

# Discussion Paper

## Towards an Energy Transition Accord

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November 2024

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## Context

Australia is at a critical juncture in our energy transition journey, as we face growing pressure to reduce carbon emissions while maintaining economic resilience and energy security. With our rich natural resources, Australia has the potential to be a global leader in renewable energy.

However, realising this potential requires a coordinated, multi-sectoral approach involving government, the private sector, investors, and communities. While various policies and investments support renewable energy and emissions reduction, there is scope for greater national coordination.

The Treasurer's Investor Roundtable has emerged as a platform to engage leading investors, superannuation funds, and financial institutions in national priorities, including energy transition, housing, and social impact investment.

Recent roundtables have emphasised the need for a structured approach to unlock private capital for large-scale decarbonization projects.

This paper proposes the development of an Energy Transition Accord – a formalised, collaborative framework – to guide Australia's finance requirements for the energy shift.

## Purpose

The primary purpose of an Energy Transition Accord is to create a shared framework to coordinate the possible financing of Australia's transition to a low-emissions energy economy by 2050.

Australia's finance sector, including superannuation funds and private capital, is increasingly called to support the country's energy transition, helping to address climate goals and align investment opportunities with economic priorities.

Given the sector's management of over \$2.7 trillion in assets, investors hold a critical role in reshaping the nation's energy landscape.<sup>1</sup> With growing global competition in green finance and a national commitment to net-zero emissions by 2050, aligning private capital with energy transition opportunities is essential for accelerating Australia's transition to a sustainable energy economy.

Beyond the financing of assets such as solar power generation and wind power generation, the finance sector needs to be an integrated part of the renewable energy ambitions of the nation and be engaged to develop the investment models for difficult but crucial projects such as grid modernisation.

## Australia's net zero transition requires sustained uplift in fixed capital investment

Australia's transition to net zero will require a fundamental shift in the structure of the Australian economy – unprecedented in terms of scale and complexity.

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<sup>1</sup> Total assets of APRA-regulated funds (APRA, *Quarterly superannuation performance statistics*).

For Australia, as is the case globally, the structural shift will require higher, sustained levels of new fixed capital investment<sup>2</sup> in the real economy than otherwise would be the case, and thus a higher level of aggregate funding for the real economy (than otherwise).

- *New fixed capital investment* is a flow concept. The accumulation of new fixed capital investment over time equates to the nation's capital stock (after accounting for depreciation).
- *New fixed capital investment* can be distinguished from 'investment' by superannuation funds in assets (ultimately, claims on real assets).

There is a significant degree of uncertainty regarding the required uplift in aggregate new fixed capital investment – for example, while investment in low-emissions real assets will need to rise markedly, much of this will supplant investment in high-emissions real assets that otherwise would occur. A reasonable estimate is that, on average, levels of new fixed capital investment will need to be in the order of 5 per cent higher than 'business-as-usual' over the next three decades or so (and front-loaded).<sup>3</sup>

From a macroeconomic perspective, Australia's higher trajectory for new fixed capital investment will necessarily involve a combination of higher national saving and higher net foreign borrowing. However, given that fixed capital investment will need to rise across the globe to a degree that is (at least) equivalent to Australia's requirements means that Australia will not be able to rely fully on foreign capital to close the investment-saving gap.

### **Private sector capital will play key role in funding Australia's energy sector decarbonisation**

Energy sector decarbonisation is central to Australia's transition to net zero. New fixed capital investment will involve scaling up low-emissions real energy assets to meet both the demands of a larger population, and to replace existing high-emissions capacity with low/zero-emissions capacity that will need to accommodate more extensive electrification across the economy.

Australia's electricity generation capacity will need to expand significantly. Recent estimates published by the Australian Industry Energy Transitions Initiative suggest that by 2050, Australia's total electricity generation capacity (for domestic use) will need to almost treble from current levels, with the proportion of renewable-based capacity rising from around 40 per cent today to near 100 per cent by 2035 – that is, renewable-based capacity will need to increase approximately four-fold from current levels by 2035, and approximately six-fold by 2050.<sup>4</sup>

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<sup>2</sup> In very broad terms, fixed capital investment within an economy is the production (or import) of assets that are used repeatedly or continuously in processes of production. This largely comprises physical assets (including biological assets), but also intellectual-property assets (research and development expenditure, mineral exploration, computer software, and production of original artistic works).

<sup>3</sup> ASFA calculations based on projections from other sources (McKinsey and Company 2022, *Financing the Net-zero Transition: From Planning to Practice*; and Australian Industry Energy Transitions Initiative 2023, *Pathways to Industrial Decarbonisation*, Phase 3 Report).

<sup>4</sup> Australian Industry Energy Transitions Initiative 2023, *Pathways to Industrial Decarbonisation*, Phase 3 Report.

Complementary investments will be needed to upgrade and expand associated infrastructure, including electricity transmission and distribution networks (to connect generators to end-users), as well as energy storage and firming facilities to accommodate the larger role of renewables in generation. Electrification infrastructure will need to be expanded across Australian industry and transportation networks. Gas-based generation will be required to support the orderly phase-out of coal, and then, while itself largely-phased out, will be required as weather-independent back-up for renewables.

The quantum of new fixed capital investment required for energy sector decarbonisation is in the order of hundreds of billions of dollars. There is uncertainty around the total value of investment, on the basis of different development scenarios as well as other uncertainties. However, the *2024 Integrated System Plan*, developed by the Australian Energy Market Operator (AEMO) in consultation with 2,100 stakeholders and 30 energy experts, considers multiple different scenarios and provides a roadmap for the energy transition for the National Energy Market (NEM).

The *Integrated System Plan* identifies the ‘Step Change’ scenario identified to be the most likely pathway for Australia’s energy transition. This optimal development pathway involves:

- 58 GW grid-scale solar capacity and 69 GW of wind capacity by 2050
- 49 GW (646 gigawatt hours) of dispatchable storage, as well as 15 GW of flexible gas
- 17 actionable transmission projects (inclusive of those already committed).

Delivering this optimal development pathway is estimated by AEMO to require investment in utility-scale generation, storage, firming and transmission to 2050 with a net present value of \$122 billion.<sup>5</sup>

### **Superannuation as a source of financial capital for Australia’s energy transition**

Institutional superannuation will continue to grow in importance as funding source for new fixed capital investment in the Australian economy.

For the institutional component of the superannuation system, the total value of investments currently stands at \$2.7 trillion. Currently, just under half of the total investments held by institutional superannuation are domestic – or around \$1.3 trillion.<sup>6</sup>

In terms of the real economy, this total allocation to domestic assets equates to around a 20 per cent ownership of Australia’s current (measured) productive capital stock. This is up from around 15 per cent two decades ago.

Looking ahead, superannuation assets are expected to keep growing for decades to come – though projections are subject to significant uncertainty. The future level will depend on a number of factors, including future investment returns, rates of employment and wages

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<sup>5</sup> AEMO 2024, *2024 Integrated System Plan*.

<https://aemo.com.au/-/media/files/major-publications/isp/2024/2024-integrated-system-plan-isp.pdf?la=en>

<sup>6</sup> Total investments of APRA-regulated funds (APRA, *Quarterly superannuation performance statistics and Quarterly Superannuation Industry publication*).

growth, the amount of voluntary contributions and the tax treatment of contributions and investment earnings.

For example, Deloitte Australia projects that total system assets will reach \$11.2 trillion by 2043 (future dollars), or around \$7 trillion in present-value terms.<sup>7</sup>

The implications for future (equivalent) holdings of Australia's capital stock are not clear. It is likely that growth in total system assets will continue to outpace GDP over the period (though the differential is expected to diminish). However, the proportion of new superannuation capital that funds allocate to offshore assets is rising (currently, around 60 cent in every new dollar is invested offshore), and is likely to continue to do so.<sup>8</sup>

In terms of the flow of new institutional superannuation capital for allocation to new investments, the above trajectory for future system assets implies an increase in the annual amount from around \$150 billion currently, to around \$400 billion by 2043.<sup>9</sup>

As noted below, institutional superannuation funds allocate new financial capital across a mix of different asset classes – with the aim of maximising long-term investment returns for members. The total allocation to Australian infrastructure assets – including road, rail, port, energy – comprises around 4.5 per cent of total investments, up from around 3 per cent a decade ago.<sup>10</sup>

### **New superannuation investments need to stack-up**

From the perspective of superannuation funds, any new potential investment opportunity must stack-up – whether this is a direct, discrete investment in an energy infrastructure asset, or an indirect stake via an unlisted investment platform (that holds direct stakes).

In particular, the over-arching legal requirement on the trustee of a superannuation fund is to make investments that are in the best financial interests of the beneficiaries (members) of the fund (see below for details). To this end, superannuation funds are required to set investment objectives in respect of each investment option, and to formulate a corresponding investment strategy to achieve those objectives.

- This includes the appropriate allocation to different assets classes (e.g. bonds, equities, property, infrastructure), to achieve investment objectives.

Fundamental to determining the appropriate asset allocation is the risk-return trade-off – that is, for a given risk tolerance, the asset-class mix that has the best chance of achieving investment objectives.

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<sup>7</sup> Deloitte 2024, *Dynamics of the Australian Superannuation System: the next 20 years to 2043* ([file:///C:/Users/acraston/Downloads/dynamics-australian-superannuation-system-v1%20\(1\).pdf](file:///C:/Users/acraston/Downloads/dynamics-australian-superannuation-system-v1%20(1).pdf))

<sup>8</sup> ASFA calculations based on APRA data.

<sup>9</sup> ASFA projections based on APRA data.

<sup>10</sup> APRA, *Quarterly superannuation performance statistics* and *Quarterly Superannuation Industry publication*.

## **Best financial interests obligation**

When undertaking investments, superannuation trustees are subject to the statutory obligation that those investments are made in the 'best financial interests' of the fund's beneficiaries (members) – that is, the best financial interests obligation.

- For APRA-regulated superannuation funds, the obligation on trustees to act in the best financial interests of beneficiaries extends to the broad range of trustee duties and powers.

The core objective of the best financial interests obligation is to ensure that trustees prioritise members' financial interests over their non-financial interests. Under the relevant legislation, a trustee would breach the obligation if members' non-financial interests were improved at the expense of their financial interests.

With respect to investments, the objective of the obligation is to ensure that the determinative motivation for trustees is to maximise financial returns to members having regard to an appropriate degree of risk. This does not preclude investments that also yield non-financial benefits, but such investments must still be in the best financial interests of members.<sup>11</sup>

## **Annual superannuation performance test**

A further regulatory determinant of fund investments is the operation of the annual superannuation performance test, which is administered by APRA.

The majority of investments held by the institutional component of the superannuation system are subject to the annual performance test. APRA estimates that the annual test covers around 84 per cent of total member assets in the accumulation phase. The test has not been extended to assets in the retirement phase – which implies that almost two-thirds of all member assets (held by institutional superannuation) are subject to the test.

The performance test assesses two aspects of product performance.

- Investment returns (after investment fees and taxes)
- Administration fees.

With respect to returns, APRA assesses each product's performance relative to its product-specific benchmark portfolio, over a rolling 10-year period. For each product, its product-specific benchmark comprises a combination of prescribed asset-class indexes, which are weighted by the product's particular asset allocation.

For each product, its investment performance is reported as the average deviation from the product-specific benchmark over the assessment period – in terms of percentage points.

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<sup>11</sup> The Parliament of The Commonwealth of Australia 2021, *Treasury Laws Amendment (Your Future, Your Super) Bill 2021: Revised Explanatory Memorandum* ([https://www.aph.gov.au/Parliamentary\\_Business/Bills\\_Legislation/Bills\\_Search\\_Results/Result?bld=r6672](https://www.aph.gov.au/Parliamentary_Business/Bills_Legislation/Bills_Search_Results/Result?bld=r6672)).

- The second aspect of the performance test compares a product's administration fees (expressed as a per cent of assets) against an industry benchmark. For each product, fee performance is reported as the deviation from the benchmark (again, in percentage points).

The outcomes of the two components are averaged. A product fails the test if the average is below benchmark by 0.5 percentage points.

Failing the performance test has significant consequences for fund trustees. In particular, a product that fails the test over two consecutive years is not permitted to accept new members (until it passes the test in a subsequent year). Failing the annual test also risks reputational damage.

The interaction between the best financial interests obligation and the annual superannuation performance test can lead to inconsistent outcomes. As discussed in the sections below, assets that are not well-represented in the prescribed benchmarks present an additional source of risk vis-à-vis the performance test (even if consistent with the best financial interests obligation).

### **There is a green premium on energy-transition assets**

From the perspective of superannuation funds, and institutional investors more broadly, the green premium (on a real energy-transition asset) can be thought of the degree to which the expected rate of return is lower than for a non-transition asset with comparable characteristics.

- The typical usage of the term 'green premium' relates to the additional cost of choosing a clean technology over one that emits more greenhouse gases.
- For superannuation funds, the extent to which there is a price premium for a clean technology real asset (that reflects higher embedded costs), implies a higher required rate of return.

With respect to energy-transition real assets, the size of the green premium can differ according to a range of asset-specific factors. However, broadly speaking, the anecdotal evidence suggests that for stabilised assets, the green premium is in the order of 100 to 200 basis points.

For superannuation funds, given their best financial interests obligation and the annual superannuation performance test, the existence of a green premium for any real asset will tend to reduce the attractiveness of that asset for inclusion in an investment portfolio.

- This applies to both existing real assets, and also to prospective real assets that are yet-to-be developed but where assets could be ultimately owned by superannuation funds.

For developers, the existence of a green premium for a potential development (from the point of view of institutional investors, including superannuation funds), would be expected to result in a higher cost of capital than otherwise would be the case, and so reduce the commerciality of that development.

This dynamic risks dampening private sector development activity (of real energy-transition assets), the supply of private-sector funding for development more broadly, and interest from institutional investors, including superannuation funds, as potential owners.

Ultimately, this risks that not enough new electricity infrastructure of the right kind will be built, in the right place and at the right time.

For policy makers, a key challenge is to introduce reforms to either reduce the green premium. No single policy change, on its own, is likely to be sufficient – instead a suite of policy initiatives is required.

In broad terms, reducing the green premium can be thought of as involving a combination of initiatives to:

- Decrease uncertainty regarding the development of energy-transition assets – this implies lower (expected/actual) costs for developers and thus a lower required rate of return for institutional investors.
- Reduce the cost of, and timeframes for, development of energy-transition assets – this implies lower (expected/actual) costs for developers and thus a lower required rate of return for institutional investors.

With respect to government initiatives to help reduce the green premium, the national interest framework and sector assessment processes are in the process of being legislated through the *Future Made in Australia Act*.

## Barriers and recommendations

### 1. Greater government coordination of development and investment

An over-arching barrier for developers, and for sources of private sector capital for development, relates to uncertainty regarding the shape of the post-transition energy landscape – and by extension, during the transition period, what types of energy assets need to be built, the location of those assets, and the appropriate sequencing.

For the private sector, heightened uncertainty is reflected in higher costs of development and delays to development, and ultimately higher required rates of return for institutional investors as potential owners.

The Australian Government's *Sector Pathway for Electricity and Energy* sets out the high-level plan for the whole of Australia's energy sector and energy systems out to 2050 (the plan encompasses the supply of all electricity, liquid fuels and gas).<sup>12</sup>

- The Department of Climate Change, Energy, the Environment and Water (DCCEEW) has responsibility for developing the plan, while the Climate change Authority (CCA) provides a review mechanism.

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<sup>12</sup> Commonwealth of Australia (Climate Change Authority) 2024, *Sector Pathways Review*. <https://www.climatechangeauthority.gov.au/sector-pathways-review>



The Australian Government intends that the *Sector Pathway for Electricity and Energy* will provide guidance for industry and investors, and so support the mobilisation of private capital towards activities that can significantly decarbonise the energy and electricity sector.

However, arguably there is a more extensive role for the Australian Government in coordinating development and investment to provide greater certainty and to spur private sector activity and interest.

In this regard, Government should play a leadership role in determining what types of energy assets need to be built, the location of those assets, and the appropriate sequencing. This would involve the coordination of public (across all levels of government) and private sector planning.

- The Australia's National Electricity market (NEM), the Australian Energy Market Operator's (AEMO's) *2024 Integrated System Plan (ISP)* sets out the optimal size, place and timing for the NEM's future assets – including generation, firming and transmission. Updated every two years, changes to optimal paths in future ISPs will reflect material changes in technologies, costs and policies. The next ISP (2026) will seek to incorporate demand management and gas infrastructure.
- The National Energy Transformation Partnership provides a framework for the Australian Government and state and territory governments to collaborate on reforms to help transform Australia's energy system to achieve net zero by 2050 and work alongside Renewable Energy Transformation Agreements with each jurisdiction.

There could be scope for further coordination of public and private investment in this optimal transmission pathway.

This is particularly relevant to electricity transmission infrastructure. The location and timing of transmission developments will dictate the location and timing of complementary developments in renewable generation capacity, energy storage and firming capacity (that is, pumped hydro and low to zero emission gas-fired generation). As the CCA has noted, once investors have sufficient confidence that transmission build-out is occurring, there can be efficiency gains from construction of generation infrastructure in parallel or near-parallel to the construction of transmission infrastructure.<sup>13</sup>

For the private sector, reducing uncertainty implies lower costs for developers (including due to less delays in development), and ultimately lower required rates of return for institutional investors.

As suggested by the CCA in its *Sectoral Pathways Review*, there is also potentially a more significant role for the Australian Government in entering into risk-sharing arrangements with

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<sup>13</sup> Commonwealth of Australia (Climate Change Authority) 2024, *Sector Pathways Review*. <https://www.climatechangeauthority.gov.au/sites/default/files/documents/2024-09/2024SectorPathwaysReview.pdf>

the private sector – on critical projects that have elevated timing risks such as major transmission developments.<sup>14</sup>

## 2. Review the National Electricity Market

The National Electricity Market (NEM) is the wholesale market through which generators and retailers trade electricity in Australia. It interconnects the six eastern and southern states and territories and delivers around 80 per cent of all electricity consumption in Australia (Western Australia and the Northern Territory are not connected to the NEM – they have their own systems and regulatory arrangements).

- The wholesale market operates around a spot market for wholesale trading in physical electricity, and reflects the reflects physical supply and demand across the market.
- Of particular importance to investors, the market provides price signals for investment in electricity generation over the longer term.

The NEM was designed when the grid was dominated by larger, more centralised generation. This was facilitated by large-scale, coal-based generation technology that successfully provided affordable and reliable power.

A post-fossil fuel grid will comprise more decentralised, more intermittent sources of generation – backed by renewables – and complementary transmission networks. The grid will need to accommodate steadily rising demand (which has been relatively stable for a decade), as economy-wide electrification expands. The interim transition period (as coal-based generation capacity is phased out) to around 2035, will require an increase in renewable capacity that is integrated with a decrease in coal-based capacity.

From the point of view of investors, the key role of the NEM is to provide the price signals to support the flow of private sector capital to new development projects that are consistent with Australia’s net-zero commitments.

However, there are significant risks that the NEM in its current form will struggle to deliver: not enough investment in low-emissions generation, storage, and transmission, when and where it will be needed.

- Those concerns are reflected in the introduction of the Capacity Investment Scheme (CIS), which involves the Australian Government rolling out tender bids for delivery of 32 GW of renewable energy/clean dispatchable capacity by 2030.
- Absence of reform could necessitate expansion of scale/duration of the CIS.

A lasting market mechanism is needed to support the build-out of capacity, which could include:

- a new Australian Energy Market Agreement that commits all parties to take a nationally consistent approach to energy policy.

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<sup>14</sup> Commonwealth of Australia (Climate Change Authority) 2024, *Sector Pathways Review*.  
<https://www.climatechangeauthority.gov.au/sites/default/files/documents/2024-09/2024SectorPathwaysReview.pdf>

- greater certainty around coal generation closure, supported by Government arrangements with coal generators to provide insurance against early or delayed closure.
- greater certainty around long-term commitments to purchase power from generators
- greater certainty of access to distribution networks.<sup>15</sup>

Broadly speaking, these improvements would work together to reduce uncertainty for developers, and so reduce costs of development, and ultimately lower the required rates of return for institutional investors.

The Energy and Climate Change Ministerial Council (ECMC) has tasked the Commonwealth with undertaking a review of the NEM.

### 3. Reform approvals processes

Current approvals processes for new projects are slowing the necessary expansion of renewable energy generation and related and essential infrastructure, such as energy storage projects and transmission lines.

The broad industry feedback to the Climate Change Authority (CCA) during its recent consultation highlighted that extended approval timeframes can be driven by factors including lengthy and inconsistent assessment processes involving multiple steps, poor coordination between agencies, frequent and unclear requests for information from agencies and approvals processes that are subject to changing expectations. Approval timeframes can vary considerably between jurisdictions.<sup>16</sup>

In this regard, key recommendations of the *Sector Pathways Review* are to:

- simplify, and make more consistent, approval processes across jurisdictions for new projects.
- develop a set of government-industry agreements that set-out principles for approvals processes and approval time-frames.
- undertake region-wide environmental and social assessments for renewable energy zones (in place of a project-by-project approach), that could facilitate clustered distribution, generation, storage developments.
- expedite approvals of identified critical cross-jurisdictional projects, such as critical distribution.<sup>17</sup>

Reducing the cost of, and timeframes for, development of energy-transition assets implies lower costs for developers and thus a lower required rate of return for institutional investors.

Progressed areas of government-led reform include on foreign investment approvals, processes for consulting first nations and grid connections. Environment Information

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<sup>15</sup> Commonwealth of Australia (Climate Change Authority) 2024, *Sector Pathways Review*.  
<https://www.climatechangeauthority.gov.au/sites/default/files/documents/2024-09/2024SectorPathwaysReview.pdf>

<sup>16</sup> *ibid.*

<sup>17</sup> *ibid.*

Australia is undertaking work to improve processes for regional approvals. Other initiatives are progressing to help major projects navigate approvals processes more efficiently.

#### **4. Better coordination of government funding mechanisms**

The Commonwealth has in place numerous sources of funding for private sector development of energy transition assets. These include:

- The Capacity Investment Scheme, administered by DCCEE (Barrier 2).
- The Clean Energy Finance Corporation, which administers the Rewiring the Nation Fund (funding for upgrading electricity transmission infrastructure), but also a general fund for renewables generation and storage capacity, and a number of innovation-focused funds.
- The Australian Renewable Energy Agency, which administers a number of innovation-focused funds.

The private sector would benefit from greater visibility and centralisation of funding mechanisms, as well as a better understanding of the role of the funding mechanisms in coordinating public and private investment – as per Barrier 1 above.

The Government's Front Door initiative provides a single entry point to the Australian Government for investors with major, transformational projects.

#### **5. Reform the Your Future, Your Super (YFYS) performance test**

As noted above, a key regulatory determinant of fund investments is the operation of the annual superannuation performance test.

- With respect to returns, APRA assesses each product's performance relative to its product-specific benchmark portfolio, over a rolling 10-year period. For each product, its product-specific benchmark comprises a combination of prescribed asset-class indexes, which are weighted by the product's particular asset allocation.
- For each product, its investment performance is reported as the average deviation from the product-specific benchmark over the assessment period – in terms of percentage points.

For individual superannuation funds, the performance test may constrain ultimate allocations of superannuation capital to real energy-transition assets.

The two prescribed asset-class indexes for listed and unlisted infrastructure comprise current assets and are thus heavily weighted to conventional energy generation rather than alternatives (and so are 'backward-looking').

Renewable energy assets comprise a very small component of the current benchmark allocation. Thus, being over-weight in renewables is a potential source of tracking-error risk vis-à-vis the benchmarks, and an additional source of risk vis-à-vis the performance test.

More broadly, however, is the risk that for some funds, increased sensitivity to benchmarks (as it relates to investment decisions) is driving overall strategic asset allocation towards asset

classes that are readily benchmarked – listed equities for example. This relates to infrastructure, but also private equity investments.

With respect to potential changes to the YFYS regime, there is a diversity of views across the industry regarding the form of possible reform.

Government is currently considering potential changes to the YFYS regime.