Delivering a just transition

Four keys to tax policies that maximise business action

pwc

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Executive summary

Business has a critical role to play in delivering a just transition. The goal of this paper is to support policymakers in designing tax policies that maximise business support for a just transition by sharing some of the levers – and barriers – to business action.

Through PwC's work advising thousands of companies, we have gained deep insight into how business leaders across the world are responding to tax policies designed to encourage a just transition. Our experience with companies enables us to understand why some policies succeed in driving C-suite action while others miss the mark.

In developing this paper, we interviewed 40 PwC tax partners and experts on six continents to explore how tax policies are affecting decision-making in boardrooms. We identified four keys to the creation of effective tax policies, and the markers of success or failure for each of these. In this paper, we explore each of these four keys in turn, illustrated by numerous examples of policies from across the world.

While the four keys may be familiar concepts to some policymakers, the practical examples we share bring to life the challenges of delivering policy that drives intended outcomes.

Four keys to tax policies that gain companies' support for a just transition

1 Offers certainty

- Policy is more successful if it provides a clear method to demonstrate compliance
  - Example: The EU's Taxonomy for Sustainable Activities helps to clarify what actions count as sustainable.
- Policy is less successful if it lacks clarity on how authorities will interpret policies.
  - Example: Lack of agreed standards for an acceptable lifecycle analysis is a 'main bottleneck to IRA uptake.'
- Policy is less successful if it inspires little confidence that the policy will endure
  - Example: The political opposition in Australia has said they will overturn a new tax credit for clean hydrogen, making companies reluctant to take up the credit.

2 Creates a business case for action

- Policy is more successful if it applies creativity and collaboration to help companies identify the business case
  - Example: The Spanish government's Just Transition Institute assisted an energy company to find opportunities to develop renewables businesses on the site of a decommissioned coal plant which helped to keep jobs in the local community.
- Policy is more successful if it offers financial incentives
  - Example: The US Inflation Reduction Act (IRA) offers strong financial incentives to companies in the form of 'stacking credits.'
- Policy is more successful if it expands the range of companies that can benefit
  - Example: The Colombian government extended the eligibility period for tax credits for renewable projects to give more companies time to make a profit and be able to claim the credits.
- Policy is less successful if it offers incentives that are too small or weak to override other concerns
  - Example: The Nigerian government offers tax incentives to companies that invest in the use of lower-carbon fuels, but the incentives are not powerful enough to swing a decision to build in Nigeria rather than elsewhere.
- Policy is less successful if it does not accommodate on-the-ground realities for business
  - Example: The IRA offers tax credits to companies that turn waste heat into electricity, creating perverse incentives for some companies to turn the heat into electricity and then back into heat, losing some energy at each step.

- Policy is less successful if it causes unintended harm to the business
  - Example: The Netherlands government's policy to pay households for electricity generated by home solar panels has created significant losses for energy companies, leading them to undermine the policy by setting contracts with new customers that rule out purchasing electricity.

3 Compliance is achievable and worthwhile

- Policy is more successful if the benefits justify the compliance burden
  - Example: The US IRA offers lucrative tax credits to companies that pay the prevailing wage to workers, making the effort to comply worthwhile.
- Policy is less successful if qualification under stringent terms is difficult or impossible
  - Example: The EU offers incentives to companies that invest in regions that suffer negative economic consequences from the green transition, but at least 600 million euros of this money has gone unclaimed because of the complexity in claiming the incentives and grants.

4 Built on collaboration

- Policy is less successful if one policy conflicts with another
  - Example: Some companies have been granted IRA tax credits that reduce their tax bill only to run into trouble under the Pillar 2 global minimum tax.
- Policy is less successful if there is a lack of collaboration between policymakers
  - Example: The Japanese government is investing more than 1 trillion yen in people and skills, but for its measures to succeed, different government departments must collaborate - something that has not always gone smoothly in the past.

It's not all about money

One lesson of our analysis is that there are many ways of motivating greater business action beyond fiscal incentives at the scale of the Inflation Reduction Act – or indeed without increasing fiscal incentives at all. For example, helping companies identify business opportunities, giving clear guidance on compliance, addressing regulations' unintended consequences, deconflicting policies, and creating confidence that policies will endure as politicians come and go. All policymakers must use limited public resources wisely, so the broad range of levers that don't require bigger fiscal incentives could be helpful.

Below, we explore examples of how policymakers across the world are designing the right policies to maximise business action. But first, we explain why delivering a just transition is so important.

Why a just transition matters

The global transition to net zero will entail vast economic and social change as the world moves away from its current reliance on fossil fuels which today still account for around 80% of global energy supply.[1] The transition will have significant impacts on people, bringing both risks (such as the loss of jobs in fossil fuel industries) and opportunities (such as abundant clean energy and new jobs in low-carbon industries).

Achieving a 'just transition' means taking action to manage the transition's impacts on people and communities, with a dual focus on minimising the negative impacts and maximising the opportunities for social and economic benefit. Companies can help to ensure the transition is fair, inclusive, and beneficial for people by – for example – helping workers build skills to participate in the growing green economy, delivering clean energy that is affordable for households, or aiding communities currently dependent on fossil fuel industries to diversify economically.

For a low-carbon transition to be successful, it is essential that it is a just transition, because this ensures that the necessary changes are socially and economically sustainable. Without measures to support displaced workers and affected communities, the transition risks triggering economic instability and political pushback, in turn undermining broader climate goals. In other words, without a just transition there may be no transition at all.

Turning to the positive, a transition that maximises the benefits of a low-carbon economy for society as a whole – through impacts such as improved public health, job creation, and economic resilience – helps to build a broad coalition of support, and a more rapid, robust and resilient shift to a low-carbon economy.

[1] Energy Institute – Statistical Review of World Energy (2024).

Just transition example actions

Worker support and job creation

- New job creation: Investing in clean energy sectors like renewable energy, energy efficiency, and green infrastructure to create new job opportunities with fair wages and benefits.
- Providing financial assistance, retraining programs, and job placement services for workers in fossil fuel industries who lose their jobs due to the transition.
- Skills building and skills-first hiring to help workers find roles in a changing economy.

Clean energy affordability

- Implementing programs to help low-income households afford the costs of clean energy, such as subsidies, rebates, and assistance with 'weatherisation' or weather-proofing.

Economic diversification:

- Supporting communities that are economically reliant on fossil fuel industries by making investments in new industries and infrastructure.
- Investing in sustainable industries and technologies that provide long-term economic stability.

Inclusive decision-making

- Ensuring that workers, communities, and other stakeholders affected by the transition have a voice in planning and decision-making processes.
- Promoting transparency and inclusivity in policy development.

Environmental Justice

- Addressing the disproportionate environmental impacts on marginalized and vulnerable communities.
- Ensuring that the benefits of the transition, such as cleaner air and reduced pollution, are shared equitably.

The goal of this paper

This paper seeks to provide practical advice on how to optimise one lever for delivering a just transition: tax policy. Specifically, we examine how tax policy can best be designed to encourage and enable companies to take action aligned with a just transition.

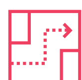
PwC's role as a tax advisor to thousands of companies provides us with deep insight into behind-the-scenes business decision-making and why tax policy compels – or fails to compel – action by companies. In developing this paper, we interviewed 40 PwC tax partners and experts in 19 countries in North America, South America, Europe, Africa, Middle East, Asia, and Australia, asking them which tax policy provisions could encourage companies to take action aligned with a just transition. Next, we asked whether these provisions do in fact have that effect on company behaviour – and why. (See Appendix for a list of all interviewees and the full set of interview questions.)

Our interviewees offered insights on policies including:

US Inflation Reduction Act (IRA)

EU Green Deal

Japan's Green Transformation Policy


UK Net Zero Strategy

Plus policies from Nigeria, Singapore, Australia, and more

Drawing on these interviews, this paper offers:

01

Insights from the boardroom: exploring how tax policies are motivating (or failing to motivate) companies to make decisions that are aligned with a just transition.

02

Conclusions about how tax policies can best be designed to encourage and enable companies to act in a way that helps to deliver just outcomes.

Some tricky truths – and how we manage them in this paper

Definitions of a just transition can vary

We show a range of definitions below. Fortunately, they all share a common theme: A just transition is understood to be one that manages the impacts of the net zero transition on people and communities, both minimising negative impacts and maximising opportunities for social and economic benefit. So this is how we define a just transition for the purposes of this paper.[2]

Examples of various perspectives on what 'Just Transition' means

International Labour Organization (ILO): The ILO sees a just transition as ensuring that the shift to a low-carbon and sustainable economy is inclusive and fair, creating decent work opportunities while protecting the livelihoods of workers and communities affected by the transition.

United Nations Framework Convention on Climate Change (UNFCCC): The UNFCCC views a just transition as integrating social and economic aspects into climate action, ensuring that climate policies are fair and inclusive, particularly for those most vulnerable to the impacts of climate change.

International Trade Union Confederation (ITUC): ITUC regards a just transition as a framework that supports workers, communities, and economies in the move towards sustainable practices, ensuring that no one is left behind and that the benefits and burdens of climate action are shared fairly.

Climate Justice Alliance (CJA): CJA defines a just transition as transforming the current extractive economy into regenerative and sustainable systems, prioritising the needs of frontline communities most affected by climate change and environmental injustices.

What counts as a just transition to some may not be seen as just by others

For example, the IRA's provision to encourage the use of domestic suppliers for green projects protects communities within the US but may not work in favour of communities in other countries. In this paper, we acknowledge that some policies may be interpreted as 'just' by some parties but not by others.

[2] In this paper we examine national or regional (EU) policies which does not give us scope to speak to supra-national and supra-regional dimensions of the just transition such as managing differential impacts on northern and southern hemispheres.

Tax policies are primarily designed to deliver the energy transition, not a just transition

As a result, tax policies have few provisions designed to enable a just transition. For example, our interviewees told us that the UK Net Zero Strategy, the EU Green Deal, and Japan's Green Transformation Policy have relatively few provisions designed to deliver a just transition. To address this challenge, in this paper we consider provisions that have just transition impact even if they were not designed with just transition intent. This somewhat expands the number of provisions we can consider, but the reality remains that a just transition is generally not the primary goal of tax policies. We analyse the limited number of just transition tax policies that do exist as 'points of light' that illuminate the way forward towards broader and more effective deployment of such policies. Many of these examples come from the US Inflation Reduction Act.

Many companies are striving to transition toward net zero, but few are focused on delivering a just transition

In a lot of cases, companies are seeking to align with the net zero transition for solid business reasons: to comply with regulation, to protect or enhance their reputations, or to build business models suited to a low-carbon world, for example.

However, while plenty of business leaders are conscious of – and concerned about – impacts on workers and communities, managing these is simply not seen as a business imperative for most firms or consistent with their fiduciary duty to shareholders. One partner explains: 'Companies are focused on the bottom line. They see a just transition as a nice-to-have.' In this paper, we identify ways that tax policy can motivate companies to help deliver a just transition, often by creating a solid business case for such action. In other words, tax policy can help to ensure that the incentives in market economies are structured to encourage a just transition.

Four keys to tax policies that gain companies' support for a just transition

In our interviews, four key attributes emerged as determinants of whether tax policies succeed or fail in motivating companies to act in support of a just transition. Below we explore each of these attributes in turn, drawing out common lessons on what led to the success or failure of the relevant policies, illustrated by numerous examples from across the world.

1 Offers certainty

Policy succeeds if it: Provides a clear method to demonstrate compliance

EU: Taxonomy defines what is and isn't sustainable

To be effective, tax policies should give companies clarity on the policy's requirements and how to demonstrate compliance. However, which actions count as 'sustainable' or 'just' can be ambiguous.

The EU's Taxonomy for Sustainable Activities is a good example of how to create clearer definitions of a broad concept like sustainability. The taxonomy seeks to clarify which economic activities are classed as environmentally sustainable for the purposes of the European Green Deal. Though some argue it is not perfect, the taxonomy represents a positive step towards helping companies know what activities will qualify for incentives.

It's easier to create tax policy on things like income tax where there are clear accounting standards. It ensures comparability and fairness, leading to increased public acceptance. The EU taxonomy defines sustainable activities in a clearer way so tax policy can be robust and actionable for both policymakers and companies."

Policy fails/has limited success if it: Lacks clarity on how authorities will interpret policies

US: Companies can be unsure how authorities will interpret IRA

The US Internal Revenue Service – the US government's tax authority – is striving to train its agents on the IRA. As is the case with any new tax policy, it takes time for clarity to emerge about how the terms of a policy on paper will be interpreted and applied by authorities in practice. This leads to some instances in which companies are not yet sure how the authorities will interpret parts of the IRA and whether claims may be rejected.

If there is no certainty around what will be allowed companies will just stop because it's too risky."

A further source of uncertainty is that different government departments may have different interpretations of the same policies. In order to benefit from some parts of the IRA, companies must complete a lifecycle analysis and have it approved by both the Department of Energy and Department of the Treasury. However, the two departments may take different views on the approval standards. 'As of today, no lifecycle analyses have been approved. This is a main bottleneck to IRA uptake,' comments a partner who has worked with several US companies on these analyses.

The ability to demonstrate compliance with a tax policy is important for policymakers so they can know a policy is having the desired impact – and it is important for companies too, so they can be confident of demonstrating their performance."

Policy fails/has limited success if it: Inspires little confidence that the policy will endure

Concern about unpredictable policy changes is pervasive among our interviewees in Europe and North America. Here are some typical comments:

Capital markets and companies like predictability. Companies can be unsure what is coming next with the European Commission. We advise steel companies that would require about 10 years to shift toward net zero. They need significant incentives and certainty to undertake such a deep, expensive, risky change program."

Companies want to make investments with a 10-year window. We get asked all the time if these [IRA] credits are going away. With a US election coming, companies are cautious about making big moves that assume IRA will continue."

Making the business case for long-term investments requires confidence in the policy environment for the long term – and this is often lacking."

I see reticence on the part of businesses in the face of uncertainty about future government actions. Some firms have been burned by past changes. This is fostering reluctance and reactivity."

Companies have considered taking up tax incentives to redevelop land around decommissioned coal-fired power plants. But that is an expensive long-term investment which they are reluctant to undertake without confidence about the long-term future of those incentives."

Policymakers must navigate a tension between flexibility (adjusting policies when needed) and the certainty that businesses crave. For example, companies greatly appreciate the European Commission's efforts to hone policies in response to business feedback, but this also means that policies can shift unexpectedly.

The European Commission has an ongoing Q&A with companies to learn how policies are working and adjust them in response. It is excellent that the Commission is listening to business. The downside of this responsiveness is that it creates uncertainty."

Australia: Tax incentives will be more effective when they are trusted to last

Australia recently introduced a tax credit for operating costs associated with clean hydrogen and critical mineral processing. This credit can support a just transition by helping to deliver abundant, affordable clean energy for Australian people. But the political opposition has said they will overturn the policy, meaning companies are reluctant to take action based on it.

Companies can prefer a reliable policy they don't fully agree with over an unreliable one they do agree with. A good tax policymaker has to be attuned to what is politically possible. A small change that will endure can be better than a big change that won't."

2 Creates a business case for action

Perhaps unsurprisingly, business decision-making is primarily driven by considerations of what will benefit the business. As one partner comments: 'The first driver for business decision-making remains financial concerns and the business case.'

Clients are not focused on a just transition per se, but they are focused on commercial concerns: protecting their reputation by delivering net zero commitments, managing the cost and volatility of energy, or expanding their share of wallet. Policy can leverage these motivations to encourage company action aligned with a just transition."

One of the fastest routes to success for tax policies seeking to motivate companies to take steps to help deliver a just transition is to align such action with companies' interests. This does not always need to take the form of financial incentives; it could mean helping companies find the business case for action.

Policy succeeds if it: Applies creativity and collaboration to help companies identify the business case

Spain: Spanish government's Just Transition Institute helps companies find the business case

The Just Transition Institute, part of the Spanish government, has used creativity and collaboration to help coal-using energy companies identify the business case for moving toward net zero while supporting a just transition.

For example, as coal thermal power plants faced mandatory closure, 'their first intention was to close the coal facility and abandon the site which would be a negative outcome for the local workers and community. We worked with the companies to instead identify potential energy renewable projects and projects to enhance the renewable value chain that could be developed on the site of the former coal plant. We prompted them to reconsider the benefits of the sites: they already have a workforce there; the infrastructure is already in place for energy transmission; they know the territory and how things work there; if they stay they will maintain their positive reputation in the region. So they did a new evaluation of the site and decided to stay,' explained Laura Martin Murillo, Director of the Spanish government's Just Transition Institute.

Creative thinking helped to build the business case. 'If the site is in or near a protected natural area, it might not be possible to build their first choice project – a solar panel farm, for example. So we encouraged them to think about other renewable value chain projects that are workable for the site such as recycling renewable batteries.'

Collaboration too was key to making the project feasible. 'We invested time in building agreements with unions, employers, and regional and local authorities so we had a framework for collaboration. This collaboration made it possible to speed the administrative process and project development.'

Though the Spanish government did not offer tax incentives to companies in this case, it did offer free consultancy, collaboration, and support to firms to help make just transition projects an attractive proposition.

Policy succeeds if it: Offers compelling financial incentives

US: The Inflation Reduction Act 'shows what the carrot end of tax policy can do'

The US Inflation Reduction Act (IRA) offers strong financial incentives to companies to support a just transition. For example, the IRA has 'stacking credits' that can offer huge tax discounts to companies. A US partner explains: 'The IRA base credit is only 6%. That is not going to move the needle to encourage people to get involved. But that 6% can rapidly go to 30% if you're paying fair wages and giving apprenticeships to help people retrain, and to 40% if you invest in communities that are underserved/ low-income or transitioning away from high-carbon energy.'

> Why is IRA investment skyrocketing? Because that's where the money is. The boardroom is very interested in shareholder value and profitability."

The financial appeal of stacking credits is so strong that, as the same partner points out, 'you are economically compelled to comply [with fair wage incentives] because it raises the base credit five-fold from 6% to 30%. You can't afford not to.' Not every stacking credit appeals equally (see the discussion below of location credits), but generally the IRA's stacking credits act as a motivating factor for companies. While some argue that IRA grants could be more effectively allocated, there is no doubt that the grants do work as a motivation to act in support of a just transition.

> The IRA shows what the carrot end of tax policy can do. For example, 170,000 clean energy jobs are attributed to the IRA. Countries like Germany have tripled their investment in the US due to the IRA."

A partner in Korea reports that the IRA is incentivising Korean companies to shift operations to the US: 'Many Korean companies are responding to the IRA's tax incentives to invest in the US, changing their ownership structure and supply chain away from other countries. For example, one company is receiving tax credits and subsidies by establishing an electric vehicle battery factory in the United States under the Energy Transition Policy and IRA.' This example demonstrates that tax policies such as the IRA can benefit some regions while having negative consequences for others, underlining the importance of the continuing search for balance and policy coordination to reach globally just outcomes.

Singapore: Tax concessions attract financing for sustainable investments

Singapore offers tax concessions to encourage investment in sustainable projects. These include, for example, concessionary tax rates for trading in carbon credits for qualifying financial institutions and trading houses. In addition, there are measures to tap private wealth. Family offices enjoy tax concessions if they invest sufficient sums in climate-related investments and blended finance projects. These tax measures help to increase the amount of available capital while also diversifying the sources of funding.

Policy succeeds if it: Expands the range of companies that can benefit

Generally, to claim a tax credit, a company needs to have taxable income that the credit can be used to offset. This means that companies with no taxable income may be ineligible for just transition tax credits – even if the loss-making position is a result of investing in just transition projects.

The Colombian government recognised that companies investing in renewable energy often make a loss for the first few years. So ‘the government extended the eligibility period for tax credits for renewable projects from five years to 15, giving more companies time to make a profit and therefore be able to claim the credits,’ explains a partner located in Colombia who works with companies in the energy, financial, and oil and gas sectors.

Similarly, the US IRA has ‘monetisation’ provisions that enable even companies making a loss to claim tax credits, thereby broadening the pool of companies that can claim. A partner who works with many US companies comments: ‘The monetisation provisions of the IRA are critical. They have hugely broadened the applicability of tax credits. Without this it would not be where it is today.’

Policy fails/has limited success if it: Offers incentives that are too small or weak to override other concerns

Nigeria: Tax incentives alone ‘cannot override all other issues’

Nigeria has published a bold energy transition plan to achieve carbon neutrality by 2060. Oil is a key industry for Nigeria that generates 80% of government revenue, so moving away from oil will have a significant impact on many Nigerian people. Nigeria’s high unemployment rates and rapidly rising population add to the pressure to deliver a just transition that manages the effects on its citizens.

To help deliver a just transition, the Nigerian government offers tax incentives to companies that invest in the use of lower-carbon fuels, thereby supporting a smoother transition away from oil. A partner at PwC Nigeria explains that while these incentives are attractive to business, ‘they are not enough to swing a decision to build in Nigeria versus, say, Louisiana. Tax is a second level conversation. The first level conversation is whether this is a good investment. Energy is a highly regulated industry. You have to think about licences, risk, relationships with the local community, and much more. Nigeria’s business environment can be challenging. Tax alone cannot override all other issues.’

US: IRA location incentives are rarely strong enough to outweigh other factors

The IRA offers a 10% tax credit to companies that locate operations in places that are economically disadvantaged or are transitioning away from fossil fuels. Some developers are taking advantage of the credit because the promise of the money helps them secure capital. But in many other cases, the incentive is just one factor among many in the choice of location. For example, the size and skills of the local labour force, infrastructure, proximity to research universities, even shipping costs can be important concerns.

For most big companies [the IRA’s location incentives] wouldn’t be a deciding factor for where they build something, though it can sway decisions on the margins.”

Policy fails/has limited success if it: Does not accommodate on-the-ground realities for business

> Sometimes the policy concept is okay but there is a lack of understanding of the realities for business. Policies need ongoing fine tuning to get the right incentives."

Policymakers know there can be a gap between a policy's intended effect and its impact in reality. Some tax policies designed to support a just transition do not have the intended impact because of the on-the-ground challenges that businesses face.

> Just transition policies can create a mismatch between what the government tries to incentivise and what business needs."

The examples in this section come from the US. Compared to some other policies, the US IRA has a relatively high number of provisions centred on a just transition. More policy provisions means more opportunities for policies to require fine-tuning to accommodate business needs. As we highlight below, US policymakers are working hard to address these issues.

US: Tax credits for reusing waste heat have unintended consequences

The IRA offers a tax credit for companies that use waste heat to generate electricity. This policy supports a just transition by removing some demand from the electricity grid, which in turn helps to deliver sufficient, affordable energy for households. However, the credit is not offered to companies that use the waste heat without first turning the heat into electricity. This creates incentives for companies to turn the waste heat into electricity before turning it back into heat, losing some energy at each step. The tax policy could be said to succeed in that companies do take up its incentives to use waste heat – but with some unintended negative consequences for energy efficiency.

Some tax policies encourage companies to take steps that are inhibited by collective action problems, and as a result the policies have little impact on companies' behaviour. Here are two examples:

US: EV charger stations face a chicken-and-egg problem

The IRA offers credits for installing EV chargers in low-income communities, but companies are reluctant to invest in charger stations while they are unsure that there will be sufficient consumer demand to use them. And consumers are reluctant to buy an EV while chargers are thin on the ground. "[IRA EV credit take-up] is just so low right now. We need to be more generous to start that snowball rolling downhill. For example, we could spend a billion dollars to build public EV stations in rest areas along highways," says a partner from the US.

US: Electric van adoption is inhibited by a 'second mouse' problem

It's been said of mousetraps that the second mouse gets the cheese. So any mouse would be reluctant to be the first to try to take it. A partner who works with many US companies explains that electric van adoption is stymied by a similar challenge: 'Everyone wants to be the second or third company to electrify. No one wants to be the first mover at the bleeding edge, especially if they have a fleet of thousands of vehicles. It's great that your Prius works but can we be sure that the new electric transit van will.' As a result, there is little take-up of the IRA's offer to pay a percentage of capital costs for companies that invest in electric vans. Creating trust in van reliability could help to solve this: 'If you can prove van reliability that is the killer app for company adoption.'

Policymakers can work with companies to hone policies to be more responsive to the challenges companies face. 'The US Treasury Department has done a good job of reaching out and requesting comments from business [on the IRA]. There is a real sense that they are listening.'

Policy fails/has limited success if it: Causes unintended harm to the business

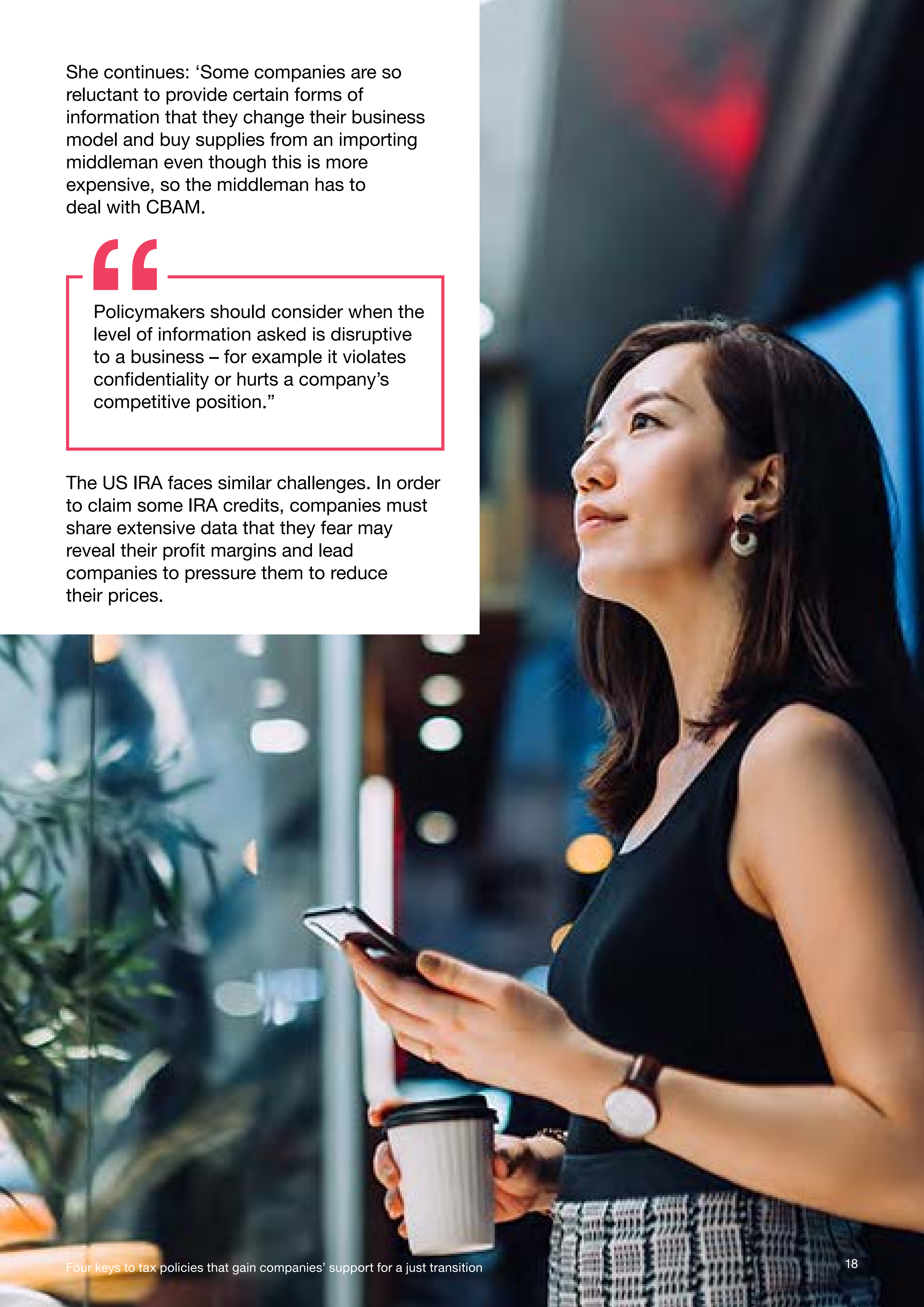
Netherlands: Just transition policies have driven sizeable losses for utilities

The Netherlands government promised that households would be paid a set amount per watt of electricity generated by home solar panels and sold to the grid. This policy supports a just transition by helping households with the costs of the move to renewable energy. However, at sunny or windy times, electricity in the Netherlands is worth close to zero because solar panels and wind farms are generating vast amounts of power. As a result, the policy created significant losses for some energy companies, leading them to set contracts with new customers that rule out purchasing electricity, undermining a policy designed to make the transition more affordable for households.

Just transition policies can run aground if they are not attuned to the realities that companies face."

EU: CBAM information disclosures can disadvantage companies

The EU's Carbon Border Adjustment Mechanism (CBAM) can require companies to disclose the identities and carbon emissions of organisations in their supply chains. Sharing this information can have negative consequences. 'Middlemen in the supply chain can fear that these disclosures will encourage some buyers to cut out the middlemen and go direct. Suppliers can be concerned that divulging their higher carbon emissions may make their product less attractive and/or encourage procurement departments to push their price down,' explains a partner in the Netherlands.



She continues: ‘Some companies are so reluctant to provide certain forms of information that they change their business model and buy supplies from an importing middleman even though this is more expensive, so the middleman has to deal with CBAM.

> Policymakers should consider when the level of information asked is disruptive to a business – for example it violates confidentiality or hurts a company’s competitive position.”

The US IRA faces similar challenges. In order to claim some IRA credits, companies must share extensive data that they fear may reveal their profit margins and lead companies to pressure them to reduce their prices.

3 Compliance is achievable and worthwhile

Policy succeeds if: The benefits justify the compliance burden

US: Proving compliance with the prevailing wage is difficult – but worth the effort

The US IRA offers tax credits to companies that pay the prevailing wage to workers. This supports a just transition by helping to ensure that jobs in the green transition pay their employees well. 'It's a great concept and companies want to comply, but the complexity of implementation is staggering. The IRS released 323 pages of new rules and updates in June 2024,' says a partner at PwC US.

First, companies must establish the prevailing wage in the local area. This can be difficult, not least for wind and solar farms that are located in remote areas that lack local wage data. Companies must classify each employee against local wage benchmarks and keep detailed pay records (including for staff employed via contractors). Companies must also continue to monitor local wages over months and years and continuously reconcile their employees' pay with local standards. That said, many companies still find that the work required is worthwhile. 'Many firms make the effort because the tax credits are lucrative,' explains a partner at PwC US.

Policy fails/has limited success if: Qualifying under stringent terms is difficult or impossible

In some cases, the benefit of compliance does not justify the effort in companies' eyes. For example, the EU offers incentives to companies that invest in regions that suffer negative economic consequences from the green transition. At least US$700 million of this money has gone unclaimed, says a partner in Belgium, and 'a key reason is the complexity in claiming the incentives and grants.'

Similarly, UK firms can tap a government apprenticeship fund to support green (and other) apprenticeships. But 'the conditions to get funds are challenging, resulting in little uptake,' says a partner at PwC UK who works with companies in the technology, consumer and service sectors.

Singapore: 'Companies can spend significant amount of resources seeking to qualify'

Singapore offers significant tax reductions for R&D spending which can be used to develop technology to help make renewable energy affordable and reliable for Singapore's people. But 'the requirements to qualify are so stringent – for example, the technology must be novel and first of its kind – that companies can spend a significant amount of resources seeking to qualify, which raises the question of whether the reductions are worth it,' says a partner at PwC Singapore. 'Qualification can take years. In rapidly evolving areas such as technology, a given piece of technology may no longer be novel by the time the tax deduction is granted.

US: 'You won't get distributional justice with rules this tight' on IRA green hydrogen credits

The IRA offers tax credits for the production of green hydrogen, an energy source which could help to supply abundant clean energy to households. To qualify for the credits, however, companies must prove that each unit of hydrogen was made using a unit of clean energy at the time of production. That is tricky when, for example, the company has to move from clean solar energy to other energy sources when the sun goes down. 'The US energy infrastructure can't support [the IRA's green hydrogen credit requirements]. Even hydrogen hubs in California – which has a sizeable supply of clean energy – are saying this is too strict,' comments a PwC US partner.

To qualify for the credits, companies must have their own dedicated source of green energy. That just isn't practical. For hydrogen to be green, many feel that it must be made using zero carbon energy. But this strict definition means green hydrogen may not be used at all."

The US partner adds that the Department of Energy has developed seven hydrogen hubs, including some in economically disadvantaged places such as Appalachia, but 'even some of these may not qualify for the green hydrogen credits. You won't get distributional justice with this policy if you keep the rules this tight.'

4 Built on collaboration

Policy fails/has limited success if: One policy conflicts with another

Companies must adhere to laws, regulations, and policies from multiple entities: government agencies, regional authorities, national governments, and supra-national organisations. Sometimes these policies can conflict with or undermine each other.

For example, some companies have been granted IRA tax credits that reduce their tax bill only to run into trouble under the Pillar 2 global minimum tax.

A partner who has helped many companies navigate conflicting policies says: 'There are a lot of those situations in which the laws overlap but don't work together well. For example, a company could apply for a state grant for building EV charging stations which requires paying prevailing wages. The company agrees a wage to pay. But by the time ground is broken on the project a couple of years later, the company is applying for grants from the IRA that also require paying the prevailing wage – but the wage is now higher. So the company is in an awkward position of having two conflicting agreements about which wage to pay. It's a tricky situation to resolve.'

Policy fails/has limited success if: There is a lack of collaboration between authorities

Successfully implementing just transition tax policies often requires different authorities to work together, and this isn't always easy.

Japan: Closer inter-ministerial cooperation is necessary for just transition measures

As part of Japan's green transformation, the government will invest more than 1 trillion yen over five years in people and skills, including measures such as supporting business owners in reskilling workers so they can participate in the growing green economy. For measures such as this to succeed, however, different government departments must collaborate.

For example, the Ministry of Health, Labour and Welfare in Japan has experience and capabilities in helping people find new roles, but limited expertise in the skills workers need to succeed in the green economy. This vital understanding of skills needs could be supplied by the Ministry of Economy, Trade and Industry, but information-sharing of this type remains limited. 'Many businesses are ill-equipped to get this knowledge on their own, making successful cross-departmental collaboration even more key. Historically, such cross-departmental collaborations have not always gone smoothly. Several departments are working together for the Japanese Green Transformation initiative. But more collaboration is needed to succeed,' explains a partner at PwC Japan who works with clients in the pharmaceutical, transportation & logistics, and automotive sectors.

Next Steps: Questions for policy

The below questions are intended to capture the key considerations that arose from our interviews on how policy can be designed to maximise business support for a just transition.

1 Offers certainty

- Does the policy offer clear decision standards for businesses to determine which actions qualify?
- Are there clearly established precedents for how authorities will interpret key policy provisions?
- How confident are businesses that policies will not change? Can anything be done to protect policy stability for the long term?

2 Creates a business case for action

- How can policy create a supportive environment for business models aligned with a just transition?
- What competing considerations can outweigh policy incentives in business decision-making? Can policy address any of these?
- Are there practical barriers to companies acting in accordance with a policy?
- Can businesses easily give feedback about a policy's unintended consequences?

3 Compliance is achievable and worthwhile

- Is the balance between the benefits of complying and the burden of doing so regularly monitored and recalibrated?
- Is there a clear understanding of why companies do not seek or fail to qualify for incentives? Could the terms be relaxed without compromising the policy's positive impact?

4 Built on collaboration

- What policies could conflict with another (such as regional, national, supra-national policies)?
- Which parties need to collaborate for the policy to succeed, and what do they need to cooperate or agree on?

Conclusion

Across the world, governments and tax authorities are beginning to develop and enact tax policies designed to encourage companies to support a just transition to a lower-carbon economy. This is undoubtedly a positive development, and the momentum behind it is growing. However, the outcomes from these new policies have been mixed, with some succeeding in prompting companies to act in ways that are aligned with achieving a just transition but other policies failing to do so. In this paper, we've identified and explored the key attributes that differentiate the successful just transition policies from the unsuccessful ones, and provided many real-world examples of these factors in action. We urge policymakers worldwide to take note of these key policy attributes – and take them into account as they hone and fine-tune their tax policies going forward.

Ultimately, achieving a just transition is in everyone's interests – from governments to companies to wider society. The tax system is a potentially powerful lever for helping to deliver it. The challenge now? To create tax policies that will truly assist in making it happen. We hope that this paper will help.

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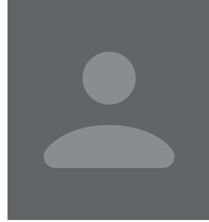

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Appendix: Interview Discussion Guide

Note: A 'just' transition means transitioning to net zero in a way that manages the impacts on workers and communities. For example, ensuring green energy is affordable for households, or helping workers displaced from high carbon industries to find new jobs.

Company views of a just transition

- As companies consider and plan their transition to cleaner energy, is a 'just' transition on their radar? Does it factor into their thinking and decision-making? Why or why not?

Tax policy provisions to encourage a just transition

- For the tax policy/policies in which you have expertise, which provisions are intended to encourage or enable companies to deliver a just transition? How? What business behaviour do the provisions seek to elicit?

How businesses react to just transition provisions

- Which companies do you advise on navigating this tax policy/policies? How do they react to these provisions? If we could be a fly on the wall in companies' boardroom discussions about just transition provisions, what would we hear them say?
- Do the provisions have the intended effect on company decision-making? Why or why not? Examples you can recall? (companies will remain anonymous)

How tax policy could be better designed to encourage business action on just transition

- How could the provisions be designed differently to better encourage and enable companies to deliver a just transition? Where are the easiest wins or behaviours that might most readily be encouraged by tax policy?
- Can we learn anything from other tax policies that have proven to be effective in shaping company behavior?
- Carrot vs stick: Would it be more effective for tax policy to primarily discourage certain types of activity, or to encourage certain beneficial activities on the just transition?
- Overall, what would be your key recommendations to policy makers to improve the ability of tax policy to enable a just transition?

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