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How can socio-economic transitions be better managed?

Lessons from four historical cases of industrial transition

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Summary

As pressure to decarbonize the global economy grows, regions that today are carbon-intensive face potentially major disruptive changes. As historical industrial transitions show, managing such change is rarely an easy task, and the consequences of a poorly managed transition can be devastating for local communities and regional economies.

Lessons from past experiences can help governments, labor organizations, local businesses, and communities prepare for and manage these transitions as smoothly as possible, to ensure fair outcomes.

This brief provides an overview of four historical case studies of the decline of major industrial or mining activities. We examined the experiences following: closure of a large steelworks in Newcastle, Australia; closure of the Kodak plant in Rochester, United States; the decline of the steel industry across the United Kingdom; and collapse of gold mining in South Africa's Free State province. Each case explores the social, economic and environmental consequences for these regions, and how different actors tried to address these. Insights from each of the individual cases can be found in our series of published briefs .

After summarizing our general approach to the cases, we highlight some of the common experiences and important dynamics about disruptive socio-economic transition that we distilled from across these cases. We find:

- The political economy of regional transition needs to be recognized. Transition planning is not merely a neutral coordination activity or a technical endeavour, but a highly political and usually politicized change moment. This fact introduces dynamics that can be both helpful for transition planners (e.g. resources may be made available, at least in short term) as well as unhelpful (e.g. government engagement with planning is needed but rarely comes ahead of crisis).

- Where inequality is not addressed, transitions are likely to be less successful. Both pre-existing inequalities and unequal impacts of the transition need to be tackled.

- Environmental costs are frequently transferred to the public, which undermines a just outcome.

- The assessment of "success", including in terms of fairness or justness, usually depends on which indicators are used or whose perspective is emphasized. The cases explored highlight mixed outcomes, where economic regeneration can happen together with declining job quality and growing inequality and poverty rates.

- Locally driven transitions produce better outcomes – but rely on government support for implementation.

Obstacles to planning and executing transitions

As the decarbonization agenda gathers momentum globally, countries and regions that today are heavily dependent on carbon-intensive industries and/or fossil fuel extraction face the prospect of disruptive social and economic changes. Many of these communities are poorly prepared for managing the consequences of this change (Climate Transparency, 2018; Strambo & Atteridge, 2018). At the same time, the concept of a "just transition" is increasingly emphasized in national and international debates when designing transition responses, with the intent to reduce resistance to change, to avoid destabilizing regions, and to ensure fair outcomes (see page 6).

Planning and executing a transition so that it is smooth, and its outcomes are equitable, is not an easy task. Decades of examples from places that have experienced a decline or loss of major industrial activities – including the four cases examined in this series – show how difficult it is to create new visions, new jobs, a vibrant new economy, and a resilient community (Aung & Strambo, 2020; Strambo, Burton, et al., 2019).

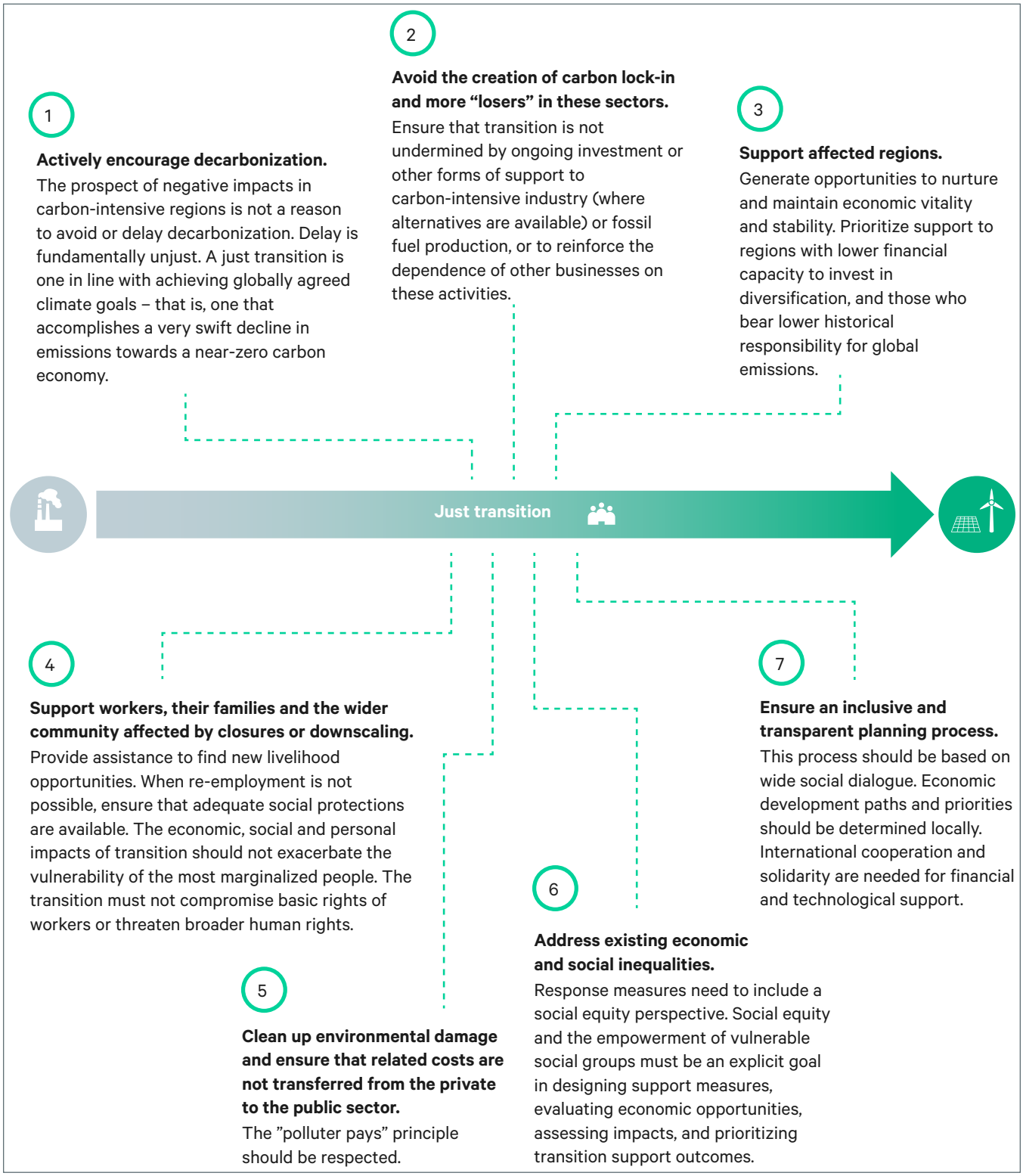
In the past, unmanaged decline has led to the loss of assets, skills, and social capital. It has also generated long-term environmental damage and caused great suffering among affected populations over several generations. Planning for a just transition aims to mitigate these losses and to distribute the costs and opportunities associated with the process in a fair way.

So, it is important to ask how a major industrial transition might be shaped or planned for in such a way that it ensures the fairest possible outcomes – for a wide variety of different stakeholders and objectives. Part of the answer is to learn lessons from past transitions. Such knowledge can guide local and regional stakeholders in contemporary transition planning, as well as support the work of the growing number of institutions around the world tasked with guiding contemporary transitions (European Commission, 2019; Government of Spain, 2020; Just Transition Commission of Scotland, 2019; Task Force on Just Transition for Canadian Coal Power Workers and Communities, 2018). Knowledge from past experiences can also complement guidance by the International Labour Organization, trade unions and civil society organizations (ILO, 2015; ITUC, 2017; Just Transition Alliance, 2018) as well as help other actors, such as the multilateral development banks, to support just transitions (European Bank for Reconstruction and Development, 2020; World Bank, 2018) .

About just transitions

The just transition concept has been used widely to highlight the different equity dimensions associated with environmental policy changes. At its core, the concept implies that the costs and benefits of these shifts should be allocated fairly across society. From a recent review of the relevant literature, we identified seven principles that capture the range of equity issues raised (Atteridge & Strambo, 2020). Taken together, we argue, these offer a guiding framework for contemporary low-carbon transitions (See Figure 1).

Figure 1. Principles of a just transition (Source: Atteridge and Strambo, 2020)



Building knowledge: methodology for the case studies

Our four detailed cases studies aim to draw out lessons about the impacts of transition, the responses to these impacts, and the kinds of short- and long-term outcomes experienced as a result. Among the four cases we found enormous variation in terms of what happened in response to moments of crisis, why, and how successful interventions were. We also found experiences common to all.

In selecting cases, we did not want to limit ourselves to those where there is already a considerable amount of published literature and analysis, primarily because our aim is to add to and broaden previous examinations of historical transition. We therefore selected cases based on:

- the industrial activity in question being a significant part of the regional economy and identity, i.e., being large employers and important to public revenue and the fiscal situation for governments, as well as to local and regional commerce.
- the desire to include different sectors, geographies, development contexts and scales, and
- there being sufficient information available across different sources.

The latter point is important because we did not conduct new primary research. Our method consists mainly of reviewing information that is already in the public domain. We reviewed the available peer-reviewed literature, although with the exception of the Free State Goldfields case in South Africa we found few such studies on our cases. Therefore, much of the information is sourced from local news media reports and other grey literature. Additionally, for a deeper level of insight into the dynamics of the change process and the roles played by different actors, we also conducted a small number of semi-structured interviews with people who have either studied the cases or were themselves actively involved with industry, government or local community organizations during the transition period.

In scope and depth, each of the cases is of an exploratory nature, and their rendering here and in the related briefs is inevitably incomplete. Our aim was not to prepare comprehensive analysis, nor was it important the cases be structured comparably. The insights derived from each are unique and determined based on the cases themselves and the type of information available. The narratives nonetheless each highlight a wide range of social, economic and environmental issues that need to be recognized and planned for when dealing with regional social and economic transformations. Although each of the four cases are quite different – and in each the type and depth of available information varies considerably – we also find many common experiences between them.

We identified a broad narrative for each case, as follows:

- The closure of the Kodak plant in Rochester (US) demonstrates how major distributional effects follow such an event, and that if the most vulnerable groups are not targeted by a transition strategy, inequality can worsen.
- The collapse of the steel industry in manufacturing regions scattered throughout the UK (UK) – the birthplace of the Industrial Revolution – offers an opportunity to examine the effects of national policy levers and shows how generic regional economic development policies are unlikely to be effective in addressing the goals of just transition for communities.
- The closure of a nearly century-old steelworks in Newcastle, Australia (AU) reveals how a prepared, coherent approach can help workers ride out the transition and how community-driven processes can positively influence the economic and social outcomes.

- The collapse of the Free State Goldfields in South Africa (SA) highlights political challenges, distributional impacts, and how some of the major challenges associated with socio-economic transition may be magnified in a developing country context where, for example, safety nets tend to be weaker.

In this synthesis, rather than repeating the insights described in each of the case study briefs we instead draw attention to several observations that, we argue, should be recognized by stakeholders facing contemporary industrial transitions. We also highlight some more general lessons, particularly as they relate to the principles of just transition described above.

The political economy of transition planning

Past experiences with industrial decline and closures show that making productive use of the period before decline or closure to undertake deliberate transition planning generates more positive outcomes on the ground. Action ahead of crisis can already mobilize the allocation of public revenue and other types of investment needed for worker re-skilling programmes, regional economic diversification, infrastructure, and environmental rehabilitation, and also allows other supportive policy reforms to be implemented (Caldecott et al., 2017; Gambhir et al., 2018; Neil et al., 1992). Our cases, too, show that planning and investment ahead of a crisis have positive effects. In Rochester, for example, the fact that Kodak declined over decades allowed at least its more skilled and mobile workers to explore new options, eventually creating the foundation for diversification in manufacturing and other technology firms. In Newcastle, too, the steel production decline that took place over a 15-year period saw some economic diversification and urban renewal happen in parallel. These changes ultimately provided a foundation for the city and its surrounds to adjust to the eventual closure of the steelworks.

However, alongside this lesson we offer a more troubling observation: In debates about transition it is commonly assumed government will play a central role in instigating and leading planning, yet our cases suggest this assumption could be highly problematic. Although the collapse of the Free State Goldfields happened quickly, in our other three cases the trajectory of industrial decline spanned a decade or more. Yet in none of these cases did local or national governments use the period of decline to anticipate eventual closure or large-scale loss of employment and revenue, and hence they did not implement holistic transition responses in advance of crisis. In the UK and Australia, as decline hit the steel sectors, the government made efforts to "stop the rot" by attempting to boost the fortune of the affected industry, and in the UK by the application of some general (rather than targeted) regional economic policy. In neither case did government look ahead and initiate transition planning ahead of the crisis brought on by plant closures. Like the UK example, the South Africa case is also marked by the government engaging only through generic policy support (e.g. regional development policy) that was insufficiently targeted to the local needs or challenges. Other historical studies of industrial transitions have similarly suggested a pattern of no or incomplete government support (Caldecott et al., 2017; Neil et al., 1992; Sartor, 2018; Strambo, Burton, et al., 2019), including in cases where industrial decline occurred over many years and the need to support social and economic change was foreseeable – as is the situation facing carbon-intensive industries today.

The absence of engagement by the state is particularly problematic because governments have several important roles to play if just transitions are to be realized, such as financing of programs to support workers and other community members (e.g. via training, early retirement, mental health, or relocation), support of small and medium enterprises (e.g. via incubators), and the social fabric (e.g. via social and cultural programmes, infrastructure and other strategic public investments).

Another observation from our cases is that even when governments do engage (i.e. after crisis), it is not always in productive ways. In the Newcastle steelworks case, for example, we encounter

suggestions that the initial interventions by state government ended up making the process more difficult rather than improving outcomes; government support was eventually deemed helpful, but only after it re-oriented to supporting the agenda developed by local stakeholders rather than itself designing regional economic diversification. A further problem in relying on governments to lead a transition agenda is, as seen in the Newcastle case study, the windows of political opportunity for securing transition support are almost certainly temporary, as political cycles shift.

Unaddressed inequality can worsen transition outcomes

Many communities face future transitions from a position of vulnerability or weakness. In some cases, this is even directly related to the historical presence and operation of the declining industry itself, e.g. there are many examples worldwide of coal mining having led to community evictions, environmental contamination, and local violence (Bedoya Arias, 2012; Bozzi, 2015; Padel & Das, 2010). But in other cases, this vulnerability may also be the product of broader socio-economic dynamics, conflict, and/or marginalization (e.g. based on gender, age, ethnicity or disability).

Supporting regional economic recovery is not a guarantee that the costs and benefits of the transition will be distributed equally.

The case of Rochester highlights how those most affected by change, or most vulnerable to its impacts, may not necessarily be those able to access new opportunities arising as a result of the transition. By all accounts, the distribution of impacts has been highly uneven. While macroeconomic indicators such as the number and diversity of firms appear positive, other indicators point to declining wage levels and growing inequality. Some higher-skilled workers have either started new businesses or gained new employment through them, while many lower-skilled workers have not found replacement livelihoods that pay commensurate wages or offer full-time employment. The uneven distribution of impacts and the persistence of high poverty rates raise questions about whether Rochester's prolonged transition is benefiting everyone.

The South Africa case highlights how mining decline ended up especially challenging for women because they had fewer resources to cope with the situation and suffered increased gender-based violence. Other studies have also revealed how mining and industrial transitions have contributed to the redefining of gender roles, as well as created new challenges and a double burden for women; gender-based violence and discrimination have also made transitions especially difficult for women (Bennett, 2015; Sesele et al., 2020; Shepherd-Powell, 2017).

In addition, the South Africa case shows how the lack of effective social safety nets made the negative effects of industrial decline worse. This suggests that the presence of adequate social safety nets is essential to protect disadvantaged groups and, therefore, to just transition outcomes. Indeed, evidence shows that without appropriate and effective social welfare measures and safeguards in place, structural adjustment programmes and deindustrialization processes negatively influence human and worker rights, such as rights to physical integrity, health rights, labour rights, and civil and political rights (Abouharb & Cingranelli, 2006; Peck, 2016; Stubbs & Kentikelenis, 2017).

It is essential that transition plans and investments take account of the specific needs of different groups, and the strategies put forward should tangibly reduce inequality and vulnerability – and certainly not exacerbate it. For instance, just transition investments and policies should target not only those who work directly in affected industries but also contractors, family members and vulnerable groups more broadly (Snell, 2018). Moreover, programmes, investments and technical support should include gender equality as a goal that is taken into account when designing support measures – by evaluating employment and other economic opportunities, assessing livelihood impacts or environmental costs, and prioritizing outcomes from transition support.

When evaluating options or outcomes, traditional indicators such as net job creation, diversity of manufacturing and regional economic growth are insufficient for assessing the extent to which support measures will improve (or have improved) the situation for the most vulnerable groups. Such indicators need to be complemented with metrics related to the kinds of jobs created, who has access to them, and levels of broader community resilience and innovation (Miller et al., 2015). These are all relevant to positive outcomes for health, stability and well-being.

Other measures, such as prioritizing public infrastructure that can deliver substantial benefits to poorer or otherwise more marginalized members of the community, removing harmful subsidies, strengthening social safety nets, and implementing programmes such as energy efficiency measures that result in cost savings for low income households, can help address inequalities and vulnerability (Atteridge & Strambo, 2020).

These insights suggest that, from a social equity perspective, both the process of industrial decline/closure and the responses to this regionally need examining from the perspective of the most vulnerable segments of society. Failing to consider pre-existing injustices and inequalities, and to address their main causes can intensify the feelings of injustice in affected communities (Sartor, 2018). This ultimately reduces social trust, a key requirement of collective action (Ostrom, 1998), and thus slows down transitions.

Other considerations in designing transition support

In designing *support strategies for affected regions*, it is important to realize that both the public and private sector are likely to need targeted support. In addition to the need to bring government into the transition planning space ahead of crisis, some governments – particularly municipal governments – may themselves need support, as illustrated by the South African case. Local governments in particular are often left carrying many of the burdens of local industrial downturn (Harrahill & Douglas, 2019; Strambo, Aung, et al., 2019) and may need assistance with scenario planning and debt restructuring to help ensure basic services are not affected as public revenue declines. This is crucial not only for basic welfare but also for maintaining the level of investor confidence needed to attract new economic activities. As the UK case shows, businesses in the supply-chain of a major industry may be poorly prepared for the loss of their main customer, and even as they experience commercial losses do not necessarily have the networks, knowledge or finances to reorient towards other opportunities.

Strategies to reinvigorate local or regional economies seem more likely to be successful if they:

- are *not* based primarily upon encouraging a like-for-like replacement industry (UK)
- build on existing local and regional assets (US) (as encouraged by the EU's Smart Specialisation agenda, for instance)
- invest in urban regeneration of town centres in industrial areas (UK, AU)
- involve major community institutions such as universities in identifying and addressing skills gaps (US, AU)
- ensure there is sufficient time and support to help communities and governments re-imagine the regions they live in, since this can be difficult where community identities have for a long time been shaped by a single major economic activity or company.

The last point above – identity inertia – should not be underestimated as a barrier to transition. However, while nostalgia makes thinking about alternative pathways more difficult, it can also be important asset in maintaining a common regional identity, social networks, and social cohesion more broadly. Scenario planning approaches might be useful for opening up space for new visions

and plans to emerge, although local stakeholders may be unfamiliar with scenario planning and may need examples of how to do this.

Support for workers is more effective if it creates opportunities for re-skilling, which broadens prospects for new types of employment – which is important because the region's future economy may look quite different to the old one. Support also needs to help address the many other types of impacts that job losses, or uncertainty about jobs, can have on individuals and families. This includes financial planning and mental health support. The Personal Pathways programme implemented in Newcastle, Australia offers a good example of comprehensive worker support and its positive outcomes. Without such support a transition can widen inequalities, which undermines the social and economic fabric of a region. Past cases suggest the involvement of trade unions seems to improve the design of support programmes for workers and for the wider community. Focusing only on re-skilling programmes and ad hoc support for directly affected workers is insufficient, because even a relatively successful transition takes time, and success at a macro scale does not mean every individual will experience a good outcome. All cases reviewed point to the importance of adequate social safety nets, such as unemployment and pension systems, as essential to a just outcome. In the Newcastle, UK and Rochester cases, safety nets have apparently played an important role in reducing the hardship faced by workers, while in the South Africa case, their absence has magnified the negative impacts of the gold mining sector's collapse.

The transfer of the *costs associated with environmental legacies* from private industry to the public purse is all too common an occurrence, judging by past cases of deindustrialization including those we reviewed (AU, US, SA). This outcome violates the "polluter pays" principle and burdens the state with clean-up costs. As a result, precious public revenues are diverted away from other local projects or programmes that could help workers, their families, and the community with transition support. This risk needs to be planned for and countered ahead of time, since environmental clean-up costs can be significant and the options for addressing these are much more limited after mining companies declare bankruptcy or change ownership.

Finally, the *process of transition itself* is likely to have an important effect on outcomes. In at least some of the "successful" aspects of the cases illustrated above, the emergence of network or multi-stakeholder governance (as opposed to top-down approaches led by government or big industries) seems to have been an explanatory factor in achieving positive outcomes. The Newcastle and UK steel industry cases both offer an example of the positive role that a local convening organization outside government can play in ensuring local ownership and a locally contextualized vision for economic diversification, employment and other related issues. Previous studies have concluded similarly that locally driven, bottom-up approaches to regional economic development planning appear to be more effective and correspond better to workers, and citizens' needs and visions than top-down strategies devised by central government (Harrahill & Douglas, 2019; Neil et al., 1992) and that coordination between actors is a key factor in enabling design and implementation of transition measures (Campbell & Coenen, 2017; Strambo, Aung, et al., 2019; Wirth et al., 2012). There is, however, not always a natural hub for this type of cross-stakeholder dialogue. Moreover, in Newcastle and South Africa, the local organizations set up to steer the transition struggled to maintain this effort in the mid- and long-term, suggesting that mechanisms are needed to ensure that any such efforts initiated or energized during the moments of transition can be sustained beyond moments of acute crisis (Harrahill & Douglas, 2019).

The engagement of trade unions has been helpful in some past transition cases, producing better outcomes for workers and local communities. In the Newcastle case, unions were instrumental in securing and negotiating redundancy packages and redeployment benefits for workers and in designing the "Personal Pathways" programme. Other studies, too, have concluded that cooperation between the state, private sector and trade unions has been a key factor for positive outcomes in places such as Germany (Abraham, 2017; Galgóczi, 2014) and Spain (IMRC, 2018), while failing to involve trade unions has weakened outcomes, for example in Romania and Canada (Bruha et al., 2005; Harrahill & Douglas, 2019; World Bank, 2018).

Concluding remarks

From our analysis of the four case studies, we offer the following key takeaways regarding the role of different actors in responding to industrial decline and the types of responses that can support affected peoples and regions.

Firstly, the political economy needs to be recognized by other actors working for just transition. Those actors with the power to convene governments may need to work creatively to bring governments to the debate earlier, and here it may be useful to offer tangible ways in which government support might be directed to help the transition process. In other words, to help government tailor its response to local context, rather than use blunt instruments like generically targeted regional economic development policy.

Secondly, careful and locally contextualized planning is necessary to avoid increasing inequality, systematically reinforcing the vulnerability of the poorest, or transferring of environmental costs to the public. Therefore, to evaluate transition options at the planning stage, as well as to review outcomes after the fact, there is a need to assess outcomes from a diversity of perspectives and indicators, and to monitor actual changes in affected regions beyond the short-term. Indicators relating to employment, for instance, need to be more nuanced than just total employment figures, since our cases show the potential for new employment to be less secure, less full-time, and lower paying – in which case the outcomes may be dramatically different.

Moreover, regions facing the potential closure of an industry should plan for the environmental legacies that many such activities leave behind, to prevent transfer of environmental costs to the public. Strong regulations for site closure and responsibilities for environmental remediation are essential, as is their effective implementation. For instance, ensuring that mines have closure plans in place and that financial resources for clean-up are secured from the industry, via bonds for example, is important (World Bank, 2018).

Finally, to facilitate local ownership of the transition process and of socio-economic planning, venues for dialogue between different kinds of stakeholders and different interests are needed. This dialogue can help all parties come to a shared understanding about the challenges and potential impacts of a transition, as well as create buy-in and set expectations for actions that support affected people and diversify economic activity. This in turn produces strategies that are more likely to ensure coherent responses, and thus also ensure that financial support – from governments and from external actors – is better aligned with the community's short- and long-term needs or visions.

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