

### **SUMMARY**

This best practice brief presents Component 3 of the Data-to-Deal (D2D) framework, which addresses aligning the development vision. This component focuses on integrating climate ambition with national development priorities to provide a clear, shared direction for subsequent modelling, policy, and finance. Effective visioning strengthens technical design by clarifying objectives and decision criteria, builds political will through inclusive consensus, and enhances investment-readiness by signalling stable long-term priorities. Component 3 comprises three subcomponents of successful visioning: (i) Laying the foundations for alignment through

policy mapping and clear governance arrangements; (ii) Designing iterative and inclusive stakeholder engagement; and (iii) Co-creating the vision by translating shared aspirations into a clear, evidence-based narrative that can guide technical modelling and policy development. These subcomponents are embedded across the D2D framework, reinforcing the legitimacy, feasibility, and durability of national transition strategies. The brief draws on case studies, including from Togo, Nigeria, Chile, and Zambia, to illustrate practices that align climate and development objectives and support successful implementation.

### **KEY RECOMMENDATIONS**

- Visioning processes should be inclusive, participatory, and designed to build shared ownership.
- 2. Vision development should combine complementary analytical and participatory approaches.
- 3. Visioning should be institutionally anchored to ensure continuity and coherence.
- 4. Visioning outputs should directly inform technical modelling and policy development.

### **CONTRIBUTING INSTITUTIONS**















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This document forms part of a series of guidance notes, each focused on one D2D component. The series provides practical advice to governments and their partners on how to integrate D2D into national planning and financing processes. This series (available <a href="here">here</a>) is co-authored by leading

international organisations, along with contributors from LMIC countries, to reflect a collective perspective on how best to leverage investment for climate-aligned energy and transport transitions.

The primary audience for these briefs includes energy and transport policymakers in LMICs at national and subnational levels, as well as development partners and international organisations that provide technical and financial support. The guidance applies to both mitigation and adaptation priorities, while recognising that the balance between them will differ across country contexts.



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## 1. Introduction

Low- and middle-income countries (LMICs) are working to transform major economic sectors to advance development priorities, meet climate commitments, and strengthen infrastructure resilience. Achieving these objectives will require accelerated socio-economic change across energy, transport, and other highemitting sectors. Most countries, however, cannot achieve these transformations without mobilising much higher levels of finance [1].

The Data-to-Deal (D2D) framework, developed by over 75 global experts, provides a structured, evidence-based approach to help countries close this gap [1]. The framework consists of seven interlinked components – Politics, Capacity, Vision, Modelling, Engagement, Policy, and Finance – that move from political commitment and institutional readiness through to financing. These components are designed to be adapted to national contexts, rather than be followed in strict sequence, and they are underpinned by sustained stakeholder engagement.

This brief focuses on Component 3: Vision - Aligning the Development Vision. Within the D2D framework (Figure 1), Component 3 emphasises the importance of developing a shared, long-term vision that aligns national climate objectives with broader development priorities. The visioning process provides the strategic and political foundation for subsequent technical and financial planning by ensuring that decarbonisation pathways are consistent with economic growth, social inclusion, and national aspirations. It is typically led by central planning or environment ministries in coordination with line ministries, development partners, and key stakeholders. This brief outlines key principles and best practices for vision alignment and presents lessons learned from country experiences to guide contextspecific adaptation and implementation. Additional references and resources on visioning processes are provided in an Appendix.

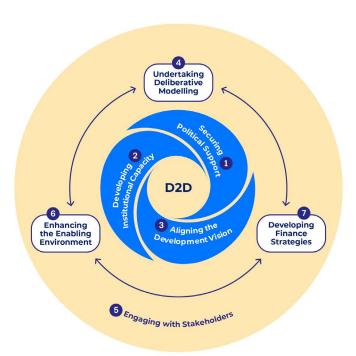


Figure 1: The D2D framework visualised

### 1.1. Inter-Linkages

Within the D2D framework, Component 3 links to the other components as outlined in **Table 1**.

**Table 1:** Interactions between Component 3 and other Components of the D2D Framework.

D2D Component	Link to Component 3: Vision
1. Politics: Securing political support	Component 1 establishes political support by setting an initial mandate that Component 3 then tests and strengthens. Visioning exposes and then helps reconcile frequent tensions between climate ambition and sectoral development priorities through transparent, inclusive engagement, building a more durable cross-party consensus.
2. Capacity: Developing institutional capacity	Component 2 develops institutional capacity to design and manage the visioning process. Cross-ministerial coordination teams, technical working groups, and shared data systems enable effective policy mapping, strengthen analytical and coordination skills, and ensure that vision development is institutionally owned and sustainable.
4. Modelling: Undertaking Deliberative Modelling	Component 4 undertakes deliberative modelling using the narratives, assumptions, and decision criteria generated by Component 3. Iterative exchanges between modellers and stakeholders ensure scenarios reflect socio-economic realities and, where needed, feed back to refine the vision.
5. Engagement: Engaging with stakeholders	Component 5 structures stakeholder engagement to support Component 3, defining who participates, how, and when. Inclusive methods, spanning citizen forums to sector roundtables, ensure marginalised voices are heard, trade-offs are explicit, and legitimacy is demonstrable.
6. Policy: Enhancing the enabling environment	Component 6 enhances the enabling environment by translating insights from Component 3 into policy and regulatory reform. The visioning process reveals political sensitivities, equity concerns, and tensions with sectoral priorities, informing sequencing, safeguards, and reform strategies.
7. Finance: Developing finance strategies	Component 7 develops credible finance strategies that build on the clarity and legitimacy established through Component 3. A well-articulated vision signals long-term direction, sector priorities, and just transition considerations, strengthening investor confidence and guiding the preparation of pipelines and financing frameworks.

#### 1.2. Value proposition

Effective implementation of Component 3 brings several important benefits:

### Consistency of climate goals with developmental objectives.

Visioning serves to identify pathways that reconcile a country's climate objectives (including mitigation, adaptation, and resilience) with its socio-economic development goals, defusing perceived tensions between the two agendas and enhancing political support. Additionally, it outlines general approaches to achieve these objectives by combining both practical and value-based elements of the visioning process.

### Enhanced domestic ownership of the climate transition agenda.

Visioning fosters trust and domestic ownership by ensuring that the climate transition plan emerges from a transparent and inclusive engagement process that is aligned with broader social goals and informed by the diverse needs of different population segments.

#### Improved implementation feasibility.

By thinking and working politically through an engagement process that aligns climate and development goals, the resulting transition plan is more contextually relevant, which supports the transition to implementation. Conversely, a lack of quality visioning threatens the viability of implementing climate goals and risks fragmentation of policy development.

#### 1.3. Sub-components

This brief unpacks the key challenges of aligning the development vision and provides practical guidelines and best practices to address them. Recognising that each country has its own unique political and economic dynamics, these guidelines are not intended to be universally applicable or exhaustive. Nevertheless, the following three guidelines

offer insights that countries can adapt or translate from experiences elsewhere to align with their specific national contexts, institutional capacities, and development priorities. The key therefore lies in contextualising these approaches rather than mechanically replicating them:

#### 1. Laying the foundations for alignment.

The starting point for any visioning process aiming to align climate goals with development objectives is to map out the landscape of existing policies, plans, targets, and strategies across the climate and development space. This can identify the key institutional actors involved and create coordination mechanisms to support their systematic dialogue, interaction, and cooperation.

#### 2. Designing stakeholder engagement processes.

A visioning process is ideally underpinned by a transparent and inclusive process of stakeholder engagement to promote ownership and long-term cross-party political support. Designing such a process calls for determining who needs to be engaged and which participatory methods provide the most suitable basis for engagement.

#### 3. Co-creating the vision.

The process concludes with the visioning exercise itself, which can draw upon (and ideally combine) a wide range of visioning methodologies. It should result in a concrete articulation of the vision in a brief narrative format, which may be supported by a more elaborate structure of milestones and targets.

The remainder of this brief provides in-depth guidance on these three sub-components to support policymakers and their partners in operationalising transition plans through viable financing strategies. Throughout, the brief draws on concise case studies to illustrate practical applications, common pitfalls, and replicable solutions in diverse LMIC contexts. Additional references are provided in the **Appendix**.

### 2. Best Practice Guidelines

# 2.1. Laying the foundations for alignment

The first sub-component of Component 3 is laying the foundations for alignment. By paying early attention to institutional design and policy coherence, countries can lay a solid foundation for alignment, establishing robust mandates that enhance the legitimacy, ownership, effectiveness, and sustainability of climate action and development planning. This will be vital to ensure that visions transcend political and administrative transitions and provide a longer-term frame of reference. This section focuses on two core elements that shape the quality and credibility of the alignment process:

Mapping out the policy landscape.

A systematic, whole-of-government

Introducing institutional coordination mechanisms.

#### 2.1.1. Mapping out the policy landscape

policy map creates the shared baseline for coherent climate-development decisions. In addition to mapping institutional actors, it is essential to conduct a comprehensive review of all relevant existing national climate and development frameworks, including plans, policies, strategies, and legislative instruments across government ministries and sectors. This systematic mapping facilitates a common and nuanced understanding of the current policy landscape, which will serve as the baseline reference against which alternative pathways will be assessed, for example in subsequent modelling exercises. The mapping process should be structured to yield the following insights:

- 1. Gaps in the policy landscape. The mapping process is likely to reveal some areas of policy that are more clearly defined than others. Gaps in the policy framework may also offer opportunities to begin thinking about climate and development goals in a more integrated way.
- 2. Synergies between climate and development. There may be some areas where climate goals and development goals point in the same direction or offer potential for integration. These will be important in helping to illustrate how both objectives can be aligned in specific sector circumstances.
- 3. Tensions between climate and development. There are likely to be significant areas where climate and development goals, at least initially, appear to point in opposite directions. Identifying these areas of tension is a valuable way of setting the agenda for discussion during subsequent stakeholder engagement.
- 4. Policy and stakeholder interactions. Some stakeholders have more influence over current policy frameworks than others. Further, some stakeholders are more affected (positively or negatively) by current policy frameworks than others. Understanding these patterns of interaction will help to identify which stakeholders are particularly critical to include in the subsequent engagement processes.
- 5. Barriers to policy reform. The mapping will also identify the extent of a country's existing commitments to different policy goals, which in some cases may be stronger or more binding than others. This, in turn, helps to identify the areas where incremental changes toward the alignment of climate and development goals may or may not be feasible.

# **BOX 1.** Case Study: Policy Mapping in Togo's Low Emission Development Strategy.

Togo's Long-Term Low Emission Development Strategy (LT-LEDS) illustrates how systematic policy mapping can build a coherent foundation for aligning climate and development goals. Led by the Ministry of Environment and the Ministry of Planning, the process reviewed national and sectoral frameworks, identified overlaps and gaps, and convened workshops to validate findings. These consultations helped reconcile sectoral priorities, enhance interministerial coordination, and ensure the strategy reflected national objectives such as diversification and rural resilience. Togo's experience shows that early, structured mapping strengthens institutional ownership and provides a durable platform for integrating climate and development planning. See **UNDP** for more information [2].

# **BOX 2.** Case Study: Integrating Climate and Development in Zimbabwe's LT-LEDS.

Zimbabwe's LT-LEDS embeds climate ambition within its goal of achieving upper middleincome status by 2030. By aligning low-carbon pathways with employment, industrialisation, and infrastructure objectives, the process positioned decarbonisation as a driver of inclusive growth rather than a constraint. Coordination between the Climate Change Management Department, sector ministries, and development partners ensured coherence across policy areas and enhanced political ownership. Zimbabwe's approach demonstrates how linking long-term climate goals to a clear national development vision can strengthen legitimacy, attract international support, and align short-term priorities with a netzero trajectory. See **UNDP** for more information [3].

# 2.1.2. Introducing institutional coordination mechanisms

Effective coordination is best achieved by reinforcing existing institutions through cross-government collaboration. By definition, the visioning process entails the reconciliation of competing goals and perspectives, leading to a shared cross-sectoral understanding of future pathways. The foregoing policy mapping process would normally help to identify all the key institutional actors responsible for directing different aspects of a country's development process. Within the D2D framework, these coordination efforts are organised through the Governing Coordination Function (GCF), established in Component 1: Politics. The GCF provides the institutional anchor for crossgovernment collaboration, ensuring that visioning processes are coherent, inclusive, and connected to political leadership and technical analysis.

Two complementary coordination mechanisms operate under the GCF: the Political Steering Committee – Special Interest Group (PSC-SIG) and the Technical Delivery Groups – Special Interest Groups (TDG-SIGs). The PSC-SIG convenes senior decision-makers from key ministries, regulators, and selected non-state actors to provide high-level guidance and reconcile trade-offs between sectoral and climate priorities. The TDG-SIGs manage the analytical and operational aspects of the visioning process, coordinating data, inputs, and feedback across institutions. Together, they ensure that political direction and technical delivery remain aligned throughout the visioning process.

Institutionalised coordination mechanisms harmonise the activities of the visioning process and embed collaboration within existing government systems. By anchoring coordination within the GCF, countries can maintain policy coherence, ensure continuity across political cycles, and prevent institutional

fragmentation. Equally important, this structure sustains the visioning process beyond the development of the initial transition plan, providing a permanent institutional home for monitoring progress, guiding implementation, and coordinating future updates. The precise configuration of these mechanisms will vary by country, depending on governance structures and administrative capacity. When well designed, such arrangements not only strengthen cross-sectoral and inter-ministerial alignment but also enhance the durability and adaptability of national visioning processes over time.

# **BOX 3.** Case Study: Institutional Coordination in Togo's LT-LEDS.

Togo's LT-LEDS was underpinned by a structured coordination arrangement guided by a roadmap jointly developed by the Ministry of Environment and Forest Resources, the Ministry of Planning, and the Presidential Unit. The process built on a pre-existing National Committee created for the development of the Nationally Determined Contribution (NDC), which functioned in practice as a Technical Delivery Group - Special Interest Group (TDG-SIG). This arrangement enabled ongoing collaboration across ministries, ensuring that technical work remained aligned with national priorities, illustrating how institutionalised technical coordination can enhance continuity and sustainability beyond the strategy's initial formation. See NDC Partnership for more information [4].

# 2.2. Designing stakeholder engagement process

The second sub-component of Component 3 is designing the stakeholder engagement process. Component 5: Engagement runs across the entire D2D process: it begins in Component 1: Politics, where early consultation supports political legitimacy and mandate setting, and continues in Component 2: Capacity

where institutional arrangements are established to make engagement viable. In Component 3, engagement becomes vision-shaping, determining which actors must be involved and why, so that the emerging national vision reflects real priorities, trade-offs, and social legitimacy. Component 5: Engagement, then sets out how engagement is operationalised and institutionalised through the GCF, PSC-SIG. and TDG-SIG structures, and continues to govern participation through Components 4–7.

The goal of this stakeholder engagement process is to build legitimacy, trust, and broad-based ownership by moving beyond token consultation to structured, inclusive participation. This requires deciding whose voices must be included, how to engage them, and when to engage in ways that are feasible, accessible, and context-appropriate. This section provides guidance on three elements related to designing stakeholder engagement:

- Determining whom to engage.
- Determining how to engage.
- Determining when to engage.

# **2.2.1. Determining whom to engage**Selecting the right mix of stakeholders ensures that national visions are both politically feasible and socially legitimate.

There is broad consensus among scholars and policy experts on the importance of inclusive stakeholder participation in crafting viable climate-conscious visions [5, 6]. Indeed, stakeholder engagement is woven through all seven components of the D2D framework [1]. Stakeholder identification, mapping, and representation protocols are detailed in Component 5: Engagement, which also flags early inclusion of financial actors. Component 3, however, goes beyond this narrow engagement to consider all affected stakeholders, including those who may be considered marginalised or vulnerable.

The purpose of stakeholder engagement is to ensure that visions reflect key concerns and ideas from diverse groups. This will help to improve data and information access, facilitate political buy-in, and crowdsource the best ideas from in-country experts from within and outside of government. The engagement process serves as a means of ensuring coherence in climate and development agendas and developing alternative narratives and pathways to decarbonisation. It is critical not to reduce stakeholder engagement to a mere box-ticking exercise with only superficial involvement of relevant actors. Determining whom to engage and how to engage with them are therefore important decisions in the visioning process.

Legitimacy depends on including both power-holders and those most affected, especially marginalised groups. The GCF is responsible for maintaining transparency in the engagement process and ensuring that both influential actors as well as marginalised groups are meaningfully represented.

Influential groups. The inclusion of powerful actors enhances the political feasibility of visions, thereby reducing implementation risks. For instance, involving actors with differing interests or influence, such as opposition political parties, major industry associations, or sector representatives, can enhance the likelihood of continuity across political and economic administrations. To maintain legitimacy, the process must be carefully designed to protect against the risks of lobbying from powerful incumbents. While it may be easiest and most practicable to consult with high-level decision makers in ministries, a visioning process that engages only with such actors cannot claim to be inclusive or democratic in a broader societal sense, neither would it constitute a real engagement with politics.

Marginalised groups. Despite the importance afforded to participatory visioning, consulted stakeholders frequently lack adequate diversity, with groups such as women, persons with disabilities, young people, and indigenous communities often underrepresented [7]. Moreover, prioritising marginalised groups reveals how competing pathways affect the vulnerable, thus supporting more just and inclusive transitions. Democratic politics thrives when norms and processes stimulate and support the expression of diverse viewpoints, while also providing processes that create legitimacy for the state to act in a unified way, without erasing the diversity of its citizens.

#### 2.2.2. Determining how to engage

Match engagement methods to context, capacity, and access, and build iterative feedback loops, not one-off consultations. The extent to which visioning contributes constructively toward a vibrant political discourse depends on how inclusively engagement processes are designed. Nevertheless, the extensiveness of engagement processes may come up against logistical and resource challenges. This may require purposively selecting representatives of interest groups and sections of society and involving them in vision development through qualitative interviews and workshops. Here, purposive sampling refers to targeting individuals who will be affected by or can influence the visioning process. Since purposive sampling may not mirror the wider population, larger samples of opinion could be achieved through surveying and polling methods. Citizens' assemblies and citizens' juries use statistically representative sampling to select a group of citizens that reflect the wider population. These groups then debate key issues; such methods therefore offer an interesting model of engagement. Table 2 sets out various tools and methods that may be used to enhance meaningful stakeholder engagement across a variety of contexts and scales.

### ${\color{blue}\mathsf{DATA} extsf{-}\mathsf{TO} extsf{-}\mathsf{DEAL}}$ component 3: Aligning the development vision — A best practice brief

**Table 2:** Stakeholder engagement tools and methods.

Category	Possible Strategies
Participatory Planning	Participatory Rural Appraisal (PRA) – Community members map local climate vulnerabilities, seasonal calendars, and resource flows using visual tools
Methods	Community-Based Participatory Research – Residents co-design studies on local climate impacts and mitigation/adaptation needs
	Scenario planning workshops – Stakeholders explore different climate futures and policy pathways together
	Theory of Change workshops – Groups map pathways from current state to desired climate outcomes
Traditional and Indigenous	Traditional authority consultations – Working through chiefs, elders, and customary governance structures
Engagement	Indigenous knowledge documentation – Formal processes to capture traditional climate observations and practices
	Community assemblies (barazas, town halls) – Open forums using familiar local meeting formats
	Religious leader engagement – Involving faith communities as trusted messengers and mobilisers
Technology-Enabled	SMS polling and feedback systems – Low-tech mobile engagement for areas with limited internet
Participation	Community and national radio programmes – Interactive shows allowing call-in discussions about climate policies
	Digital storytelling platforms – Residents share climate impact
	stories and suggest solutions via video or audio.
	Participatory mapping apps – Communities document climate risks and resources using smartphones.
	Virtual workshops – holding series of remote workshops through virtual platforms (e.g Zoom, Teams, Google Meet) to bridge geographical barriers and enhance cost effectiveness.
Sector-Specific Engagement	Value chain dialogues – Bringing together farmers, traders, processors, and retailers to discuss climate mitigation and adaptation.
	Multi-stakeholder platforms – Ongoing forums for different sectors (agriculture, water, mining, fossil fuel, energy) to coordinate.
	Business roundtables – Engaging private sector in climate policy visions.
Deliberative and	Youth climate councils – Formal advisory bodies giving young people a policy voice
citizen-led avenues	Consensus conferences – Lay panels evaluate expert evidence and make public recommendations
	World Café methodology – Large groups rotate through focused conversations on different climate topics
	Policy labs – Collaborative spaces for experimenting with climate policy solutions
	Citizen juries – Small groups deliberate on specific climate policy dilemmas
Inclusive approaches	Language accessibility – Materials and discussions in local languages, not just official languages.
	Approaches that are sensitive to Gender Equality, Disability, and Social Inclusion (GEDSI)  - Separate women's groups where cultural norms require and flexible timing for caregivers.  This also includes recognising the diverse needs of other populations, such as the disabled, and providing the required adjustments for enhancing meaningful participation
	Economic inclusion – Providing transportation, childcare, and compensation to enable participation
	Power analysis – Understanding local political dynamics and ensuring marginalised voices are not drowned out
	Iterative feedback loops – Multiple touchpoints rather than one-off consultations
	Visual and oral methods – Accommodating varying literacy levels through drawings, role-plays, and storytelling

# **BOX 4.** Case Study: Stakeholder Engagement in Senegal's Long-Term Strategy.

Senegal's elaboration of its Long-Term Strategy (LTS) demonstrates how structured and inclusive engagement can strengthen national planning. The process combined four broadbased sectoral working groups with a crosscutting committee on climate and development, all coordinated by a strategic ministerial body. This design enabled continuous dialogue between technical and political actors, ensuring that data, assumptions, and priorities were regularly updated to reflect evolving economic and political conditions. By institutionalising participation and maintaining open communication across sectors, Senegal's approach enhanced both the credibility and adaptability of its transition planning process. See **IDDRI** for more information [8].

#### 2.2.3 Determining when to engage

Sequencing engagement strategically ensures that the right stakeholders contribute at the right stages to build momentum, trust, and sustained ownership. The timing of stakeholder engagement is as important as the selection of participants. Engagement should be structured as a continuous and adaptive process that evolves with the development of the vision. Early engagement builds trust and legitimacy, allowing key ministries, political leaders, and coordinating institutions to co-define priorities and establish the parameters of the process. Engaging stakeholders from the outset also helps to reveal potential conflicts, align institutional mandates, and ensure that technical and political ambitions are grounded in fiscal and market realities. This early outreach typically begins with the core actors convened under Component 1: Politics, ensuring continuity between the initial political mandate and the visioning process.

As the process progresses, engagement should deepen and diversify. Technical actors

such as statistical agencies, data providers, utilities, and research institutions can be brought in once data collection and modelling begin in Component 4: Modelling, ensuring that assumptions are validated and scenarios remain credible. Broader consultations with civil society, subnational authorities, and the private sector are most valuable when preliminary analysis is available to test, challenge, and refine. This sequencing allows engagement to be both inclusive and purposeful, inviting the right voices at the right moments to add value rather than diffuse focus.

Stakeholder participation should also continue beyond the design of the transition plan. Periodic engagement during implementation and planned updates helps sustain ownership, institutional memory, and accountability. Maintaining formal feedback loops, through standing committees, regular review meetings, or online platforms, ensures that the vision remains a living framework that evolves with changing social, political, and economic contexts. In this way, the timing of engagement not only shapes the quality of the visioning process but also determines its durability and effectiveness over time.

#### 2.3 Co-creating the vision

The third sub-component of Component 3 is co-creating the vision. This stage synthesises evidence, politics, and public input into a shared long-term development pathway that integrates climate ambition with national development priorities. It requires choosing methodological approaches suited to the context and translating results into a concise narrative that can guide modelling (Component 4: Modelling) and subsequent policy design (Component 6: Policy). This section covers two elements that turn participation into a usable strategic product:

- Selecting relevant visioning approaches.
- Articulating the vision in narrative form.

# 2.3.1. Selecting relevant visioning approaches

Hybrid visioning outperforms single methods by balancing ambition, feasibility, and uncertainty.

Multiple visioning approaches exist within the climate planning literature. These include forecasting, scenarios, roadmapping, and backcasting. Essentially, forecasting asks, "Where are we heading?", scenarios ask "What might the future look like", roadmapping asks, "How do we get from here to there?", and backcasting asks, "If we want to end up there, what must we do now?". These approaches are summarised below.

Forecasting is the approach of predicting likely future climate scenarios based on current trends, data, and modelling. Forecasting projects forward from present conditions using statistical analysis, climate models, or trend extrapolation. It is typically more analytical and probabilistic, showing what might happen under different assumptions. Examples include climate models predicting temperature rises under various emission scenarios or economic forecasts of climate policy costs. In the visioning process, the development of narratives based on alternative pathways to decarbonisation is pursued as a basis for conducting the more technical (modelling) phase of the forecast.

Scenarios are a method for exploring and planning for multiple possible futures. Rather than predicting a single outcome, scenarios involve developing pathways and narratives based on different assumptions about key drivers such as technology, policy, economics, and behaviour. This helps decision-makers understand risks, uncertainties, and opportunities, and it supports more resilient and flexible planning. The use of participatory scenario methods can also foster collaboration, creativity, and shared understanding among stakeholders, making them a valuable tool in visioning processes.

Roadmapping is a planning tool that maps out pathways from the current situation to desired climate goals. Roadmaps typically show key milestones, technologies, policies, and timelines needed to achieve targets. They are forward-looking but grounded in present realities, often visualising how different elements, such as technology development, policy changes, infrastructural and social development, and financing, must align over time.

**Backcasting** starts with a desired future vision and works backward to identify the steps needed to get there. It typically begins with an ideal end state, such as a carbon-neutrality by 2050, and then traces back through time to determine what must happen in each preceding period. This approach is particularly useful for ambitious climate goals because it focuses on what is necessary, rather than what seems most likely based on current trends. In practice, the milestones identified through backcasting are often developed qualitatively through stakeholder consensus, reflecting political priorities and social aspirations. Their technical and economic feasibility is subsequently tested and refined during the modelling stage in Component 4: Modelling, where quantitative analysis translates these milestones into coherent, data-driven pathways.

The selection of a particular visioning approach should emerge from a careful assessment of national circumstances, institutional capacities, and strategic objectives, rather than being externally prescribed. It should be informed by country context, including political economy dynamics, needs, and timelines. The evidence suggests that effective visioning rarely follows a single approach. Instead, successful visioning processes often combine different approaches, as this avoids the drawbacks of overly relying on any single method.

# **BOX 5.** Chile's application of robust decision-making in defining climate pathways

Chile's process for defining its pathway toward carbon neutrality by 2050 demonstrates how structured analytical tools can enhance the credibility of long-term visioning. The government adopted the XLRM (eXogenous uncertainties, policy Levers, Relationships, and Metrics for success) matrix as part of a robust decision-making framework [9]. Through this process, public and private stakeholders contributed to identifying key uncertainties and policy levers, enabling the government to test the resilience of different policy options under a range of future conditions. This participatory approach strengthened both technical robustness and stakeholder ownership of the final vision. See **IDB** for more information [10].

# **BOX 6.** Case Study: Zambia's use of scenario thinking to explore alternative development pathways.

Zambia's long-term development planning illustrates how scenario thinking can be used to integrate diverse national perspectives and test strategic choices. The process was anchored around two deliberately contrasting visions of the future: a centralised model focused on export-led growth and foreign investment, and a decentralised model emphasising local governance, sustainable livelihoods, and community-based systems. This dual-scenario approach allowed policymakers to explore trade-offs between economic pathways and identify policies that would remain robust under different futures. See <u>Hughes et al.</u>, for more information [11].

#### 2.3.2. Articulating the vision in narrative form

A concise, policy-facing narrative with clear milestones turns participation into an implementable strategy. The final sub-component of the visioning stage is to describe in narrative form a country development pathway that leads to a low-emission economy consistent with the global drive to net zero greenhouse gas emissions. Some visioning processes conclude with only a streamlined long-term vision statement, which then informs the technical modelling that follows (ie Component 4: Modelling), whereas others include much more detail. This may include sectoral goals and targets, policies and investments to achieve them, uncertain drivers of change that could affect outcomes, and available data and tools. This information is sometimes documented in stand-alone vision documents and used to inform the subsequent modelling.

An essential output of the visioning exercise is a clear set of key policy questions that emerge from the combined policy review and stakeholder engagement processes. These questions form the bridge between qualitative visioning and the quantitative modelling phase, guiding the selection of appropriate analytical approaches, indicators, and variables. For example, if employment generation, energy access, or fiscal sustainability are identified as key national priorities, understanding how alternative pathways affect these outcomes becomes central to the modelling exercise. Framing the modelling process around such policy-relevant questions strengthens coherence between Components 3 and 4: Modelling, ensuring that the analytical work directly responds to national priorities and enhances long-term government ownership of the transition pathway. Finally, the outcome of the visioning process should be accessible and understandable to all. This may involve presenting the visioning document in multiple formats, including audios visuals, written documents, and in local languages.

### 3. Recommendations

Drawing on lessons from international experience and the collective expertise of the co-authors, the following recommendations distil key insights into actionable guidance for governments and line ministries on aligning the development vision. These guidelines, while not universally applicable, offer valuable insights that countries can thoughtfully adapt to their specific contexts, institutional capacities and development priorities. Designed to align with the broader Data-to-Deal (D2D) framework, these recommendations aim to support countries in developing robust, inclusive, and analytically grounded long-term visions that effectively guide subsequent modelling, policy, and financing stages.

- 1. Visioning processes should be inclusive, participatory, and designed to build shared ownership. A genuinely inclusive visioning process engages a wide range of stakeholders, from political leaders and technical experts to community representatives and groups who have been marginalised, as well as the private sector, ensuring that diverse perspectives inform the national vision. Meaningful engagement allows participants to contribute throughout the process, strengthening legitimacy and creating a shared sense of purpose. Such participation enhances the quality and durability of the vision, building long-term ownership and coherence across political cycles.
- Vision development should combine complementary analytical and participatory approaches. Adopting a mix of technical and participatory methodologies enables countries to balance ambition, feasibility, and uncertainty. Combining tools such as forecasting, roadmapping, and backcasting allows governments to align aspirational

- goals with practical steps, while using participatory scenario approaches can ensure that these pathways reflect social and political realities. Integrating multiple approaches supports creativity, evidence-based decision-making, and stronger alignment between the vision and subsequent modelling and policy processes.
- 3. Visioning should be institutionally anchored to ensure continuity and coherence. Establishing clear institutional mandates and coordination mechanisms, ideally within existing government structures, helps maintain coherence across ministries and ensures continuity through political or administrative transitions.

  Anchoring the visioning process within recognised national institutions builds legitimacy, strengthens alignment with national development planning, and enables sustained updates and monitoring over time.
- 4. Visioning outputs should directly inform technical modelling and policy development. The outcomes of the visioning process should translate into clear policy questions and priorities that guide subsequent modelling and policy work. Structuring these outputs to link directly with Component 4: Modelling ensures that analytical efforts are grounded in nationally defined aspirations and that scenarios reflect political, social, and economic realities. This alignment supports evidence-based policymaking and increases the likelihood that the vision will lead to actionable and financeable transition pathways. Finally, formal feedback mechanisms will be required to ensure the vision becomes a living framework that evolves with changes in the wider social, political, and economic contexts.

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### **APPENDIX 1: RESOURCES**

Table 3: Resources for further reading

Resource Description		
Resource Analytic framework for		
Analytic framework for assessing participation processes and outcomes of climate change adaptation tools [12]	This article provides a framework and analysis of engaging stakeholders with diverse needs. The framework shows how tools, such as images and peer-to-peer discussions, can be used as an alternative to computer-based tools to foster meaningful participation of community-based actors in climate planning.	
A pathway design framework for national low greenhouse gas emission development strategies [13]	This academic article presents a methodological framework for constructing national pathways aligned with the Paris Agreement. It promotes backcasting from long-term goals to inform present decisions, combining qualitative narratives and quantitative scenarios. Core arguments include the need for stakeholder legitimacy, transparent modelling, and alignment with national development contexts to ensure actionable and ambitious decarbonisation strategies.	
Future Low-Carbon Transport Scenarios: Practice Theory- Based Visioning for Backcasting Studies [14]	This paper presents an innovative approach to visioning within backcasting frameworks by integrating social practice theory in Malta's transport planning. The participatory methodology employed stakeholder workshops to develop four future scenarios for 2050, moving beyond technical considerations to incorporate competencies and societal values alongside material elements. The study demonstrates how visioning processes benefit from a practice-oriented lens that recognises mobility behaviours as embedded in broader social contexts, resulting in more nuanced and implementable futures.	
Good practice for LT-LEDS development (GIZ) [6]	This publication explores the development of Long-Term Low Emission Development Strategies across multiple countries, highlighting diverse approaches to visioning. The document identifies robust governance structures, stakeholder engagement, and financial planning as critical elements of effective visioning processes. Through case studies from Rwanda, Nigeria, and others, it demonstrates how visioning serves as a foundation for policy alignment and climate action, emphasising the importance of comprehensive stakeholder participation to ensure visions transcend political cycles.	
Long-Term Strategies for Climate Change: A Review of Country Cases (Coalition of Finance Ministers for Climate Action) [15]	This report analyses the long-term climate transition strategies of multiple countries, including Ethiopia, Fiji, Finland, the Netherlands, Spain, Uganda, and the United Kingdom. It presents a seven-step framework for transition planning and identifies common challenges across developed and developing nations. The document emphasises the importance of political buy-in, stakeholder consultation, and impact assessments to ensure socio-economic stability throughout the transition. The visioning process typically involves gathering technical information, conducting multi-stakeholder consultations, and independent assessment of proposals by research organisations. The report highlights that effective governance structures, regular monitoring of progress, and integration with broader development goals are essential for successful climate strategies.	
Mexico's mid-century strategy: Lessons in planning for the Paris Agreement [16]	This case study examines Mexico's process for developing its Mid-Century Strategy (MCS), a long-term low-carbon development plan submitted to the United Nations Framework Convention on Climate Change (UNFCCC). The authors describe how Mexico's climate policy evolved from the Cancún Agreements through to its MCS, detailing the institutional framework and processes used to create a unified climate change vision. The study identifies key challenges in aligning long-term strategic objectives with short-term policy actions, emphasising the need for stronger links between planning timeframes to achieve transformational climate goals. The authors suggest that Mexico needs to update its strategic approach to incorporate recent technical, scientific, and political developments to maintain its climate leadership.	
NDC – LT-LEDS alignment guide: Aligning short-term plans with long-term ambitions (DDP Initiative) [17]	This guide presents a participatory visioning methodology for aligning climate planning instruments. It showcases how visioning exercises involving stakeholders helped create long-term development scenarios in four distinct national contexts. The document illustrates how sectoral stakeholder groups, technical committees, and steering committees collaborated to develop coherent transition pathways linking immediate actions with long-term goals. Notably, Morocco's case study demonstrates how co-constructed sectoral visions enabled stakeholders to identify actionable levers and establish a shared national ambition for achieving net-zero emissions through a robust governance structure.	

### ${\color{blue}\mathsf{DATA} extsf{-}\mathsf{TO} extsf{-}\mathsf{DEAL}}$ component 3: Aligning the development vision — A best practice brief

Resource	Description
Net-zero compatible development pathways in Argentina, Brazil, China, India, Indonesia, Mexico and South Africa: lessons for short-term actions. [18: forthcoming]	This paper presents findings from the Deep Decarbonization Pathways (DDP) Initiative's IMAGINE project, which examines carbon neutrality scenarios in seven emerging economies. The authors develop methodologies for exploring country-specific transformations toward net-zero emissions while maintaining key socio-economic priorities. The analysis demonstrates that each country follows unique pathways based on national circumstances, but all require energy demand moderation, fossil fuel reduction, and enhanced carbon absorption in land-use sectors. Policy recommendations include prioritising short-term emission reductions in power, passenger transport, and land use, while addressing long-term infrastructural and behavioural inertias. The authors argue that successful pathways require tailored cross-sectoral policy packages that manage social impacts and align with national development objectives.
Planning for a net-zero future: Guidance on how to develop a Long- Term Low Emission Development Strategy (LT-LEDS) (UNDP) [2]	This guidance document emphasises that robust LT-LEDS development requires strategic policy mapping and inclusive stakeholder engagement. It recommends mapping existing policies and governance structures to establish clear linkages with national development plans while avoiding duplication. The authors highlight that stakeholder engagement is central to effective visioning because it raises awareness, enhances legitimacy, advances public trust, creates social mandates for action, and improves policy alignment with societal values. The document advocates for continuous dialogue with stakeholders from government, civil society, and private sectors to strengthen buy-in and support throughout the visioning process.
Policy lessons from the Deep Decarbonization Pathways in Latin America and the Caribbean Project (DDPLAC) [19]	This document presents long-term strategies developed by six Latin American countries. It highlights the use of participatory modelling to align low-emission pathways with local development goals. Visioning involved integrating co-benefits (eg air quality, jobs) into planning. It argues that credible pathways must be technically robust, socially inclusive, and reflect regional governance realities.
Policy lessons on deep decarbonization in large emerging economies (DDP Initiative) [20]	This report explores deep decarbonisation pathways for Brazil, India, Indonesia, and South Africa. Using a backcasting approach, national teams developed economy-wide scenarios aligned with the Paris Agreement. The visioning process integrated sectoral deep dives and stakeholder engagement to identify feasible, context-specific pathways. Core arguments stress political economy challenges, the role of strategic policy design, and the importance of international cooperation.
Scenario-based stakeholder engagement: incorporating stakeholders preferences into coastal planning for climate change [21]	This document shows how scenario-based stakeholder engagement can be implemented in visioning climate ambitions. This begins by identifying stakeholders based on those who could influence or be affected by the policy through multiple methods, including engaging formalised groups and a snowballing approach. Concurrently, a prior impact scoping exercise is conducted through a review of grey literature to gain an initial idea of the differential needs that require consideration. These potential impacts are ranked in order of importance before deliberating with the stakeholders. The potential impacts are then reranked after engaging the relevant stakeholders. Any other identified impact and mitigation strategies are added to the issues that will later form part of the scenario development. These deliberations take the form of workshops, interviews, and multiple meetings to arrive at alternative pathways to decarbonisation.
Technical guide for the development of Long- Term Low Emission Development Strategies in Africa (AGNES) [19]	This publication outlines a structured approach to developing Long-Term Low Emission Development Strategies (LT-LEDS) in Africa. The document describes visioning as a critical second phase that follows inception and scoping. The visioning process involves defining key components of long-term visions, engaging stakeholders, developing sectoral and national visions aligned with national development priorities, and conducting baseline assessments. It emphasises participatory approaches and presents case studies from Nigeria, Kenya, Costa Rica, and Ethiopia, highlighting how these countries have developed inclusive national visions through consultations, technical working groups, and foresight methodologies to create transformative climate strategies.

### ${\sf DATA-TO-DEAL}$ component 3: Aligning the development vision — A best practice brief

Resource	Description
Towards green development in Zambia: a mixed-method participatory scenarios approach [11]	This paper demonstrates how scenario thinking can support planning for climate resilient development in LMICs. The authors developed a participatory, mixed-method scenario process for Zambia, combining qualitative stakeholder-led development with quantitative energy system modelling. They constructed two contrasting scenarios – "Centralised" and "Decentralised" – to explore economic development strategies to 2063. The scenarios highlight key considerations for decision-makers, including climate resilience of infrastructure investments, economic diversification, multi-level governance approaches, cross-sectoral resource planning, and strategic international partnerships. The process follows a structured framework examining: Where are we now? Where do we want to be? How do we get there? How resilient will we be? This provides a holistic planning approach for sustainable development.
We Need to Talk About Climate: How Citizens' Assemblies Can Help Us Solve the Climate Crisis [23]	This book shows how Climate Citizen Assemblies can be an effective tool for visioning climate actions with greater participation of diverse groups. A climate citizens assembly is a lottery democratic deliberation process where a representative group of ordinary citizens comes together to learn about, discuss, and make recommendations on climate policy issues. The aim is to partly depoliticise planning of climate action and mitigate the electoral pressures often faced by political elites.

