefore connecting local producers with local consumers and relying less on international trade—increases both economic prosperity and local resilience.
- Meso-level strategies related to cities and precincts should engage with the strategic town planning and property development, providing fiscal incentives for the delivery of circular infrastructure.

2.4 Supply-side vs demand-side strategies

While the growing list of R-strategies identifies numerous potential policy options, one literature review⁷, examined 114 definitions of the CE and noted that the most common understanding of the CE, particularly amongst practitioners, was the original 3R strategies—reduce, reuse, recycle. This suggests that any policies should also be accompanied by comprehensive communication and education programs to highlight the diverse and comprehensive nature of CE initiatives.

A more concerning conclusion of this literature review was that demand-side strategies that reduce consumption tend to be neglected and the CE becomes no more than the re-badging of recycling strategies. Indeed, despite the broad interest amongst governments and corporations in the CE, social and environmental considerations remained secondary to the economic expectations of corporations. While the prevailing logic in the linear economy is that maximising consumption and production will benefit everyone, there is a clear tension in CE debates between supply-side strategies that seek to maximise production and demand-side strategies that seek to minimise consumption. In a CE, where everything is connected, reducing consumption decreases total energy use and consequent pollution, while also reducing the cost of living for consumers.

One way of illustrating the difference between supply and demand-side strategies is through a comparison between an CE industrial precinct and a CE housing development. An industrial precinct operates with the aim of supplying goods or services to the broader community, whereas consumers in a housing precinct represent the demand for goods and services. The former would likely adopt CE principles to reduce operating costs and maximise profit, residents of a housing precinct would adopt CE principles to reduce living costs.

Key point:

- CE strategies often focus on systems for re-circulating, rather than reduction of production and therefore of total demand. Fiscal policies should preferably reduce demand for materials and resources as this is the most effective strategy for reducing waste and pollution.

2.5 Summary of key considerations

In this section we have reviewed the international literature in relation to the CE, with the aim of identifying key principles and potential directions for CE fiscal policy. These include:

- To enable the paradigm shift proposed in CE literature, a similar fundamental change will be required in the architecture of the tax system.
- There are three levels at which CE fiscal policy should focus to create complementary strategies for products circulating through the economy and infrastructure that facilitates that flow. These levels are the micro (product) level, at the meso (precinct/local neighbourhood) level, and at the macro (state or national) level.
- The CE has spatial implications in terms of the design and location of infrastructure, as well as the scale at which it is considered.
- Consideration needs to be given to the distinctive characteristics of the Australian context, that is large distances, long supply chains and with significant resource extraction and export.

- Shorter supply chains and local resilience are necessary for reducing energy use, waste, and pollution.
- The actions of trading partners to transition to a CE, particularly those that purchase Australian resources, will have balance of trade implications for Australia.
- Reducing overall demand (the preferred end of the waste hierarchy) and reducing production from virgin materials is critical for enabling a successful transition to a CE.

In Section 3 of this report, we will analyse the international literature that has already developed on circular fiscal policy.

3 International literature review on circular fiscal policy

3.1 Overview of studies available

While there is significant literature focused on environmental tax reform, the majority focus on carbon emissions and very few examine potential tax regimes for the circular economy. Vence and Perez explain that even the circular economy related tax literature can be narrowly focused on limiting waste generation¹¹. Of the small amount of literature focused on this topic, the majority come from Europe which has one of the more comprehensive CE strategies, with other studies focussing on measures in Australia, New Zealand and Korea. Most studies focus on the efficacy of framework initiatives as a whole, such as the Green Deal and the Korean Framework Act, while there is less research on specific policy interventions. There are few evaluations of policy effectiveness or studies of policy implementation, with the exception of the Swedish tax incentives for repair.

Studies examining the potential for fiscal policy to drive change towards a circular economy take different approaches. Several studies point to a problem in current tax regimes where circular economy activities are often labour intensive and are disincentivised through income taxes, while resource consuming activities are not. Studies examining taxation for a circular economy by Fiedler et al¹⁴ and Vence and Perez¹¹ point to the importance of shifting away from taxing labour and moving towards taxing resource use. A study by Milios stops short of such comprehensive reform and proposes a product life-cycle approach with taxation measures to be implemented at the point of resource extraction, during use and at the end of life¹⁵.

3.2 Changing the tax mix between renewable and non-renewable resources

A key theme in the literature regarding taxation for a CE is the need for a more fundamental shift away from taxing income and towards taxing consumption of resources and waste¹⁴. The

idea of changing the 'tax mix' is also conceptualised as removing or reducing taxation from 'flows' or renewable resources such as labour, and increasing taxation on 'stocks' or non-renewable resources such as fossil fuels and carbon¹³. Changing the tax mix may involve deep fundamental change in the tax structure, through for example eliminating income tax and increasing GST/VAT, or it may be more incremental, in terms of raising taxes for particular non-renewable resources.

Reversing the imbalance of labour and resources tax

Various studies have noted that the transition to a CE will involve a move away from a primarily resource-oriented economy to one which more heavily depends on labour to reuse, repair and recycle products and their materials¹¹. Due to high taxes on labour and low or non-existent taxes on raw materials (or even subsidies in the case of fossil fuels), the tax mix heavily incentivises firms to extract more raw materials rather than utilising labour to make more efficient use of them. Tax experts interviewed by Fiedler et al highlight the example of New Zealand, which does not have a payroll tax and has an Emissions Trading System for carbon^{10,11}. Hartley et al finds through stakeholder interviews that the price of secondary materials is far higher than virgin raw materials¹⁷. In the EU over half of all tax revenue is derived from labour, while less than one percent comes from raw material extraction¹⁸.

Milios¹⁵ suggests a tax on raw materials as a way to reduce dependence on virgin materials in favour of recycled or reused material, as well as to correct the imbalance between taxes on materials versus labour. This tax may be applied at various points in the value chain, such as initial extraction, first input of the material into an industrial process and final consumption of the product. The raw materials tax examined by Milios found that the tax needs to be high in order to have an impact and needs to be implemented across different materials to avoid substitution¹⁵. Maitre-Ekern and Dalhammar note the challenge in implementing such a tax, where there is a lack of a common taxation standard across jurisdictions, with firms commonly manufacturing products in jurisdictions that have low taxes and cheap raw materials and then exporting these products to advanced economies with high labour costs, disincentivising repair¹⁹.

Mumford and Gunnarsson note the increasing weight of labour tax and a prevailing focus on economic growth as key sustainability gaps that exist in the EU taxation system²⁰. They discuss the limits of traditional forms of legal environmental advocacy such as Corporate Social Responsibility (CSR) as presenting a binary choice between profit and sustainability and suggest that taxation based on sustainability principles can "transform...the binary choice into a true multi-dimensional commitment"²⁰. Further, Woerdman suggests that utilising the revenue from such tax streams to reduce labour costs, sending a strong signal to the market that pollution and resource destruction is costly while labour is cheap¹².

Taxing unrecyclable materials

One significant aspect of the EU Green Deal with regard to the taxation of non-renewable resources is the introduction of a non-recyclable plastics "Tax" or what is known as an Own Resource within the EU. It consists of a flat rate paid as contributions by member countries

based on the amount of non-recycled plastic consumed²². This new measure is part of a range of initiatives proposed by the European Commission in its transition to a CE. In a 2020 communication document, the Commission also proposed landfill and incineration taxes as measures to promote circularity as well as allowing member states to leverage the VAT to promote CE activities that target consumers, such as repair services.²³

Reduce fossil fuel subsidies and increase funding of renewables

According to the Australia Institute (2021), Australian Federal and State governments provided a total of \$10.3 billion worth of spending and tax breaks to assist the fossil fuel industries in financial year 2020-21. The most substantial portion of this was the \$7.84 billion Federal Fuel Tax Credit Scheme. The scheme allows businesses to claim a tax credit for fuel used in machinery and heavy vehicles off public roads. The justification for the scheme is that the funds from the fuel excise are used for the development and maintenance of roads. Yet there is no direct connection between this revenue received by the Federal Government and the maintenance of roads which is mainly undertaken by state and local governments.

The scheme effectively skews the market competition between fossil fuel energy and renewable energy sources. Simply removing the Tax Credit Scheme would create a more level playing field in the energy supply market. In Victoria, the Federal petrol excise has been used to justify the introduction of a road user charge for electric vehicles because they do not pay for fuel and so avoid paying the excise. From 1 July 2021, Victoria introduced a new user-pays charge for Zero and Low Emission Vehicles (ZLEVs). The imposition of this charge is highly contentious, particularly because in many other countries, citizens are offered incentives to purchase ZLEVs. Fiscal policies for the transition to electric vehicles should be designed to incentivise, rather than discourage, the uptake of electric vehicles.

Key Points:

- Several studies highlight the need for fundamental tax reform to drive a circular economy in shifting the focus of taxation away from income and towards consumption, in particular consumption of non-renewable resources
- Subsidies and charges should be redirected to support investment and uptake of circular economy activities and practices. For example, the current tax breaks for fossil fuels should be removed to level the playing field between renewable and non-renewable energy providers. Similarly, road user charges for low-emissions and zero emission vehicles are limiting uptake of these.

3.3 Changes in tax mix between stock of wealth and flow of consumption

In the previous section the term 'stock' referred to the reservoirs of non-renewable resources, including fossil fuels and other mineral resources. This was contrasted with the 'flow' of renewable resources such as labour. The terms 'stocks' and 'flows' have been used in a very

different way in ecological economics, one of the principal disciplines from which the concept of the circular economy has emerged. Ecological economists (Boulding, 1973, Daly, 1973) have long argued that there is no waste in nature and that economic systems should align with natural ecological cycles. They use the term 'flow' to refer to economic activity, that is, the flow of goods and services through the economy from mine to landfill. The term 'stock' is used to refer to the built environment, the buildings and infrastructure through which economic activity flows.

In current mainstream economic thinking, the aim is to maximise the flow of economic activity. This has the effect of maximising resource extraction and maximising waste. Constantly maximising the treadmill of economic activity also requires an ever-increasing demand for energy to keep the system working. For ecological economists the economic objective should be to optimise the stock, buildings and infrastructure, such that it minimises the flow from mine to landfill.

Stock and flow are interrelated and interdependent. If the built environment is designed to facilitate linear flow—from a mine to landfill, or in the case of water infrastructure, from a dam to ocean outfall—then it becomes difficult to retrofit circular flow patterns. Ultimately, to create a CE it is essential that the built environment is designed and built to facilitate circular flow.

Vence and Perez¹¹ have made a similar observation in relation to the architecture of fiscal policy. They note that circular taxation would “accelerate the transformation from a current economy focused on ‘flow optimization’ (the essential logic of national accounting and GDP) to an economy focused on ‘stock optimization.’” (p.13).

Taxes on income, production or sale of goods and services are contingent on an expected continuously increasing flow of these through the economy. Promoting a CE, where the aim is to reduce the flow of resources, will result in falling demand for new resources and therefore falling government revenue over time. The revenue base will therefore need to progressively shift towards taxes on ownership of wealth, land and assets or the usage of land and assets.

This shift from maximising flow to optimising stock is becoming apparent in the changing expectations from ownership of goods to access to services and the associated innovation in product-as-a-service business models. This allows producers to retain ownership and therefore management responsibility for all materials contained within their products or assets. Ownership of capital assets and material goods remain with the producer, while consumers pay for access or usage of these.

Tax incentives to encourage decentralisation

The above discussion suggests that 'optimising the stock' of assets and infrastructure must examine not just what to build but also where to build it, what not to build, what to expand and what to close down. These questions to be addressed strategically and holistically. We would argue that this involves a process of settlement planning, examining where people are located, where to incentivise the development of new precincts and associated infrastructure that contributes to a comprehensive arrangement for the state or nation as a whole.

This aligns with the recommendations of the Federal government's inquiry⁵² into the 'Australian Government's role in the development of Cities', which recommended that "a national plan of settlement [be developed], providing a national vision for our cities and regions across the next fifty years".

One of the key considerations identified in the previous section was that 'shorter supply chains and local resilience are necessary for reducing energy use, waste, and pollution.' This implies that the resilience of towns and villages across regional NSW should be increased. Each town could be supported to create a local CE, circulating resources within its own region—perhaps starting with a local renewable energy generation and storage system. Building local resilience in regional towns and villages creates local economic activity. This could be supported by fiscal policies that offer incentives for people to move from the cities to the regions, simultaneously de-congesting the cities and supporting regional development.

More detailed studies would be required to determine appropriate fiscal incentives but positive incentives for people in the regions, rather than penalties for people in the cities. Some possibilities include reduced land tax in regional areas, reduced stamp duty for new homes or reduced payroll tax for moving a business to a regional area.

Land tax and incentives for Circular Economy Infrastructure

On 16 February 2021, the NSW Government announced a 50 percent land tax discount for new build-to-rent housing projects. Introduced as a measure to support the COVID recovery, the tax discount was accompanied by new town planning policies to encourage emerging forms of development such as build-to-rent and co-living. These new approaches to housing development are not simply rental housing. They usually include supporting infrastructure and offer a range of services such as co-working spaces, concierge services, property management, spaces for entertainment and various activities for residents to meet. There are parallels between these development forms and others such retirement villages and student housing where housing is offered as a service.

The business case requires a shift from land development based on speculation on land and housing costs to a model whereby the funding is sourced from Managed Investment Trusts (MIT) seeking long term, low risk, and stable return. The promotion of business strategies that deliver housing together with supporting infrastructure represents an opportunity for the direct delivery of CE infrastructure. Indeed, the shift from housing as a product to housing as a service, represents one of the important strategies for implementing a CE.

While the intent of offering incentives for these forms of development is supported, the approach of providing a land tax discount is not consistent with the proposed shift to increasing tax on wealth and assets. There is a sound reason for introducing the discount as developers will continue to hold the assets post-construction and therefore incur ongoing and increasing land tax obligations. A potential solution here is to encourage developers to establish a land trust on each development so that future tenants can also purchase a share of the whole property. This

will allow these residents to offset some of the rental costs with income from owning a share of the property.

The Australian Housing and Research Institute identifies this land tax issue, together with GST as the principal fiscal policy measures inhibiting adoption of build-to-rent and notes that with the right policy settings, build-to-rent could become a more attractive development option⁵³. From a GST perspective, the absence of a point of sale negates the opportunity to recoup GST already paid. As a result, build-to-rent projects are currently at a disadvantage relative to build-to-sell developments as they are unable to recoup the GST paid for goods and services required for construction. The property industry is currently lobbying the Federal Government to modify GST provisions and create a level playing field. One option would be to allow developers to recoup GST paid upon issue of the Certificate of Occupancy rather than point of sale.

CASE STUDY: Build-to-rent – Housing-as-a-Service

While not yet labelled as such, housing-as-a-service (HaaS), is emerging as a significant new development category. There is growing interest in build-to-rent as an increasingly significant development category and asset class. LIV by Mirvac, opened in September 2021 and is one of the first such projects. Their tagline is: “we give you the flexibility of renting with the security of ownership.” In conjunction with apartments, they offer a range of co-working spaces, a shared kitchen and dining areas, cinema, gym, as well as concierge and property management services.

To enter the build-to-rent market, Mirvac established a Build to Rent Club, essentially a managed investment trust offering a passive return for investors interested in financing this development model. This first development in Sydney Olympic Park highlights the potential changes in developer offerings tailored to a market segment that prefers access to housing and associated support service rather than housing ownership and associated maintenance responsibilities.

Tax on wealth as part of an equitable transition

Authors have noted that the transition to a CE means designing a fair and equitable ecological transition which avoids wealth hoarding. Thus, broad EU-wide taxes on wealth and financial transactions as well as eliminating financial paradises and tax havens are seen as key measures in this process²⁴. This also means that if measures such as VAT adjustment or taxes based on ecological impact are utilised, there should be protections and redistributive policies in place to ensure that the burden does not fall on vulnerable persons.¹⁶ This is important as taxes on goods and services such as VAT and GST are consumption taxes which are regressive in nature. That is, they are discriminatory against lower-income earners, as the tax paid on an item represents a

greater proportion of income in relation to low-income earners compared to high-income earners.¹

Stranded assets

As a result of a shift towards a more sustainable economy that relies less on mineral resources, assets like power stations or mining equipment may become obsolete. The practice of companies using the depreciation of assets to offset their tax liabilities can be leveraged as part of a transition away from raw material use. Byrner suggests that the retirement of pollution infrastructure could be tied to the amortisation schedules used by companies to spread the impact of depreciation over the asset lifetime, indicating to owners that they should not expect any further value from maintaining its use.²⁵

Key points:

- With a reduction in the flow of resources, the tax base of governments will need to progressively shift towards taxing wealth, land and assets or the usage of land and assets. For example, through taxes on the unimproved value of land and taxes on wealth to enable an equitable transition.
- To encourage the shift away from polluting assets such as fossil fuel power stations, there are proposals to spread the depreciation of these assets over their lifetime to reduce the value of these assets from tax write-offs
- Given that the CE implies shorter supply chains and increased local resilience, attention should be given to increasing local economic activity in regional towns and villages. Local circular economic activity in regional NSW can be supported by fiscal policies that support decentralisation—incentives encouraging people to move from the cities to the regions.

3.4 Tax expenditures – R&D, good environmental behaviour, tax holidays

The transition to a CE will require the development of innovative practices and methods to make use of waste products and extend the lifespan of products in the design and manufacture phase. As such, private firms may be willing to invest more time and capital in developing such technologies if there is a tangible benefit to doing so and assuming they will not be taking on unnecessary risk. This may come in the form of tax holidays and concessions for emerging business and those who have a proven environmental track record, or incentives for firms undertaking CE-related work.

R&D Tax Concessions

From July 2011, companies undertaking Research and Development (R&D) activities may be eligible for a tax incentive whose objective is to encourage industry to conduct R&D activities

that might not otherwise be conducted because of uncertain returns.¹ The incentive is available where the relevant expenditure falls between \$20,000 and \$100 million in a given year and is applied at a rate between 38.5%-45% depending on turnover and the tax status of any controlling entities. These R&D incentives are currently difficult for companies to access in Australia, as they are currently oriented towards large companies and exclude small start-ups, sole traders, partnerships and trusts¹⁰.

Smol et al propose green tax relief for businesses who use raw materials in a more efficient manner²⁶ and it is plausible that this could be extended to give favourable taxation treatment to firms who design methods of achieving such efficiency, either as an extension of the federal R&D tax relief scheme or through a specific CE mechanism. In a study by Fiedler et al¹⁴, interviewees suggested that tax holidays might be a more effective mechanism to target and assist small circular economy businesses to start up and become established.

Tax Holidays

Mineas et al and Li both note the implementation of tax holidays for small business by the Chinese government including waiving enterprise income tax for five years for firms utilising materials generated as waste by other companies and GST/VAT exemptions on materials which comprise no less than 30% reused content²⁷. Tax holidays have not previously been used in Australia, however there may be potential for their use for small enterprises, and particularly for businesses that are essential to the functioning of a CE. Internationally, where tax holidays have been introduced to incentivise new industries, there have been challenges when tax holidays end, and industries move elsewhere¹⁴. As such, tax holidays would need to be used judiciously and for specific circumstances.

Patent Box

A patent box is a particular type of tax incentive that provides a lower tax rate for some kinds of income derived from patents. It is also referred to as an 'innovation box' where R&D activities without a patent or other IP rights are involved, such as designs or copyright. The policy goal of patent boxes is to promote domestic R&D and the commercialisation of IP generated from that R&D or, more generally, innovation.

In the latest budget, the Australian Federal Government announced it will establish a patent box regime for certain income generated from Australian medical and biotechnology patents¹³. The proposed Patent Box provides a 'backend' benefit to the exploitation of the patents obtained from the R&D activity undertaken in Australia. This goes some way to ensuring that the efforts in conducting the R&D in Australia which benefited from the R&D tax incentive are rewarded by ensuring the rights to ensuing patents remain in Australia when perhaps they might have moved offshore to a tax haven or to where the markets are larger.

Further, the Government has proposed that it will consult with industry to determine whether a patent box is also an effective tool for supporting the clean energy sector. Conceptually

speaking, the idea of a patent box can be extended to CE innovation, with or without IP¹³. However, the proposed Patent Box, while a potentially useful tool to complement the R&D tax incentive, would have been more useful when neighbouring countries, such as Singapore, did not also have a patent box regime.

Incentives for Investment in Circular Economy Technology

The Federal government has also produced measures targeting the venture capital sector to promote innovation and help small research start-ups realise the commercialisation of their work at scale. These initiatives relate to Early Stage Innovation Companies (ESIC) and certain kinds of Venture Capital Limited Partnerships (VCLP).

A fund manager may apply to register their new partnership as a VCLP if it is established within Australia with at least \$10 million of committed capital that only carries out activities related to its status as a VCLP. If that entity then invests in companies with assets not totalling more than \$250,000, they may enjoy various tax benefits relating to the returns on that investment. These include CGT exemptions for foreign investors and all members enjoying the “flow-through” tax status of the partnership, meaning that the partnership itself is not taxed and all income flows to members¹.

In addition, VCLPs that invest in early-stage start-ups (Known as ESVCLP) have additional benefits. These include a 20% tax offset on the amount invested in Early Stage Innovation Companies (ESIC) up to \$200,000 per year and a 10 year exemption on CGT for investments held as shares in the ESIC as long as they comprise less than a 30% interest. Eligible ESICs must pass a two-limb test of being in an early stage of expenditure and incorporation as well as being involved in innovation²⁸.

Key Points:

- R&D tax concessions need to be much more accessible to a wider range of enterprises including small start-ups
- Tax holidays may be considered for specific circumstances, but need to be used judiciously
- Expanding patent box tax incentives could be considered for CE along with incentives for CE technology investment

3.5 Using GST as a concession

Due to its near-universal application and moderate rate, several authors have discussed both exemptions to the GST for certain classes of goods as well as varying the rate of the tax or even increasing it for activities which generate excess waste or squander opportunities to recycle and reuse. These measures may be used to target a number of consumer and business behaviours and promote the uptake of certain activities.

Changing Business Behaviour

In their examination of the European transition to a circular economy, Hartley et al compiled interviews from over 40 CE experts to discuss policies that would accelerate the transition away from a linear economy. These included broad based changes to shift business behaviour towards actions promoting a CE such as VAT relief for reused products or those that contain a certain amount of reused material and an increased VAT on activities related to the linear economy.¹⁷

Shifting Consumer Behaviour

It has been observed that such adjustments to GST/VAT rates may depend largely on the sector-specific incentives. The Swedish Government introduced reductions in VAT for repair work – this initiative is discussed in more detail in the case study below. Trenta discusses the implementation of this idea in Sweden and discusses the impact. White goods suppliers noticed a negligible increase in customers seeking repair compared to shoes, bicycle and IT equipment sectors, possibly due to the high cost outlay on whitegoods and the perception that lower cost items are not worth repairing²⁹.

A study exploring Australian perspectives on changes to GST to drive a CE found support for the idea of increasing the number of 'merit' goods that could be GST free or reduced GST. However, there was also concern that varying rates of GST creates more complexity and would be challenging to manage¹⁴.

Friant et al have noted that taxes applied to rail transport in the EU remain higher than air or car transport in most member states.²⁴ This potentially presents an opportunity to use VAT exemptions to encourage the use of these forms of transport that are less emissions intensive.

Promote Sustainable Financing

Adjustments to the VAT to promote CE activities forms part of the EU Green Deal plan to steer financing towards sustainable production and consumption. However, at present under the most recent Circular Economy Action Plan, the Commission has only proposed to "...continue to encourage the broader application of well-designed economic instruments... and enable Member States to use value added tax rates to promote circular economy activities".²³ These are far from concrete measures and leaving these kinds of issues up to individual member states may discourage a broad transition away from the linear economy or promote forum shopping by firms interested in avoiding tax.

Promote CE based trading platforms

Exemptions on the GST/VAT may also be used in conjunction with other circular economy initiatives. Hartley et al suggest promoting the development of CE trading platforms as a way to consolidate consumers of recycled materials with manufacturers who produce them as by-products, this may include fund-matching schemes or tax breaks for such platforms,

exemptions from GST/VAT for products sold through such platforms as well as reduced regulation for trading in waste.¹⁷

Key Points:

- Differential adjustments to GST can be used to drive business decisions, for example to choose reused or recycled materials. Reductions in GST/VAT have also been used to influence consumers to adopt circular economy practices such as repairing rather than replacing, or to increase public rather than private transport use.
- There are problems with this approach if taxation is not harmonised over different jurisdictions, and firms may shift their operations
- Experience in Sweden has shown that reducing GST/VAT on repair is not sufficient to ensure greater uptake for all product types. Such an approach must be incorporated with a range of other policy measures including awareness raising, regulation, product guarantees, greater labelling and information on reparability

CASE STUDY: Tax incentives for repair

Internationally there have been a variety of policy measures introduced to enable and promote repair activities. The majority have been proposed or implemented in Europe, with specific examples in the US where various states have proposed “Right to repair” laws to ensure that spare parts are available and repair services can be conducted by independent repairers²⁸. The policy measures in Europe are more diverse and include tax concessions on repair services. There are consumption tax (VAT) reductions available for minor repairs of goods such as bicycles, shoes and leather goods in: Ireland, Luxembourg, Malta, the Netherlands, Poland, Slovenia, Finland and Sweden. Also, in France, Belgium and the UK, social enterprises or charities involved in the sale of second-hand goods are eligible for reductions or exemptions from VAT²⁹. One of the most significant examples of fiscal policies to support repair are the tax concessions offered for repairs in Sweden.

Tax concessions on repair

The Swedish Government introduced tax reductions on repair work in January 2017. This included two key measures. Firstly, the value-added tax (VAT) applicable to all goods and services was reduced down from 25% to 12% for repairs on textiles, shoes, leather products and bicycles. Secondly, a 50% tax deduction was implemented on the labour costs for home repairs and maintenance, which includes IT and white goods. In the latter, the repair must be conducted within the home, rather than a shop and the deduction needs to be applied for by the repairer, rather than the customer²⁸.

In 2020, researchers in Sweden interviewed repairers from the relevant sectors to examine the apparent impact of the tax changes on repairs. Repairers of shoes, bicycles

and white goods overall could not identify a difference in the number of repairs or could not directly relate changes in business to the shift in taxes. However, in the IT sector, repairers did notice an increase in repairs which a number of interviewees thought was attributable to the tax deduction. Some common themes across the four sectors regarding the barriers to uptake of repair services included: consumers not being aware of the availability of the tax reduction, and the overwhelming influence of the cost and quality of the initial product. For example, consumers tend to repair only good quality shoes, and repair white goods when the cost of new goods is high. In the IT sector there were particular issues with products not being designed for repair, or where business models were oriented towards subscription of IT products that encouraged replacement with new IT equipment rather than repairing. The limited availability of high quality repair services was also an issue²⁸. Further economic analysis of the change in the Swedish repair sector since 2017 may yield further detail on the impacts.

Researchers from the Swedish study²⁸ concluded that increasing the price of new products, and thereby internalising impacts was a more important strategy than reducing the cost of repair. Another Swedish study oriented towards developing a repair strategy for Sweden interviewed stakeholders and experts regarding their perspectives on the policies needed to drive the repair industry. This study proposed completely removing VAT from repairs and ensuring that all types of repair can benefit from tax reductions.³² This proposal is supported by RREUSE, which is an international non-profit network supporting social enterprises in the circular economy. Their position paper regarding taxation to support reuse and repair suggests that VAT should be differentiated according to the waste hierarchy. RREUSE proposes that 0% VAT should be applied on the cost of labour for repairs, maintenance and upgrades of goods, and 0% VAT should apply to the sale of second hand goods, with a reduced VAT rate for those who sell recycled materials²⁹.

Other policy instruments to support repair

Various studies examining policy options to support repair have indicated that a whole suite of policies is likely to be required to facilitate a major increase in uptake of repair services. The study oriented towards developing a repair strategy for Sweden³⁰ proposes a wide array of other measures to support repair, including: increasing the availability of spare parts and even regulating their price, reviewing IP legislation to facilitate repair industries; extending product guarantees including after a repair is undertaken; introducing repair registry to ensure quality repairs; setting up a sustainability/repair index so that consumers have more information about durability and reparability; and improving education and training in repair³⁰.

3.6 Levies on waste and end of life

Taxing waste going to landfill is a commonly used fiscal measure to reduce waste disposal. CE activities can be promoted by more heavily taxing landfill and disposal of materials that might otherwise have been recycled. This measure is commonly used in Australia, where in Sydney the levy is \$150/tonne and \$85/tonne in regional areas³³, while in Victoria the landfill levy will be increasing to \$125.90 over the next 3 years.³⁴ The landfill levy is the primary fiscal measure in place in Victoria in relation to the new Circular Economy (Waste Reduction and Recycling) Act 2021.

Waste hierarchy

An extension of landfill taxes is the proposal in a Swedish study to tax end-of-life activities according to the waste hierarchy. The waste hierarchy tax proposed by Milios¹⁵ is progressive where landfill is taxed at the highest rate and recycling is taxed slightly lower, while activities further up the hierarchy such as reuse, preparation for reuse, and waste avoidance are not taxed. The intention is to drive activity towards avoidance and reuse as the most desirable options. Modelling of the impact of the waste hierarchy tax in the Swedish context found that it would be likely to reduce waste but outcomes were sensitive to its design, and there were potential minor negative effects on GDP growth and productivity¹⁵. As such, Milios proposes that a package of fiscal measures would counterbalance weaknesses by addressing each stage of the lifecycle, the proposed taxes include a raw material resource tax and tax relief for reuse and repair in addition to the waste hierarchy tax¹⁵.

Milios proposes that the waste hierarchy tax would work to accompany any tax on virgin raw resources to reflect the environmental costs of extraction as well as the eventual disposal of such materials²⁹. Such a scheme is already in operation in South Korea as part of its Framework Act on Resource Circulation (FARC), which establishes a hierarchy and exempts certain recycled materials from waste related regulations³⁵. The South Korean government charges waste disposal fees for materials that might otherwise have been recycled. These charges are related to the cost of recycling goods and aim to encapsulate the social cost of destroying waste products²⁹. Once waste materials meet certain “recyclable resources” requirements, they are exempted from regulations related to collection, transport, recycling and distribution so long as they do not pose a hazard to human or environmental health and present economic value³⁶.

Some European researchers have called for a liberalisation of the waste trade and to remove impediments to reusing and transforming old materials as a key element of the transition to a CE¹⁷. Some of this work is already underway in the European Union, with the exemption from regulations regarding the shipment of certain “Green Listed Waste”³⁷. Li also discusses the importance of this work in the Chinese context, with the Chinese government setting up a disposal fund, contributed to by electronic product manufacturers and importers, which works to subsidise the recycling fees of these products²⁷.

Key points:

- Waste levies are a foundational fiscal policy in use in Australia and elsewhere
- A progressive waste hierarchy linked waste levy has been proposed in Sweden, with a similar system in South Korea. Initial assessment of the Swedish example suggests a waste hierarchy based tax scheme would need to be carefully designed.

3.7 Comprehensive policy programmes

Fiscal policies for a circular economy are unlikely to be implemented in isolation and are most effectively considered as part of a comprehensive suite of policy measures. Two notable examples are from Europe and The Republic of South Korea. The comprehensive nature of their policy frameworks are detailed below.

European Union Green Deal and the Circular Economy Action Plan

The EU Green Deal is an initiative which aims to make the EU carbon neutral by 2050³⁸. It includes several distinct policy measures, most notably the Carbon Border Adjustment Mechanism, as well as initiatives focussing on the removal of fossil fuel subsidies, re-forestation, agricultural soil carbon sequestration as well as an **action plan for the circular economy**.²³ The action plan includes measures relating to sustainable product design, educating consumers on the impact of certain products, circularity of production and creating an EU-wide market for the trade of secondary materials. The plan focuses on Key Product Value Chains where circularity measures will make the most impact.²³ These include Electronics and ICT, Batteries and Vehicles, Packaging, Plastics, Textiles, Construction and Food and Water.²³

The **Sustainable product policy legislative initiative** is designed to expand on the EU's existing **Ecodesign Directive** which sets minimum energy efficiency standards for a range of consumer appliances as well as products relevant to the ICT and Engineering industry.²³ The sustainable product initiative will widen the Ecodesign Directive to apply to the widest possible range of products and work to achieve circularity and sustainable design elements through the establishment of sustainability principles. The kinds of aspects of product design the plan will focus on include product durability, repairability, recycled content of new products, enabling remanufacturing, restricting single use products, and working to end planned obsolescence, introducing a ban on the destruction of unsold durable goods and incentivising consumption models where producers retain ownership and responsibility of products through their lifecycle (Product-as-a-service).²³

Through the Green Deal, the European Commission aims to **empower consumers and public buyers** by amending EU consumer law to ensure consumers receive trustworthy information about the expected lifespan, repairability and availability of schematics and repair manuals for products they purchase.²³

The Commission aims to increase **Circularity in production processes** through several measures, including: promoting circularity measures through the EU's **Industrial Emissions Directive**³⁹; facilitating the sharing of materials; and, the development of common reporting

and certification standards to promote industry symbiosis and promote the use of digital technologies for tracking, tracing and mapping of resources.²³

Some specific measures targeting **Key Product Value Chains** include: common charging standards for mobile phones and the possibility of an EU-wide take back scheme for old electronic devices; rules on recycled content of batteries and phasing out non-rechargeable batteries; restricting single use packaging and expanding the Plastics Strategy by setting minimum recycled content requirements; requiring high levels of textile waste separation by member states; and, setting minimum recycled content requirements for building materials.²³

In addition to setting requirements for recycled content and procurement, the European Commission also proposes to undertake several initiatives to promote a well-functioning **Market for Secondary Raw Materials**.²³ The kinds of measures proposed include developing an EU wide end-of-waste criteria for certain waste streams as well as enhancing standardisation and assessing the feasibility of establishing an EU market observatory for secondary materials. Currently end of waste status is defined under the **EU Waste Framework Directive (WFD)**^{26,31} as material that can be used for a specified purpose, for which a market or demand exists, which fulfils technical requirements and legislative parameters and that does not lead to overall adverse environmental impacts.

The European Commission has proposed several economic measures to realise its plans for circularity. These include enhancing disclosure of environmental data by companies, supporting businesses to develop environmental accounting principles including performance data on circularity outcomes, encourage member states to use Value Added Tax to promote circular economy activities and enable them to set landfill and incineration taxes to promote circularity and reduce waste.²³

The EU Green Deal focuses on product value chains, and primarily on product standards, which highlights a “micro-level” approach to the CE. While taxation measures are part of the suite of policy measures proposed, the majority of policy initiatives focus on regulation, setting minimum standards and guidelines for products.

Korean Framework Act on Resources Circulation (FARC)

The South Korean government has developed its own framework on the circular economy. There are two principal pieces of legislation underpinning this transition. The first was enacted in 2008 and is called the **Framework Act on Low Carbon, Green Growth**⁴¹. The second was released in 2018, it is known as the **Framework Act on Resources Circulation (FARC)**⁴¹ which aims to turn the country into a resource circulating economy. It includes several initiatives that target both demand and supply sides of the economy to reduce waste and promote circularity.

The FARC aims to disincentivize waste by applying charges to landfill use and exempting recirculated materials from regulation. **Waste disposal fees** will apply to individuals and companies who dispose of resources that might otherwise have been recycled. The costs of disposal will correspond to the price of recycling the resources⁴¹. The costs recouped through disposal fees will be used for Government campaigns and education programs promoting

recycling. Working alongside this initiative is the **Recyclable Resources Recognition Program (RRRP)**. This program includes recognizing certain waste materials that meet the criteria of recyclable resources and then exempting these materials from waste regulations⁴¹.

The Korean government has also designed measures which target businesses directly. The **Resource Circulation Performance Management (RCPMP)** is designed to encourage companies to reduce their waste volume and further increase their use of recycled materials. Companies may take advantage of the scheme by establishing resource circulation targets for their operations and being offered economic and technological incentives to achieve them⁴¹.

The **Framework Act on Low Carbon, Green Growth** aims to promote carbon neutral energy sources and encourage the use of emerging green technologies. One of the measures included under the Act is a shift from traditional feed-in tariffs to the Renewable Portfolio Standard (RPS). This change did away with traditional feed-in-tariffs, where individual energy producers are paid for electricity they feed back into the grid, to a Renewable Portfolio Standard, which sets a specified percentage of power to be generated from renewable sources (Currently 10% by 2022)⁴¹. The framework act also includes a **Renewable fuel standard (RFS)** which aims to set minimum standards for renewable content of oil and other petroleum goods. Starting in 2015, the government has required oil refiners, importers, and exporters to incorporate 3% biofuels into their blends by 2020⁴¹.

The Korean government has also implemented mechanisms to target the demand side of the economy and aims to educate and empower consumers to be more conscious of their environmental impact. These are the **Green Card Program (GCP)**⁴¹ and the **Eco-label certification system (ECS)**⁴¹. The GCP is a rewards system that applies when individuals purchase environmentally friendly goods and services and allows them to receive prizes and discounts. As part of this, the ECS allows for companies to display ratings on their products relating to energy and resource efficiency as well as the impact on the environment over the product's life cycle.⁴¹

The Korean initiatives focus more on waste disposal and recycling, rather than the higher ranking R-strategies such as avoidance and reuse. The central policy initiatives are the waste levy, targets for material circulation for businesses and the renewable fuel standard. This approach has less of a product focus (except for the eco-labelling scheme) and more of an orientation towards waste and the use of fossil fuels.

3.8 Discussion – Best practice fiscal policy internationally

Specific fiscal policy approaches

Approaches to fiscal policy for the circular economy vary from fundamental changes to the tax structure, to targeted incentives for businesses to adopt circular strategies and a handful of examples targeting the consumer.

- Several studies highlight the need for fundamental tax reform to drive a circular economy, in particular to shift the focus of taxation away from income and towards consumption, and especially consumption of non-renewable resources. This appears to be the most systematic approach that is likely to drive significant change, and also reflects the need to address the circular economy at different scales.
- With a reduction in the flow of resources, and reduced taxes on income, the tax base of governments will need to progressively shift towards taxing wealth, land and assets or the usage of land and assets. For example, through taxes on the unimproved value of land and taxes on wealth. This is to facilitate an equitable transition and manage the resource 'stocks' in society.
- The issue of scale highlights a common focus of circular economy policies on the product or 'micro'-level initiatives. For example, a fiscal policy approach that targets different aspects of the product lifecycle may miss opportunities to drive change at the meso or precinct level or at the state or national level.
- Another common theme is the opportunity to increase taxes on non-renewable resources or products/materials that cause waste and pollution. Taxes on specific materials need to be considered with regard to likely effectiveness and the suite of other policy instruments available. For example, a tax on non-recyclable single use plastics may be less effective in driving rapid change than a plastics ban.
- To positively drive uptake of CE strategies or practices, reductions to GST/VAT may be used, for example to encourage industry to choose reused or recycled materials, or to influence consumers to adopt circular economy practices such as repairing. Differential approaches to consumption tax need to be harmonised over different jurisdictions. Additionally, experience in Sweden has shown that reducing GST/VAT on repair is not sufficient to increase uptake and needs to be combined with other policy measures including awareness raising, regulation, product guarantees, greater labelling and information on reparability.
- Waste levies are a foundational fiscal policy in use in Australia and elsewhere. An innovation on this is a progressive levy which is linked to the waste hierarchy, with the highest taxes associated with landfill and incineration, and no taxes associated with activities at the upper end of the waste hierarchy, including waste avoidance and reuse.
- Existing subsidies and charges need to be carefully considered to direct investment and practice towards circular economy activities. For example, the current subsidies for fossil fuels and the charges for low-emissions vehicles could be hampering progress. Removing historical subsidies on fossil fuels and reducing charges or taxes on renewable options would help to accelerate progress towards a circular economy.
- There are numerous proposals and existing initiatives to incentivise business to adopt circular strategies. R&D tax concessions are currently only available to large enterprise in

Australia and need to be more accessible to a wider range of enterprises including small start-ups. Other incentives which have not been proven, but which may be considered to drive a circular economy include tax holidays, expanding patent box tax incentives and other incentives for venture capital to invest in technology.

- In the opposite direction, to encourage industry to shift away from polluting activities, such as fossil fuel power stations or mining, there are proposals to spread the depreciation of these assets over their lifetime to reduce the value of these assets from tax write-offs.

Policy packages for a circular economy

Finally, the review of the comprehensive policy packages in the EU and Republic of Korea highlights very different approaches to advancing the circular economy, and also demonstrates the variety of policy instruments that may be needed in addition to fiscal policy.

The Green Deal in the EU takes a product value chain approach and focuses on particular products and industries such as electronics and ICT, batteries and vehicles, packaging, plastics, textiles, construction and food and water. Policy measures include removal of fossil fuel subsidies; an Ecodesign directive which sets minimum standards for product design and performance; standards for products to facilitate reuse; minimum recycled content requirements for several industries; improving consumer information; and promoting sharing of materials and digital tracking of resources through the Industrial emissions directive. While taxation measures are part of the suite of policy measures proposed, such as the option to use VAT to promote CE activities and to tax waste and incineration, most policy initiatives focus on regulation, setting minimum standards and guidelines for products.

The Korean Framework act on Resource Circulation (FARC) includes measures such as waste levies to encourage recycling; exemptions for recyclable materials from waste regulations; and incentives for businesses to establish resource circulation targets. This is combined with the previous Framework Act on Low Carbon Green Growth, which sets a target for renewable power sources, a renewable fuel standard and an eco-labelling program. This approach, while extensive, is more focused on waste and the end of life and the broad use of non-renewable resources, rather than specifically driving circular economy enterprises.

These policy packages show that fiscal policies for a circular economy that are currently being implemented are generally limited to waste levies, with some variations. The EU example presents a more comprehensive approach, by targeting product design, which is a critical foundation for a CE, as well as end of life in addition to driving CE industries and information for consumers.

In the next section, we will review the state of play in Australia.

4 Australian fiscal policy and potential adjustments to drive a circular economy

There are several areas of the tax system that may be leveraged to give effect to circular outcomes in the economy. These are distributed among State and Territory Governments and the Commonwealth Government and as such will present differing degrees of challenge in their amendment and national harmonisation. In this section we highlight the taxes that are most relevant to a CE and the potential adjustments that may be made to better align with a CE.

4.1 Overview of Commonwealth taxes and circular economy potential

Goods and Services Tax (GST)

Australia has utilised a GST since 1999 to streamline the sales tax system and target the black economy and tax avoidance¹. The tax applies at a rate of 10% when payment is made for any goods or services provided in the course of operating a business connected to Australia¹. All businesses are required to register for GST once their turnover reaches \$75,000¹. Due to the universal nature of GST as well as its currently flat rate, it presents an opportunity to discriminate between goods and services in a way which promotes activities related to the CE.

Circular economy potential

GST is relevant to several proposed CE taxation measures. Firstly, as a consumption-based tax it is a preferred revenue base for circular taxation, as an increase in GST can send a price signal regarding consumption of resources and in particular non-renewable resources. For a comprehensive approach to fiscal policy for CE a reduction in income taxes and an increase in consumption taxes is proposed. In addition, there is potential to offer a differential rate or removal of GST for circular economy activities. However, it should be remembered that the GST is a regressive tax so care is necessary to avoid unfairly impacting lower income members of our society.

Resources Tax

Australia has utilised various taxes on resources since 1987, these relate to the extraction and use of raw materials such as coal and petroleum products. The petroleum resources rent tax has been in place since 1987, taxing profits on companies selling petroleum commodities such as crude oil, gas and shale oil. It is levied at a rate of 40% on the positive net annual cash flow of petroleum projects¹. The rent tax typically applies to offshore petroleum projects outside the jurisdiction of States and Territories, with the onshore prospecting of oil covered by State instruments such as the Petroleum (Onshore) Act 1991 (NSW).

In 2012, the Mineral Resource Rent Tax was introduced, taxing “Super Profits” on coal and iron ore projects at a rate of 30%, only to be repealed two years later. At the State level, royalties are paid when mining extraction rights are sold, including for coal, minerals and petroleum (Revenue NSW). Mining royalties are determined by ‘self assessment’, where the licence holder is required to calculate the amount that is due and pay the royalty by a scheduled due date.

Circular economy potential

As part of the transition from taxation of labour to the taxation of resources, rent taxes such as these discussed above may be a powerful tool to promote the reuse and redistribution of existing raw materials and disincentivise the continual extraction of virgin materials and fossil resources.

Capital Gains Tax

The Commonwealth also has domain over the capital gains tax regime in Australia. This is covered under Part 3-1 of the Income Tax Assessment Act 1997 (Cth) and contains rules around what kinds of assets are covered and how capital income must be declared. There are also a number of exemptions to the CGT, including where assets are held for more than 12 months or in the case of certain kinds of partnerships.

Circular economy potential

Capital gains tax treatment of certain investment entities has the potential to promote investment in companies working on sustainable technology or other measures relevant to the CE. In addition, the tax treatment of certain capital assets such as power stations may be leveraged to promote a transition towards renewable energy.

Small business tax concessions

In Australia, small business tax concessions currently enable the instant write-off of depreciating assets which are used for an income producing purpose. The threshold for instant write-off has steadily increased from \$1000 to \$30,000 in the past decade, and for the past two years the full value of assets could be written off immediately without any limits on the cost. This existing tax concession currently incentivises faster asset replacement in order to enable tax deductions and is likely contributing to faster generation of waste which is counter-productive to a circular economy. Fiedler et al¹⁴ suggest that this asset write off threshold should be reduced or the concession should be abolished.

Circular economy potential

Small business concessions offering write offs for asset purchases need to be carefully reassessed as they can promote wasteful consumption. There may be potential to have the thresholds reduced.

4.2 Overview of NSW taxes and circular economy potential

At the state level, a number of taxes are relevant to the development of a CE. These include payroll tax, property related taxes such as land tax and transfer duty, transport related duties and levies, as well as the waste levy.

Payroll tax

Employers in New South Wales must pay 4.85% payroll tax when total annual wages exceed \$1.2 million a year. Both the threshold and the rate were reduced in 2020 ⁴².

Circular economy potential

A reduction in payroll tax could accompany an increase in resource consumption taxes.

Land tax and transfer duty

Land tax must be paid by owners of vacant land, residential land, holiday homes, investment properties, company title units, and commercial land in NSW. It is not paid on a primary residence or primary production land or land with a taxable value below the land tax threshold. Other exemptions to land tax include: childcare centres, retirement villages, residential and caravan parks, boarding houses and other low cost accommodation. Some concessions are available when moving between houses or while building and renovating a second property⁴³.

Transfer duty, previously known as stamp duty, is paid on the purchase or acquisition of all property within the first three months of signing a contract for sale or transfer and the rate is based on the value of the property. Those buying off-the-plan properties can defer transfer duty for 12 months. Foreign buyers or land owners also pay a surcharge on transfer duty and land tax⁴³.

Circular economy potential

Land tax targets the stock of existing building assets where they are not a primary residence. There is potential to increase land tax gradually over time to shift the revenue base away from labour and 'flows', and instead taxing fixed 'stocks' of resources such as wealth and assets. But this will require co-ordination between the Commonwealth Government, which taxes labour in the form of income tax, and the NSW and other states' governments which impose land tax.

Transport related duties and levies

People who own parking spaces in specific districts of Sydney are required to pay an annual parking space levy, which is a measure aimed at reducing congestion in busy areas. In terms of private vehicles, owners pay motor vehicle duty with new vehicle registration or vehicle transfer and that is based on the value of the vehicle.

The passenger service levy applies to all taxis, rideshares, hire cars and other passenger services under 12 seats, where they pay \$1 per trip to contribute to the industry adjustment assistance package, which has been designed to help the industry adapt to the new varieties of rideshare and ridehailing services⁴⁴.

Circular economy potential

Existing duties on private car-parking and private car ownership align with the circular economy, in terms of levying resource consuming activities. The passenger service levy is an example of a fiscal policy that has been established to adapt to the transition towards more circular activities. For example, the uptake of ridehailing and ridesharing promotes the use of services rather than asset ownership. While the levy does not necessarily support the uptake of these services, it does enable these services to co-exist and transition into the industry previously dominated by taxis.

Waste levy

Waste facilities licensed by the Environmental Protection Authority (EPA) in NSW charge a levy on every tonne of waste received at the facility. The levy is approximately \$150/tonne in metropolitan areas and \$85/tonne in regional areas. The levy applies to the coastal areas of NSW, including local government areas: the Sydney Metro area, Illawarra, Hunter, Central, North coast, Blue Mountains, Wingecarribee and Wollondilly. It is considered to be the main economic policy instrument driving greater recycling and landfill avoidance in NSW⁴⁵.

Circular economy potential

The waste levy is a central policy contributing to reducing landfill and encouraging recycling. There is potential to further reflect the waste hierarchy in end of life taxation by reducing or removing taxes on activities further up the waste hierarchy such as in relation to waste avoidance, reuse and repair.

Local government levies and charges

Fiscal policy settings for local government income and expenditure are established under state government legislation. Unlike most state and federal taxes that are often absorbed into general revenue, local government income is invariably closely tied to expected costs of providing facilities or services. Ordinary rates, which are determined based on unimproved land values, are the only exception.

Key examples of local government income include domestic and commercial waste levies, water supply and sewerage connection charges (in regional areas), fire service charges and infrastructure contributions from developers. These levies and charges are designed to pay for, or recoup the costs, of providing the relevant services and facilities. The tight connection between the amounts levied and the already planned or designed infrastructure means that Council can be locked into the continued provision of linear infrastructure.

The following case study for the development of Circular Economy Villages, highlights a potential avenue through which local authorities can modify their town planning strategies, in concert with a revised approach to fees and charges to encourage the delivery by private developers of circular infrastructure.

CASE STUDY: Circular Economy Villages

image credit: Valentino gareri atelier

A new category of land development, referred to as Circular Economy Villages (CEVs), is an example of innovation in the implementation of the CE that requires modification of fiscal policy settings as well as regulatory provisions.

CEVs seek to integrate precinct-scale infrastructure including an energy micro-grid, a water micro-grid, and a diverse, regenerative food system around living and workspaces in the built environment.

Developed by town planning consultants, PolisPlan, the replicable development model represents a paradigm shift in land development. The buildings and infrastructure offer Housing-as-a-Service, together with co-working opportunities so that the resident community can deliver food, water, energy and shelter efficiently and affordably to each other in a closed loop system¹².

The principal hurdle for the development of CEVs relates to issues in obtaining development consent within the current town planning framework. PolisPlan have now been engaged by the NSW Government's Sustainability Advantage team to establish a development assessment pathway for the Bellingen Local Government Area.

As part of the required establishment of a development assessment pathway, it is proposed to set up a planning agreement policy providing a framework for developers and Council to negotiate an agreed package of payments for infrastructure and delivery of works that benefit the broader community. This would overcome obstacles in relation to the fiscal policy settings, including local government rates, waste levies, local infrastructure contributions and water and sewerage servicing charges.



In regional areas, ordinary rates, if applied to CEVs under the current framework, would likely result in a significant underpayment to Council relative to other residential dwellings. The opposite problem arises with waste levies, infrastructure contributions and water and sewerage charges. In a CEV these services are managed on-site, so such payments should be waived.

The planning agreement policy is an alternative mechanism to ensure Council receives appropriate income to manage the burdens of an increased population while also valuing the benefits this form of development may offer the broader community.

4.3 Sustainable procurement

Sustainable procurement principles can be made at the State and Commonwealth level and generally are designed to give effect to the principles of public procurement contained in the Australian and New Zealand Government Framework for Sustainable Procurement.⁴⁶ These four principles are:

1. Adopt strategies which avoid unnecessary consumption and manage demand
2. Select products and services which have lower environmental impacts across their life cycle compared with competing products and services
3. Foster a viable Australian and New Zealand market for sustainable products and services supporting businesses and industry groups that demonstrate innovation in sustainability
4. Support suppliers to governments that are socially responsible and that adopt ethical practices

The Commonwealth Procurement Rules set out a number of factors to be considered by agencies which procure goods. These include a consideration of the environmental sustainability of the proposed goods and services⁴⁷, specifically with reference to the Australian Government Sustainable Procurement Guide. The Sustainable Procurement Guide provides guidance on selecting sustainable targets for public procurement and the implementation of these targets throughout the procurement process, including planning, approaching the market, evaluation, reporting and reviewing procured goods and services.⁴⁸

Sustainable procurement in NSW

The NSW procurement policy framework, prepared as guidance for government agencies in NSW sets out mandatory and recommended procurement guidelines.

The mandatory requirements cover basic standards already required by law. That is:

- In relation to goods, services, construction, agencies with greater than 100 employees must ensure projects meet minimum energy, water use and air emissions standards
- In relation to acquiring goods and services, agencies must use E10 and biodiesel blends in vehicles where possible
- In relation to construction, procurement must comply with the Protection of the Environment Operations Act 1997 and disposal of construction waste must comply with construction waste standards in NSW

The recommended actions are more relevant to the circular economy and are still fairly minimal.

- In relation to procurement for goods, services agencies should purchase paper with post-consumer recycled content. Non-recycled paper should come from sustainable sources. In construction, agencies should procure construction materials with recycled content
- In relation to goods, services and construction activities, agencies should consider the product lifecycle when determining needs and developing product specifications to take into account circular economy principles. Using recycled materials, the disposal or repurposing of goods should be planned into the procurement process.
- With regard to construction, agencies should refer to the construction and demolition waste management toolkit for guidance⁴⁹

The NSW Waste and Sustainable Materials Strategy 2041 sets out plans for local governments to procure waste services jointly and increase recycled content in government procurement.

Current plans include:

- Reporting annually on the use of recycled content and its associated impact on emissions and waste reduction.
- Publishing a directory of recycled material suppliers, and a register of upcoming government infrastructure and construction projects that will procure recycled material.
- Developing standards which will also be available for local governments to adopt, providing them with more confidence to use recycled content in their own procurement.

The NSW Procurement Policy Framework is also applicable at the local government level. In addition, Local Government NSW (a peak body) and the NSW Government have developed a guide to Sustainable Procurement for use by local councils. It suggests a Quadruple Bottom Line assessment of procurement decisions including key questions in relation to the social, environmental, economic and governance aspects of purchases. It also proposes key principles

for incorporating the circular economy in procurement, based around systems thinking, innovation, stewardship, collaboration, value optimisation and transparency⁵⁰.

While each local government approaches procurement and sustainability with their own guidelines, there are several pieces of legislation that set out requirements for applying good governance, fairness and lifetime value for money in procurement, including the NSW Local Government Act 1993, NSW Local Government Regulation 2005, and the Tendering Guidelines for NSW Local Government 2009⁵⁰.

Circular economy potential

Sustainable procurement frameworks at the Commonwealth, State and Local level create the foundation for Circular Procurement, however, the current recommendations are fairly limited to existing legal requirements with some considerations of product lifecycles and circular economy principles. The NSW Waste and Materials Strategy 2041 also focuses primarily on increasing recycled content, so there is scope to significantly expand the focus of circular procurement.

5 Recommendations for next steps

Following our review of international literature related to the CE and its application to fiscal policy, followed by an appraisal of current fiscal policy in Australia, a number of broad recommendations can be drawn for further consideration.

- While much of the literature related to CE reflects a re-badging of existing recycling systems, there is also a substantial body of literature that argues that a fully circular economy represents a paradigm shift for the economy, and therefore a similar fundamental change will be required in the architecture of the tax system.
- Fundamental reforms are more likely to target a circular economy at a systemic level, this includes reducing taxes on labour and increasing taxes on consumption and non-renewable resources, as well as gradually increasing taxes on existing assets, land and wealth.
- There are opportunities to target the CE at three different scales, namely at the product level, precinct or neighbourhood level and at the state and national level. Fiscal policy reforms should not be limited to the product level and should consider opportunities to drive all three.
- At the Commonwealth level, reforms to the GST and resources tax have significant potential to drive change.
- At the state level, in conjunction with major tax reform, there are opportunities to reduce or remove payroll tax and increase land tax and mining royalties. Transport related levies

are fairly well aligned with the circular economy in encouraging public transport and service use over private transport, but could be further tailored.

- At the local government level, strategic town planning, including land use and infrastructure planning, could be designed to enable the delivery of circular economy precincts. For this to be successful, they would need to be harmonized with the local Council costs and income from rates, fees and charges.
- Fiscal policies will need to be accompanied by other policy instruments, so may be most usefully considered as part of a policy package.
- Waste levies remain a cornerstone of waste management and CE approaches, and variations on that may be considered, for example to follow the waste hierarchy, including at the preferred level of 'reduce' overall demand. Importantly, these need to be harmonised across jurisdictions.
- Existing subsidies and tax concessions that benefit polluting, linear industries or wasteful consumption practices should be identified and removed. For example, fossil fuel subsidies should be removed, and current small business tax concessions need to be significantly scaled back or removed.
- Incentives to drive uptake of CE strategies for businesses should be accessible for a wide range of enterprises, including small enterprises and start-ups
- Sustainable procurement requirements at each level of government are fairly minimal and are mostly guidelines for decision making. They also do not distinctively consider the circular economy and this can be significantly strengthened.

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Appendix – Australia’s tax revenue

Appendix Table 1:

Australia’s tax revenue structure, by type and jurisdiction, 2014–15 to 2019–20

	2014–15 \$m	2015–16 \$m	2016–17 \$m	2017–18 \$m	2018–19 \$m	2019–20 \$m
Commonwealth						
Taxes on income	258,610	265,116	281,157	312,474	338,667	328,580
Employers’ payroll taxes	735	670	605	1,107	1,069	1,034
Taxes on provision of goods & services	92,225	97,181	99,913	104,965	107,114	109,149
Taxes on use of goods & performance of activities	3,661	6,289	6,900	8,898	8,922	8,845
Total taxation revenue	355,232	369,257	388,576	427,444	455 773	447,608
State						
Employers’ payroll taxes	22,041	22,684	23,194	24,413	25,854	24,993
Taxes on property	9,283	10,029	11,346	12,222	13,790	14,225
Taxes on provision of goods & services	31,625	34,416	35,373	35,055	33,896	33,176
Taxes on use of goods & performance of activities	10,824	11,523	11,875	12,570	12,873	13,566
Total taxation revenue	73,773	78,652	81,787	84,260	86,414	85,960
Local						
Taxes on property	15,779	16,620	17,399	18,083	18,904	19,578
Taxes on property	15,779	16,620	17,399	18,083	18,904	19,578
All levels						
Taxes on income	258,605	265,111	281,140	312,474	338,656	328,570
Employers’ payroll taxes	22,032	22,590	23,003	24,680	26,034	25,105
Taxes on property	25,016	26,602	28,693	30,249	32 632	33,743
Taxes on provision of goods & services	123,850	131,596	135,286	140,020	141,007	142,324
Taxes on use of goods & performance of activities	14,420	17,736	18,666	21,332	21,677	22,291
Total taxation revenue	443,923	463,635	486,788	528,755	560,006	552,033

Source: ABS, *Taxation Revenue, Australia, 2019–20*.

