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Perspectivity

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How this knowledge product came about

Developing inclusive, sustainable and resilient energy access markets requires navigating complex choices. New technologies, financing mechanisms and business models are expanding access to modern energy services, while governments, private sector actors, development organisations and communities continue to influence the direction of change. Yet fundamental questions continue to shape the sector. Who should lead market development? Who benefits from market growth? What ultimately drives transformation? And what creates lasting impact?

To explore these questions, EnDev convened a structured, learning-oriented process designed and facilitated by Perspectivity. The purpose was not to reach consensus, but to surface and examine the different assumptions, values and trade-offs that shape thinking and practice in energy access market development, and to collectively explore what these reveal about achieving change.

The learning journey began with identifying four fundamental tensions that repeatedly emerge in EnDev's work in connection to schools of thought on market development. These tensions formed the basis for a series of four online global dialogues, each focusing on one of the following themes: public versus private leadership, market expansion versus inclusion, rapid impact versus systemic transformation, and technology-driven versus people-driven change.

Each dialogue invited participants to deliberately explore both sides of the tension. Rather than defending their own viewpoints, participants were encouraged to step into opposing perspectives and examine the assumptions, values and trade-offs that underpin them. Through structured dialogue and reflection, participants shared experiences, challenged assumptions and collectively generated insights.

The document contains two parts. The first part presents per tension emerging patterns and a set of Messages to the Future based on the rich body of insights generated through the dialogues combined with a process of synthesis and sensemaking by the author.This second part of the knowledge product is a meta-analysis across the four tensions, allowing yet another layer of themes and connections, resulting in a set of intriguing questions.

The insights and questions presented in this knowledge product represent the result of a layered deep learning process and are intended to highlight promising directions for future thinking and practice, rather than provide solutions or prescribe specific actions.

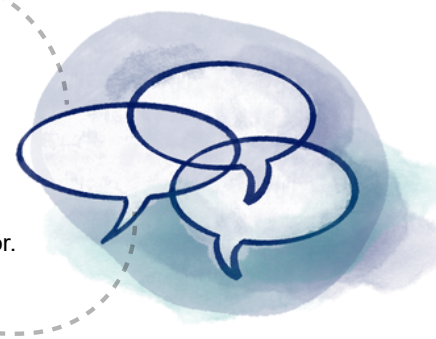
This knowledge product captures the key insights emerging from each of the four tensions, together with the broader patterns, reflections and future-oriented questions that arose across the dialogue series and sensemaking process. It invites readers not only to engage with the individual dilemmas, but also to continue the wider conversation on the future of energy access market development.

The Learning Process



Identifying Tensions

Desk research and interviews and identifying the main tensions.



Dialogues

Four global online dialogues exploring one tension at the time and formulating insights shaping future conversations for the sector.

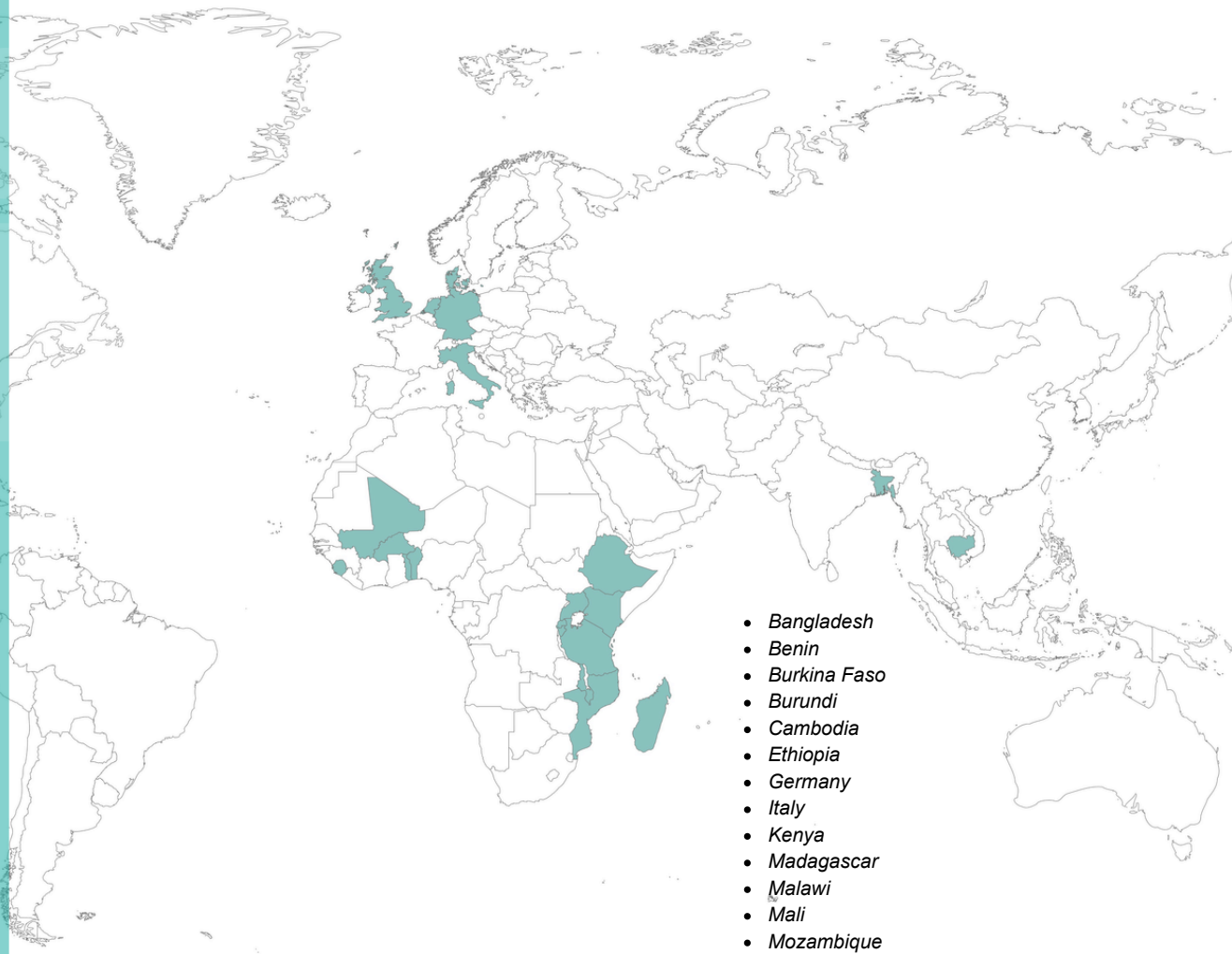


Insights and Sensemaking

A deepening process of bringing information together per tension, distilling patterns and key messages for shaping the future, connecting with current research and a meta reflection resulting in 5 intriguing questions for the actors active in the sector to challenge itself.

STAKEHOLDER REPRESENTATION

Across the four dialogues, more than 100 participants from a diverse range of organisations and professional backgrounds contributed to the discussions, including implementing organisations, development practitioners, NGOs and researchers. Representation varied between sessions, with government ministries, financial institutions and private sector actors less present in some discussions. The insights presented in this knowledge product should therefore be understood as a contribution to an ongoing conversation on the future of energy access and market transformation.



- *Bangladesh*
- *Benin*
- *Burkina Faso*
- *Burundi*
- *Cambodia*
- *Ethiopia*
- *Germany*
- *Italy*
- *Kenya*
- *Madagascar*
- *Malawi*
- *Mali*
- *Mozambique*
- *Netherlands*
- *Rwanda*
- *Sierra Leone*
- *Tanzania*
- *Togo*
- *Uganda*
- *United Kingdom*

1 WHO LEADS?



What is the tension?

Few questions have shaped development practice as persistently as the relationship between markets and governments. The energy access sector is no exception. At first sight, the tension appears straightforward. Should energy access primarily be driven by entrepreneurs, investors and market forces? Or should governments take the lead because access to energy is ultimately a public responsibility? Behind this practical question lie two distinct schools of thought.

Public Systems & Governance

The public systems perspective starts from the premise that some goods. Some goods are too important to be left entirely to market forces. Education, healthcare, water and public infrastructure are frequently cited examples. Energy increasingly belongs in the same category. Electricity is rarely valued for its own sake. Its importance lies in what it enables: education, healthcare, communication, economic participation, security and human development. Access to energy therefore has consequences that extend far beyond individual consumers. From this perspective, governments carry a unique responsibility. They are accountable not only for efficiency, but also for fairness, inclusion and long-term societal wellbeing, while providing long-term direction, coordinating infrastructure development and addressing collective action problems that markets alone may not solve.

This perspective emphasises:

- **universal access;**
- **affordability;**
- **public accountability;**
- **long-term infrastructure development;**
- **protection of vulnerable populations;**
- **correction of market failures.**

Underlying this perspective is the assumption that markets are highly effective where commercial opportunities exist, but may not always ensure universal access or address broader societal objectives. Left entirely to commercial incentives, remote communities, low-income households and marginalised populations risk being left behind. Governments therefore have a role in addressing market failures and safeguarding public interests. The principal concern is therefore not inefficiency but exclusion.

Private Sector-Led Development

The private sector perspective starts from the belief that energy markets are powerful mechanisms for solving societal challenges. Competition stimulates innovation. Entrepreneurs identify opportunities. Investors provide capital. Customer demand reveals needs and priorities. From this perspective, markets function as adaptive learning systems. Solutions emerge through experimentation, competition and continuous adjustment to changing circumstances. Innovation and investment are therefore seen as emerging primarily through entrepreneurial initiative and market incentives. Governments contribute by providing predictable rules, protecting property rights, avoiding unnecessary barriers to innovation and supporting market development where appropriate, rather than directing it.

This perspective emphasises:

- **entrepreneurship and innovation;**
- **customer-centred solutions;**
- **efficient resource allocation;**
- **private investment as a driver of scale;**
- **financially viable business models as the foundation for sustainability.**

Underlying this perspective is the assumption that lasting change requires economic viability. Solutions that depend indefinitely on external support are ultimately difficult to sustain. The principal concern is that excessive or poorly designed government intervention can undermine the very conditions that make innovation possible. Bureaucracy, regulatory uncertainty, political cycles and administrative complexity may discourage investment, reduce flexibility and slow adaptation.

WHY THIS TENSION MATTERS

The debate extends far beyond energy access. Similar tensions can be found in healthcare, education, water management and infrastructure development. At stake is not simply who delivers services. The debate concerns different assumptions about how societies organise development, allocate resources and pursue public goals. The energy access sector provides a particularly rich arena in which these assumptions, challenges and trade-offs become visible.

Emerging Insights

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1 Coordination as strategic capability

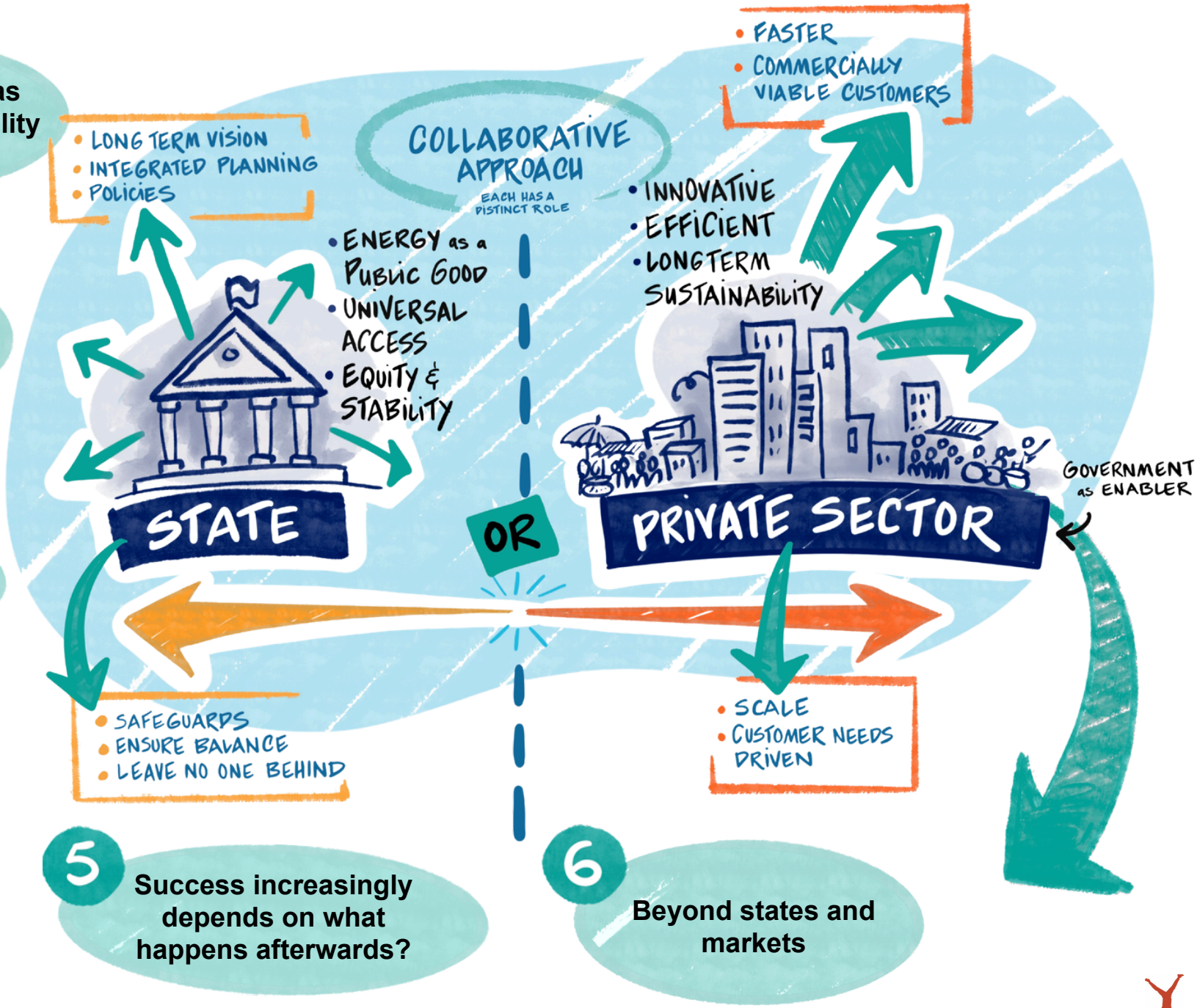
2 Energy occupies a special place in development

3 The deeper tension: Stability vs Adaptation

4 Where do markets reach their limits?

5 Success increasingly depends on what happens afterwards?

6 Beyond states and markets



1 Coordination as strategic capability

At first sight, the question appears straightforward: who should lead? Yet the distinction between who leads and who follows becomes increasingly difficult to sustain. Markets mobilise investment, stimulate innovation and respond to demand. Governments create stability, establish rules and safeguard collective interests.

Both perform functions that the other struggles to fulfil. Rather than pointing towards a single lead actor, attention repeatedly shifts towards the quality of interaction between actors operating according to different logics.

Why it matters

The dialogue shifts attention from leadership towards coordination. Lasting progress depends not only on capable organisations, but also on the relationships, institutions and incentives that connect them. **If coordination is a capability in its own right, should we invest in it as deliberately as we invest in technology and finance?**

Several examples highlight situations in which technologies, finance and entrepreneurial initiative were already available, yet progress remained slow because key actors were insufficiently aligned. The bottleneck was not a lack of innovation or investment. It was the absence of effective coordination between public authorities, private companies, financiers and local stakeholders.

2 Energy occupies a special place in development

Unlike many goods and services, energy is rarely valued for its own sake. Its importance lies in what it enables: education, healthcare, communication, livelihoods and participation in society. This creates a tension that runs through many energy access initiatives. Markets naturally prioritise viability. Public systems naturally prioritise universality. Both objectives are legitimate. Yet they do not automatically point in the same direction.

"Energy isn't valuable because of electricity itself, but because of everything electricity enables."

Why it matters

Because energy enables so many other development outcomes, decisions about who gains access and under what conditions have consequences far beyond the energy sector itself. This shifts attention from delivering electricity towards expanding opportunities. **Should the sector increasingly measure success by the opportunities that energy creates rather than by access alone?**

3 The deeper tension: Stability vs Adaptation

Governments and markets are often discussed as competing solutions. Yet they fulfil different functions.

Governments provide stability, continuity and legitimacy. Markets provide adaptation, innovation and responsiveness. Both capacities appear essential.

"The government creates the playing field and incentives. The private sector acts upon them."

Why it matters

The challenge is not choosing between stability and adaptation but continually balancing both. Too much stability can create rigidity. Too much adaptation can create uncertainty. Sustainable progress depends on maintaining both capacities simultaneously. **How can energy systems become both stable enough to attract investment and adaptable enough to respond to changing circumstances?**

4 Where do markets reach their limits?

Commercial incentives tend to be weaker in remote communities, fragile settings and households with limited purchasing power. Rather than questioning whether markets work, attention shifts towards the boundaries of market logic.

"Burundi illustrates a context where weak infrastructure, low purchasing power and limited market maturity create structural constraints for purely commercial approaches."

The example illustrates a broader question: under what conditions can markets realistically be expected to deliver universal access?

Why it matters

The question becomes: Where does commercial viability end and public responsibility begin? The answer varies across contexts, but the underlying challenge remains remarkably consistent. **How can we better understand where commercial logic is sufficient and where complementary approaches become necessary?**

5 Success increasingly depends on what happens afterwards?

A gradual shift is visual in how success is understood. For many years, energy access was primarily framed as a deployment challenge. Technologies needed to be distributed. Connections needed to be established. Access needed to expand. Increasingly, attention shifts towards what happens afterwards. Do markets mature? Do local businesses survive? Do supply chains remain functional? Do communities continue to benefit?

Several frustrations were not about technology itself but about what followed deployment: maintenance, spare parts, transport, financing and local entrepreneurship. These challenges highlighted the difference between delivering access and sustaining value over time.

Why it matters

Access increasingly appears as the beginning of a journey rather than its endpoint. This shifts attention from delivery towards stewardship and from implementation towards long-term system performance. **If lasting value is created after implementation, should long-term system performance become a more important measure of success than deployment itself?**

"One cannot do it without the other. Everyone has a role to play."

6 Beyond states and markets

The original tension focuses on governments and markets. Yet many examples point towards a wider ecosystem of actors. Local entrepreneurs. NGOs. Financial institutions. Research organisations. Community groups. These actors often operate between state and market. They build trust, connect stakeholders, facilitate learning and strengthen local capabilities.

"The private sector is stronger in terms of speed of execution… and there is a lot of innovation in the private sector compared to the state."
"The government sets an enabling environment that helps the private sector to work through regulations, standards and licensing."

The question "Where do NGOs fall in this discussion?" proves revealing. It highlighted that many important functions - such as brokering relationships, facilitating learning and building trust - do not fit neatly within either government or market roles.

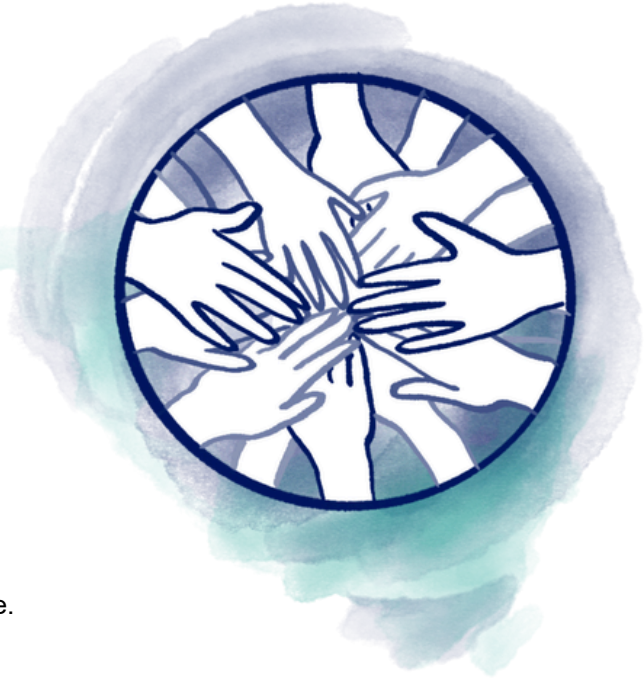
Why it matters

The question gradually expands from: Who should lead? towards: How can different actors contribute their unique strengths to a shared system? Many of the capabilities that enable lasting change—building trust, facilitating learning and connecting stakeholders—emerge in the spaces between organisations. **Are we investing enough in the people and organisations that build trust, broker relationships and strengthen collective action across the system?**

Continuing the Sensemaking

Connecting with current research

Governance research has largely moved beyond the traditional distinction between state-led and market-led development. Rather than viewing governments and markets as competing alternatives, it examines how public institutions, private actors, financiers and civil society jointly create public value through collaboration and institutional coordination (Ansell & Gash, 2008; Emerson & Nabatchi, 2015).



In energy transitions, Collaborative Governance, Polycentric Governance and Market Systems Development (MSD) all argue that sustainable markets emerge from effective interaction between complementary actors rather than from the performance of individual organisations (Ostrom, 2010; The Springfield Centre, 2015; ESMAP, 2024). Governments provide strategic direction and regulation, markets stimulate innovation and investment, financiers mobilise capital, and intermediary organisations facilitate coordination and knowledge exchange. Their effectiveness depends on how these roles reinforce one another.

A central insight of the dialogue is that the question is no longer whether governments or markets should lead, but how complementary actors can work together effectively. Policy without market response remains ineffective, just as commercial initiatives struggle without supportive regulation or access to finance. The focus therefore shifts from allocating responsibility to strengthening the institutional conditions that enable collaboration.

The dialogue also reframes collaboration itself. Rather than treating it as an institutional arrangement, it presents collaboration as a continuous practice of building trust, aligning incentives and adapting relationships as markets evolve. Recent governance research similarly places growing emphasis on facilitation, brokering and coalition building as essential capabilities in complex policy environments (OECD, 2020; ESMAP, 2024).

At the Frontier:

How can governments, markets, financiers and intermediary organisations best fulfil complementary roles to strengthen sustainable energy markets?

Key messages for shaping the future

Recognise coordination as a strategic capability
Universal energy access emerges through the interaction of many actors rather than through any single organisation or intervention. The opportunity is to invest as deliberately in coordination, trust and institutional capability as we invest in technology, finance and infrastructure

Think beyond access
Energy matters because of what it enables. The invitation is to measure success not only by expanding access, but by the opportunities that energy creates for people and communities.

Balance stability and adaptation
Public institutions provide stability, legitimacy and long-term direction, while markets stimulate innovation, investment and adaptation. The future may lie in creating energy systems that deliberately reinforce these complementary strength.

Design for context, not ideology
The appropriate balance between markets and public action depends on institutional capacity and local conditions. It is necessary to understand where commercial incentives are sufficient—and where complementary approaches create greater long-term value.

Steward systems, not projects
Access marks the beginning of a journey rather than its destination. The future challenge is to strengthen the long-term performance of energy systems rather than focusing primarily on deployment.



2 WHO BENEFITS? & WHO PAYS?



What is the tension?

A persistent question in development concerns not whether progress occurs, but who benefits from it, and who pays for it. The energy access sector has made remarkable progress over the past two decades. Millions of households have gained access to modern energy services. New markets have emerged. Technologies have become more affordable. Investment has increased. Yet behind these achievements lies a deeper question: Who benefits from market development, and under what conditions? The tension explored here reflects two distinct ways of thinking about development.

Equity & Inclusion

The equity and inclusion perspective starts from a different observation. Markets do not automatically benefit everyone equally. Those with higher incomes, better information, stronger networks or easier access to finance often benefit first and most. Meanwhile, remote communities, vulnerable households, women, refugees and other marginalised groups may remain excluded even as markets grow. From this perspective, inclusion is not the natural outcome of development. It is a deliberate choice.

Advocates of this perspective tend to emphasise:

- **universal access;**
- **affordability;**
- **fairness;**
- **representation;**
- **social justice;**
- **reaching those most likely to be left behind.**

Underlying this perspective is the assumption that societal value cannot be measured solely through market growth. The principal concern is not whether markets expand, but whether the benefits of expansion are broadly shared.

Market Expansion

The market expansion perspective starts from the belief that sustainable development requires functioning markets. Markets attract investment, stimulate innovation and create the scale necessary to reduce costs. As markets mature, products become more affordable, supply chains strengthen and larger numbers of people gain access to energy services. From this perspective, market growth is not an alternative to inclusion but the primary pathway towards it.

Advocates of this perspective tend to emphasise:

- **market creation and growth;**
- **financial sustainability;**
- **private investment;**
- **innovation through competition;**
- **economies of scale;**
- **commercially viable business models.**

Underlying this perspective is the assumption that sustainable impact ultimately depends on economically sustainable systems. The principal concern is that excessive focus on inclusion may undermine the very market dynamics needed to achieve scale.

WHY THIS TENSION MATTERS

*At stake is more than market growth or inclusion. The debate concerns competing ideas about who benefits from development, who bears the costs, and how societies balance efficiency with fairness. The **market-first perspective** assumes that those who benefit should largely pay for the services they receive. Commercial viability depends on customers, investors and businesses bearing most of the costs. The **inclusion-first perspective** starts from a different premise. When access to energy is considered a basic need, society may have a responsibility to support those who cannot afford to participate. Governments, taxpayers, donors and development banks therefore become part of the financing equation. The question is not only who benefits from development, but also who is expected to pay for inclusion.*

Emerging Insights

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1. **Access is not the same as benefit**
2. **Inclusion is designed, exclusion emerges**
3. **Who participates and who captures value?**
4. **The tension between efficiency and equity never disappears**
5. **The limits of market inclusion**

1 Access is not the same as benefit

One of the clearest insights is that access and benefit are not the same thing. Development programmes often measure success through the number of households reached, products sold or connections established. These indicators remain important, but they reveal only part of the picture.

"Repeatedly, examples emerge of communities where access has improved while broader social and economic conditions remain largely unchanged. Better-off households may use electricity productively, while poorer households gain access but experience fewer tangible improvements."

The question is therefore no longer simply who gets connected. It becomes whether access leads to tangible improvements in people's lives. Access creates possibilities. Access creates possibilities, not outcomes. Lasting development depends on whether people can translate access into improved livelihoods, resilience and wellbeing. **Should the sector increasingly measure success by what people are ultimately able to do with energy?** Benefit is reflected in what changes afterwards.

Why it matters

Traditional access metrics reveal who has been reached. They reveal much less about who is actually improving their livelihoods, increasing their resilience or strengthening their wellbeing. Expanding access therefore represents only part of the development challenge. Real development depends on whether access translates into meaningful improvements in people's lives.

2 Inclusion is designed, exclusion emerges

Inclusion is widely embraced as an objective across the energy access sector. Yet the discussion suggests that inclusion is often treated as an outcome rather than a design challenge. Exclusion rarely results from deliberate decisions to leave people behind. More often, it emerges from ordinary choices about where programmes operate, which customers are targeted, how success is measured and what forms of value are prioritised.

Projects naturally engage those who are easiest to reach. Markets respond to customers who can pay. Evaluations focus on those who have participated. Success stories are collected from those who have benefited. Donor requirements and reporting frameworks may unintentionally reinforce these patterns by rewarding scale, reach and measurable results over harder-to-observe forms of inclusion. As a result, exclusion often becomes invisible.

"What gets measured gets attention."
"We always reach the easiest people first."

Inclusion therefore does not emerge automatically from good intentions. It emerges from deliberate choices about where programmes operate, which groups are targeted, what is measured and how success is defined. Exclusion often arises not because vulnerable groups are ignored, but because systems are optimised for scale, efficiency or commercial viability.

Why it matters

If exclusion emerges through ordinary design choices, inclusion cannot be treated as an automatic outcome. Inclusion becomes a question of intentional design, measurement and accountability. This applies not only to implementing organisations, but also to the incentives created by donors, investors, governments and reporting frameworks. **If inclusion is truly a priority, should it become principle, rather than a programme objective?**

3 Who participates and who captures value?

Perhaps the most interesting question concerns not access itself but value. Who benefits economically from the growth of energy access markets? Who captures the opportunities created by expanding value chains? Who participates as entrepreneur, producer, distributor, employer or investor?

This question appears repeatedly in different forms. Women may gain access to energy without gaining greater economic agency. Communities may gain access while value creation remains concentrated elsewhere. Countries may assemble products while capturing only a small share of the wider economic value generated by the sector.

The discussion therefore moves beyond access and beyond benefit. It asks who is able to participate as entrepreneur, producer, employer, distributor or decision-maker within emerging energy markets. The focus shifts from consumption to participation. Not simply: Who receives energy services? But: Who participates in creating and capturing value? Economic participation concerns the ability to create, capture and influence value within emerging markets. The distribution of value may ultimately matter as much as the distribution of access.

"Countries may successfully assemble products while capturing only a small share of the wider value created throughout international supply chains"

Why it matters

Who captures value often matters more for long-term development than who consumes energyproducts. Markets create the greatest societal value when people participate not only as customers, but also as economic actors. **Should the sector pay as much attention to economic participation and value creation as it does to expanding access?**

4 The tension between efficiency and equity never disappears

Should development prioritise efficiency or equity? A loaded question.

The **market expansion perspective** emphasises efficiency. Markets function best when resources flow towards viable opportunities, investments generate returns and businesses remain financially sustainable. From this perspective, scale and efficiency create the conditions under which broader inclusion can eventually occur.
The **inclusion perspective** starts from a different premise. Development should be judged not only by how much value is created, but also by how that value is distributed. Growth that systematically excludes vulnerable groups may be economically successful while remaining socially problematic.

"Expanding access to poorer households often requires subsidies, concessional finance or public support. Yet these same interventions can weaken commercial viability if they are not carefully designed."

Both perspectives contain important truths. Efficiency creates value. Equity influences how that value is shared. The discussion also reveals a second layer to the debate. Inclusion is not only about who benefits. It is also about who pays. Reaching populations that are harder to serve often requires additional resources, whether through subsidies, concessional finance, donor support, public investment or cross-subsidisation within markets themselves.

Inclusion therefore raises a fundamental question: if markets alone do not reach everyone, who should bear the additional costs? Customers, businesses, governments, taxpayers, donors, development banks or other market participants may all become part of the answer. The debate is therefore not only about distributing benefits, but also about distributing cost.

A system focused primarily on efficiency risks concentrating benefits among those already positioned to participate. A system focused primarily on equity may struggle to mobilise the investment and innovation needed for long-term sustainability. This raises a difficult but unavoidable question: How much efficiency are we willing to sacrifice for inclusion, and how much exclusion are we willing to tolerate in pursuit of scale?

Why it matters

The challenge is not eliminating the tension between efficiency and equity but determining how it should be balanced in different contexts and at different stages of market development. At its core, this is also a question of who bears the costs of inclusion. **Could the more important question be not whether inclusion is worth the cost, but how societies decide what level of exclusion is acceptable?**

5 The limits of market inclusion

A final observation concerns the limits of market-based approaches. Even highly successful markets may struggle to reach certain groups, particularly where purchasing power, geography or social circumstances create structural barriers. Refugee populations, remote communities and households with very limited purchasing power illustrate groups for whom commercial solutions alone may remain insufficient, even in relatively mature markets.

Universal inclusion may therefore require a permanent combination of market mechanisms and deliberate forms of public or social support. The challenge is not choosing one or the other but understanding where each becomes necessary.

Why it matters

Universal access and universal inclusion are not necessarily the same thing. Some forms of exclusion reflect structural realities rather than temporary market failures. This suggests that universal inclusion may continue to require a combination of market mechanisms and public or societal support. **How can we better understand where markets are sufficient, and where complementary approaches become an enduring part of the system rather than a temporary solution?**

Continuing the Sensemaking

Connecting with current research

Development research increasingly distinguishes between access, benefit and value creation. While expanding energy access remains a fundamental objective, access alone is no longer regarded as an adequate measure of development. The central question is whether households, enterprises and communities can convert energy access into productive opportunities, improved livelihoods and greater resilience (IEA et al., 2025; World Bank, 2024).

This shift is reflected across several schools of thought. The Capability Approach, Inclusive Development, Energy Justice and research on the Productive Use of Energy (PUE) all argue that energy systems should be assessed not only by the number of people connected, but also by who benefits, who participates and how economic and social value is created and distributed (Sen, 1999; IRENA, 2023; SEforALL, 2024). Increasing attention is therefore being given to productive demand, local entrepreneurship, employment, gender equality and participation in energy value chains.

A central insight of the dialogue is the distinction between gaining access to energy and benefiting from it. It broadens the perspective from consumers to participants, asking who captures value as markets develop and who remains excluded from emerging opportunities. Inclusion therefore becomes an integral characteristic of successful market development rather than a separate social objective.

The dialogue also introduces a dimension that is becoming increasingly prominent in international policy: the distribution of costs. Commercial markets efficiently serve customers where demand and purchasing power are sufficient, while reaching remote communities and vulnerable groups often requires public investment, concessional finance or targeted subsidies. Research increasingly frames this not simply as a market failure, but as a policy choice concerning how the costs and benefits of the energy transition are shared across society (IEA et al., 2025; World Bank, 2024).



At the Frontier:

How can energy market development expand participation and value creation while ensuring that the costs and benefits of the transition are shared fairly?

Key messages for shaping the future

Think beyond access
Access creates possibilities, but lasting development depends on what people are able to do with them. The invitation is to measure success by the capabilities and opportunities that energy enables.

Design for inclusion
Inclusion is shaped by choices about programme design, incentives and accountability. The opportunity is to make inclusion an intentional characteristic of market development rather than an assumed outcome of growth.

Enable participation in value creation
Markets create the greatest societal value when people participate as producers, entrepreneurs and decision-makers, not only as consumers. The invitation is to strengthen participation throughout emerging energy value chains.

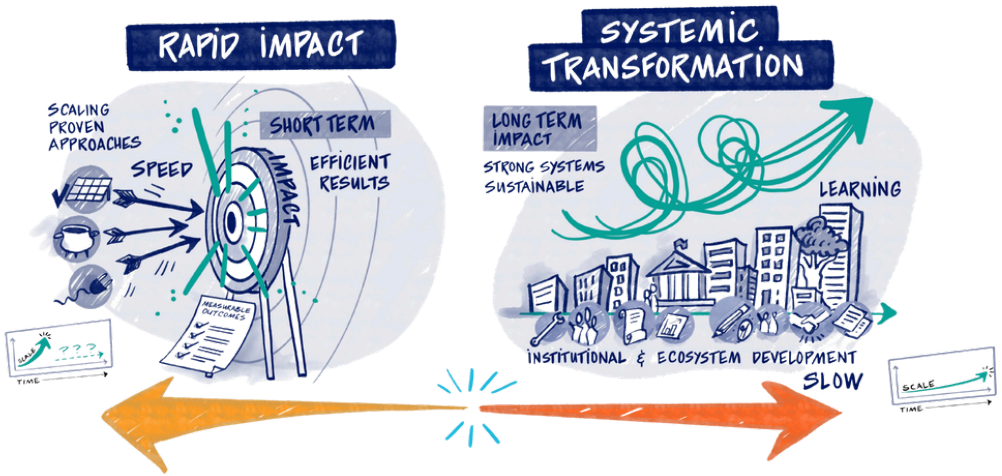
Balance efficiency and equity
Sustainable development requires both viable markets and broad inclusion. The future may lie in strengthening equity without weakening the conditions that allow markets to grow.

Make the costs of inclusion explicit
Some forms of exclusion reflect structural realities rather than temporary market failures. Universal inclusion requires deliberate choices about who contributes and who benefits. The call is to make those choices explicit rather than leaving them to market dynamics alone.

Ultimately, the question may not be whether market expansion or inclusion matters most, but how much exclusion is acceptable in the pursuit of scale, and who gets to decide.



3 HOW DO MARKETS GROW?



What is the tension?

A long-standing debate in international development concerns the nature of change itself. Should development prioritise delivering rapid, measurable results, or strengthening the capabilities, institutions and relationships that enable societies to sustain and extend progress over time?

This tension lies at the heart of energy access, where the great urgency of expanding electricity and clean cooking must be balanced against the need for lasting transformation. The dialogue explored these two contrasting perspectives.

Rapid Impact Perspective

The rapid impact perspective is rooted in traditions of results-based management, programme delivery and market scaling. Its central belief is that development happens when effective solutions are delivered quickly and at scale. The logic is straightforward. People need services now. Markets need momentum. Investors need evidence. Governments need visible results. Proven approaches should therefore be replicated and scaled as efficiently as possible.

Advocates of this perspective tend to emphasise:

- **scaling proven solutions;**
- **measurable outcomes;**
- **rapid deployment;**
- **efficiency;**
- **accountability;**
- **visible impact.**

The underlying assumption is that success creates momentum. Demonstrated results attract investment, stimulate demand and encourage imitation. Its implicit motto might be: Build success first; systems will follow. The risk is that rapid delivery creates temporary improvements without addressing the deeper conditions required for lasting change.

Systemic Transformation Perspective

The systemic transformation perspective emerges from institutional economics, systems thinking and complexity theory. Its central belief is that development happens when local actors, institutions and markets become capable of solving problems themselves. From this perspective, projects, technologies and funding are temporary. Institutions, capabilities, incentives and relationships are what ultimately determine whether progress endures.

Advocates of this perspective tend to emphasise:

- **institutional strengthening;**
- **ecosystem development;**
- **local ownership;**
- **learning and adaptation;**
- **policy and regulatory frameworks;**
- **long-term resilience.**

The underlying assumption is that sustainable impact cannot simply be delivered. It must emerge from systems that have become capable of generating and renewing change themselves.
Its implicit motto might be: Build capability, not dependency. The risk is that systemic approaches require time, patience and political commitment, while urgent needs remain unmet.

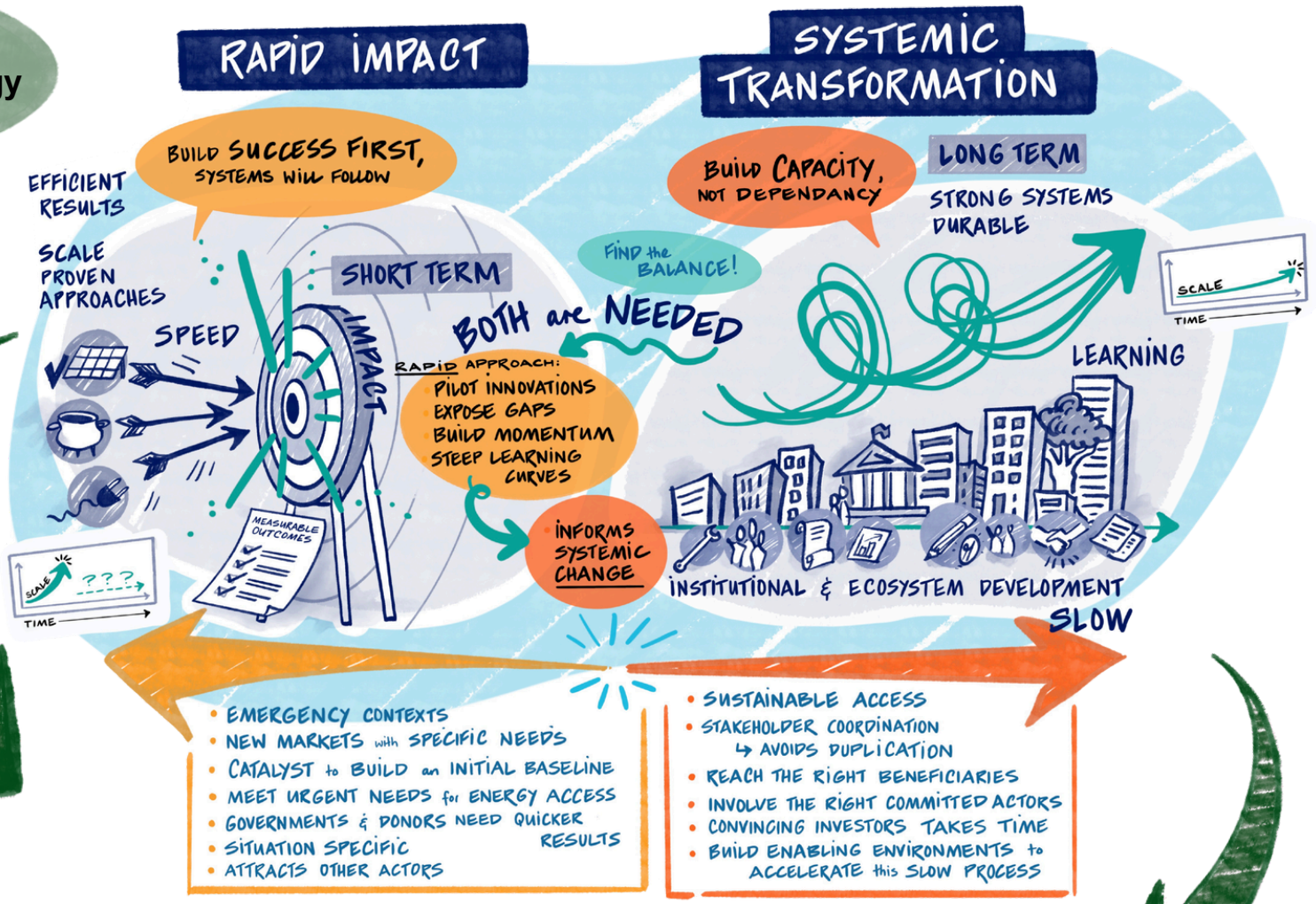
WHY THIS TENSION MATTERS

This debate shapes far more than programme design. It influences whether investments prioritise rapid delivery or long-term capability, whether success is measured through immediate outputs or enduring system change, and ultimately whether interventions leave behind stronger systems or continuing dependency.

Emerging Insights

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1. **Urgency is real, but urgency is not a strategy**
2. **What endures?**
3. **Systems become self-reinforcing**
4. **Success can create dependency**
5. **The real bottleneck is rarely technology**
6. **Markets grow through ecosystems, not projects**



1 Urgency is real, but urgency is not a strategy

The need for action is undeniable. People need electricity today. Families need clean cooking solutions today. Rapid interventions can address immediate needs, demonstrate possibilities and create (political, social or economic) momentum.

Yet urgency alone does not determine what creates lasting change. Again and again, examples reveal that short-term successes do not automatically address the deeper constraints that shape long-term development.

"People need electricity today—but if we only focus on today's delivery, we may postpone tomorrow's market."

"How do you justify telling people they have to wait another twenty years?"

Why it matters

Urgency explains why action is needed. It does not determine what kind of action creates lasting change. The challenge is not choosing between urgency and sustainability, but ensuring that immediate action contributes to long-term progress. **If urgency shapes our priorities, how can we ensure that it does not also narrow our understanding of what creates lasting change?**

2 What endures?

Development programmes are often judged by what they deliver: connections established, technologies deployed, businesses supported or households reached. Yet these achievements say surprisingly little about whether change will continue once projects end.The more fundamental question is not what a programme produces, but what it leaves behind. Infrastructure ages. Technologies evolve. Business models change. Policies shift. Markets fluctuate.

What determines whether progress continues is the adaptive capacity of the wider system: whether institutions continue coordinating, entrepreneurs continue investing, financial institutions continue lending, governments continue enabling and markets continue evolving.

"*In Sierra Leone, support for local producers of improved cookstoves continued to generate results long after specific project activities had ended. Producers continued manufacturing, expanded distribution networks and, in some cases, began exporting to neighbouring countries. The intervention had become part of a system that continued evolving without it."*

Why it matters

Projects end. Markets, institutions and communities continue to evolve. Lasting impact depends on the capabilities that remain after external support has ended. **Should development success increasingly be judged by what remains rather than by what projects deliver?**

3 Systems become self-reinforcing

Many development interventions generate positive results while external support remains present. A more difficult question is what causes change to continue once that support is removed. Some systems remain dependent on repeated projects, subsidies or donor support. Others gradually develop their own momentum. Businesses invest because opportunities exist. Consumers adopt because value is clear. Financial institutions engage because risks become manageable. Governments support growth because economic and political incentives align.
Growth stimulates investment. Investment stimulates innovation. Innovation stimulates demand. Demand stimulates further growth. The primary drivers of change increasingly originate from within the system itself.

"*In Tanzania, support for clean cooking initially focused on producer training. Years later, some producers had expanded beyond the project, exporting products to neighbouring countries. The project had ended, but the market continued to evolve."*

Why it matters

Projects can initiate change. Only systems can sustain it. **The defining question is therefore not whether progress occurs, but whether the forces that sustain progress increasingly originate from within the system itself - and what this means for how we intervene.**

4 Success can create dependency

Successful interventions are often assumed to create positive momentum. Yet success can also produce unintended consequences. Subsidies may weaken market signals. External support may accelerate growth, but these same interventions can also create expectations that become difficult to reverse. Consumers may wait for future subsidies. Businesses adapt to donor incentives rather than market signals. Institutions become dependent on external resources. What initially appears to be success can unintentionally weaken the very capabilities needed for long-term sustainability. This does not imply that subsidies or rapid interventions are inherently problematic. Rather, it highlights the importance of considering how success is achieved.

→ In Burkina Faso, in the biodigester sector, strong government ownership, certification systems and subsidies helped stimulate rapid market growth. Yet when political instability disrupted government support, many companies struggled to continue independently. Subsidies had become so embedded in the market that customers delayed purchasing biodigesters in anticipation of subsidies to return.

Why it matters

An intervention can solve today's problem while simultaneously making tomorrow's problem more difficult to solve. Long-term effects depend not only on outcomes, but also on the incentives, expectations and behaviours interventions create. **If every intervention reshapes the system, should we pay as much attention to the behaviours it creates as to the results it delivers?**

5 The real bottleneck is rarely technology

Many challenges in the energy sector are initially framed as technological problems. New technologies promise greater efficiency, lower costs and improved access. Yet technological solutions repeatedly encounter barriers that are social, institutional and behavioural rather than technical. Clean cooking technologies exist, and so do productive use appliances, mini-grid technologies and solar irrigation solutions. Yet adoption often lags behind availability.

The limiting factor is frequently not the technology itself but the wider system into which it is introduced. Trust takes time to build. New business models require experimentation, financial institutions need evidence before lending, consumers need confidence before investing and government agencies need time to develop appropriate policies and standards. As a result, technological innovation often progresses faster than institutional adaptation. This creates a recurring pattern in development practice. The visible challenges appear technical. The underlying constraints are frequently social, economic or institutional.

Why it matters

Technology may create possibilities. Institutions, behaviours and incentives determine whether those possibilities become reality. Sustainable innovation requires technological and institutional adaptation. **What if the greatest barriers to innovation are not technological at all, but institutional, behavioural and relational?**

6 Markets grow through ecosystems, not projects

Markets resemble living systems more than engineered structures. They evolve through learning, experimentation, adaptation, competition and cooperation. Their development depends on relationships, norms, trust, expectations, capabilities and institutions that no single actor fully controls. This does not diminish the importance of interventions. Policies, investments and projects matter, but their influence is often indirect. They shape the conditions under which markets evolve rather than determining outcomes directly.

This perspective challenges a deeply embedded assumption: that successful market development can be achieved through ever better project design. The evidence points towards something more complex. Markets emerge from interactions among many actors whose behaviour continuously adapts to changing circumstances. Governments, businesses, financial institutions, civil society organisations and consumers each influence the direction of change. None controls it entirely.

Why it matters

Markets evolve through interaction rather than design. Projects matter because they influence the conditions under which ecosystems develop. **Should interventions focus less on optimising projects and more on strengthening the ecosystems from which markets emerge?**

Continuing the Sensemaking

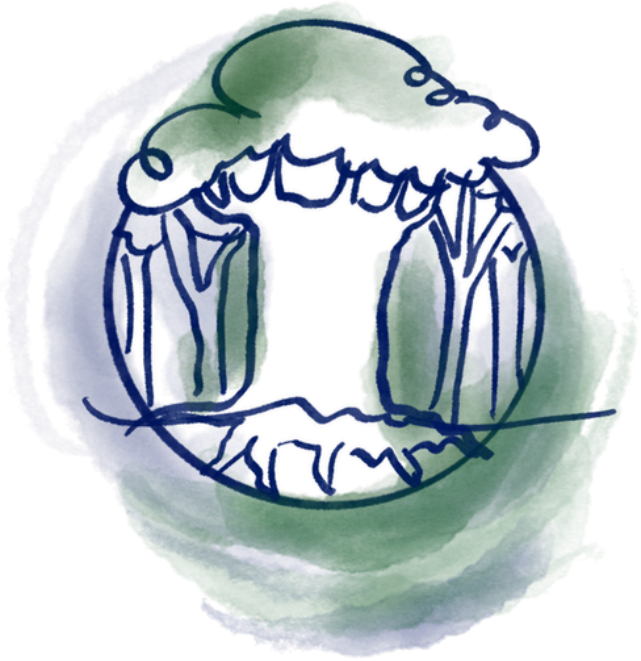
Connecting with current research

Research on development effectiveness has shifted from evaluating successful projects to understanding how lasting system change occurs. While rapid delivery remains essential, sustainable change increasingly depends on strengthening the institutions, incentives and relationships that enable markets to continue evolving after external support has ended (Köhler et al., 2019; OECD, 2021; World Bank/ESMAP, 2024).

This shift is reflected across Systems Thinking, Sustainability Transitions, Adaptive Management and Market Systems Development (MSD). Rather than asking how successful interventions can be replicated, these perspectives ask how interventions strengthen the conditions under which markets and institutions continue to learn, adapt and improve. Increasing attention is therefore given to institutional learning, adaptive capacity and long-term system performance rather than programme outputs alone (OECD, 2021; ESMAP, 2024).

A recurring theme in the dialogue is the distinction between delivering results and creating the conditions for continued development. Technologies, subsidies and projects can catalyse change, but lasting transformation depends on whether entrepreneurial confidence, capable institutions, functioning supply chains, investment incentives and supportive policies remain in place after programmes have ended. Success is therefore increasingly defined by what remains once external support has disappeared.

The dialogue also broadens current discussions about dependency. Rather than viewing dependency only as continued reliance on donor funding, it highlights how interventions can shape market expectations, incentives and investment behaviour. Recent research similarly argues that development programmes should be assessed not only by the outcomes they achieve, but also by the institutional dynamics and adaptive capacity they leave behind.



At the Frontier:

How can development interventions strengthen the conditions under which markets and institutions continue to adapt and evolve long after projects have ended?

Key messages for shaping the future

Design for emergence, not control
Lasting transformation emerges through the interaction of people, institutions, markets and incentives. The opportunity is to design interventions that strengthen the conditions from which change emerges rather than attempting to control outcomes.

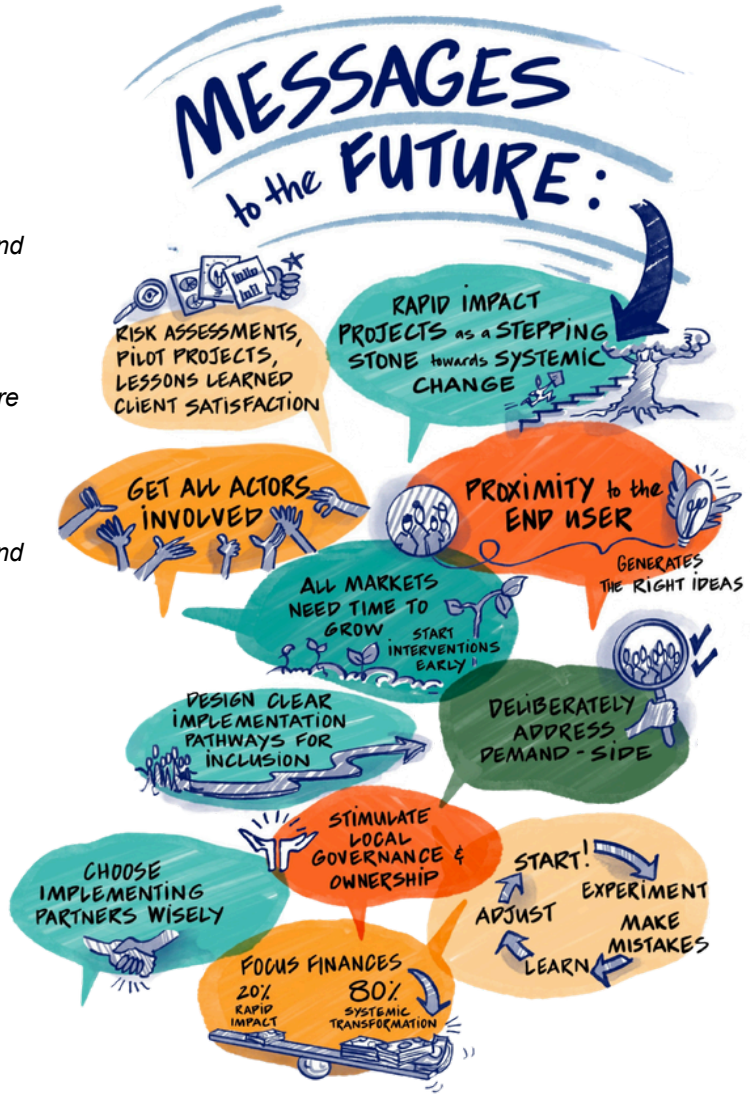
Measure what remains
Projects create outputs. Systems create lasting change. The invitation is to measure success by the capabilities and dynamics that remain after external support has ended.

Create self-sustaining systems
The ultimate goal is not successful projects, but systems that increasingly generate progress from within. The future challenge is to strengthen the feedback loops that make external support progressively less necessary.

Treat dependency as a system property
Dependency is not simply the result of poor programme design. It emerges through the incentives, expectations and behaviours that interventions create over time. The opportunity is to design support that progressively shifts ownership, capability and responsibility to the system itself.

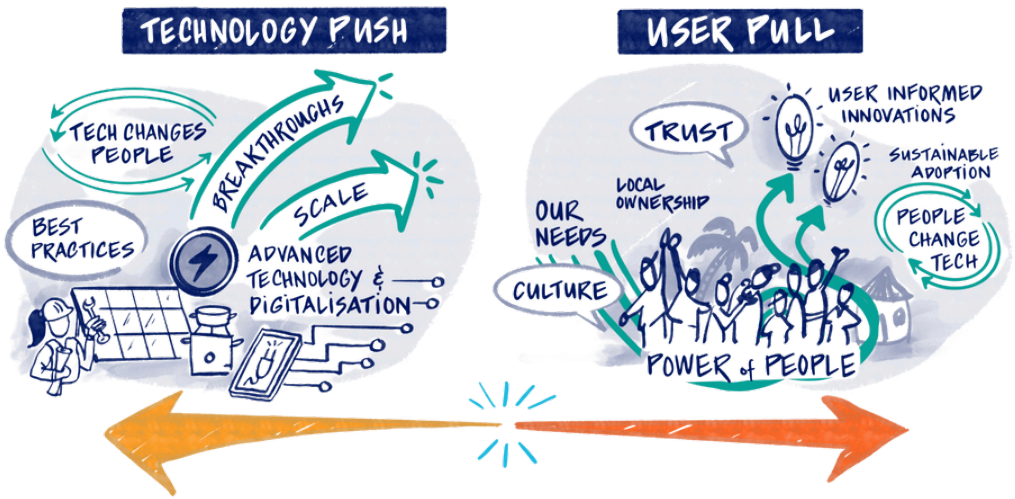
Invest in invisible infrastructure
Technologies can often be deployed quickly. Trust, institutional capability, entrepreneurial confidence and effective coordination evolve much more slowly, yet frequently determine whether innovation succeeds. The invitation is to invest as deliberately in this invisible infrastructure as in technology itself.

Cultivate ecosystems, not projects
Markets are not constructed in the way infrastructure is built. They are cultivated through continuous learning, experimentation and adaptation among many interconnected actors. The future may lie less in perfecting projects than in strengthening the ecosystems from which resilient markets continuously emerge.



"Don't do fast-focused interventions if you don't have a long-term vision."

4 WHAT DRIVES TRANSFORMATION?



What is the tension?

A fundamental question in development concerns where transformation begins. Do new technologies create new possibilities that change societies? Or do people, through their needs, choices and interactions, shape the technologies that ultimately succeed? The tension reflects two distinct schools of thought.

Technology Push

The technology push perspective starts from the belief that innovation is the primary driver of transformation. New technologies create new possibilities. Better products, smarter financing systems, digital platforms and improved business models remove barriers, increase efficiency and enable scale. From this perspective, societies adapt to technological progress.

This perspective emphasises:

- **innovation and experimentation;**
- **technological breakthroughs;**
- **efficiency and optimisation;**
- **digitalisation and scale;**
- **standardisation;**
- **entrepreneurship and product development.**

Underlying this perspective is the assumption that technology changes people. New possibilities create new behaviours, new markets and new forms of development. The principal concern is that excessive focus on local preferences may slow innovation and limit opportunities for transformation.

User Pull

The user pull perspective starts from a different premise. Technologies only create value when people adopt, adapt and integrate them into their lives. Successful innovations emerge not only through technical excellence, but through their fit with local realities, cultures, aspirations and everyday practices.

This perspective emphasises:

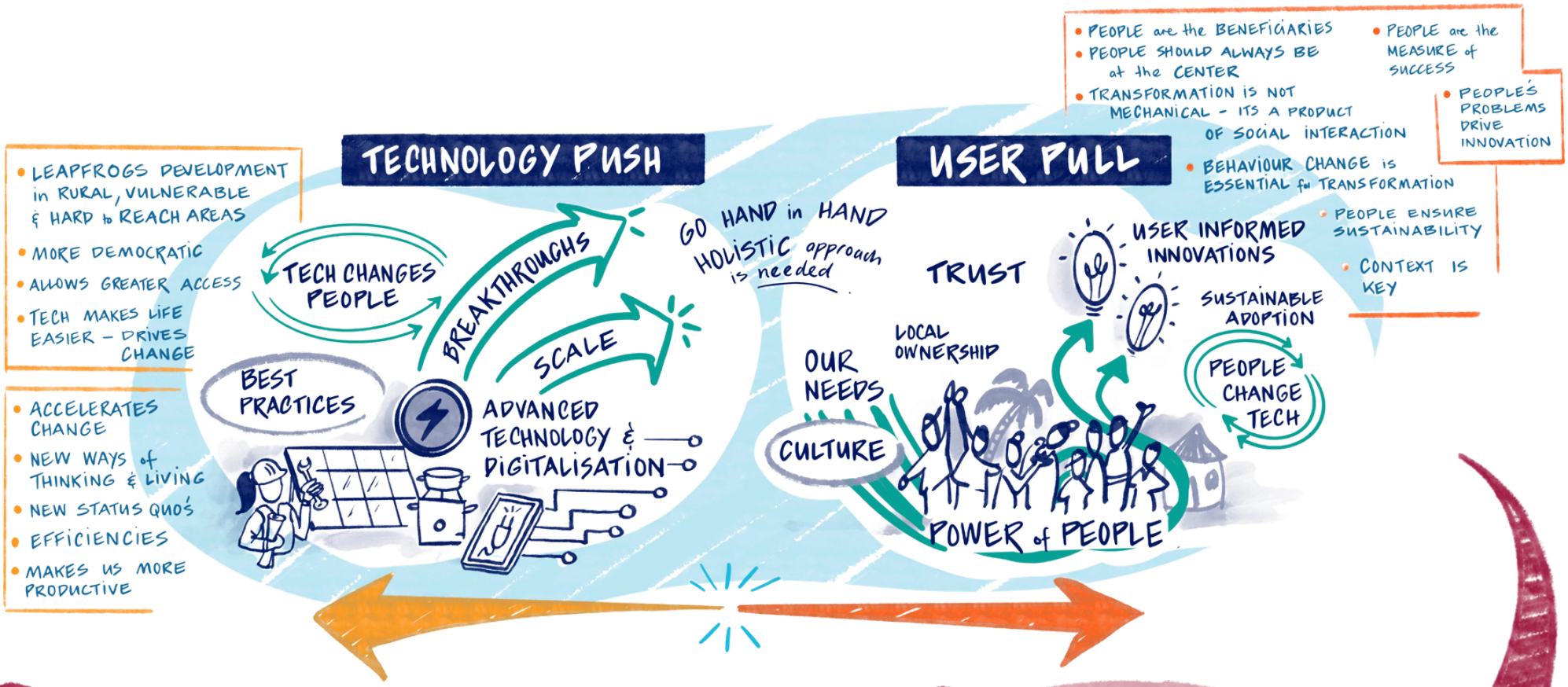
- **participation and co-creation;**
- **local ownership;**
- **trust and legitimacy;**
- **contextual fit;**
- **behaviour change;**
- **empowerment and capability.**

Underlying this perspective is the assumption that people change technology. Technologies evolve through use, adaptation and interaction. The principal concern is that technically successful solutions may fail if they do not fit people's realities.

WHY THIS TENSION MATTERS

This is not simply a question of innovation strategy. It is a question of development design. Where transformation is assumed to begin influences where resources are invested, how programmes are designed and what is ultimately expected to drive lasting change.

Emerging Insights



1. Innovation and adoption follow different logics
2. People do not always know what is possible
3. Technologies create possibilities. Systems determine which possibilities become reality
4. Value is socially defined
5. Transformation emerges through co-evolution

1 Innovation and adoption follow different logics

One of the clearest insights is that creating innovations and spreading innovations are not the same challenge. Technologies may be technically sound, efficient and affordable, yet still fail to gain traction. What makes a technology possible is not necessarily what makes it meaningful, trusted or desirable.

Technologies often struggle not because they are ineffective, but because potential users do not recognise their value, do not trust them, or do not see how they fit their priorities and daily realities.

"We allow the technology to speak for itself."

"Necessity is the mother of invention."

Why it matters

Innovation and adoption follow different logics. Technical ingenuity creates possibilities; adoption depends on meaning, trust and relevance. **If invention and adoption require different capabilities, should innovation be designed as a social process as much as a technological one?**

2 People do not always know what is possible

At the same time, the dialogue challenges the assumption that innovation always starts with expressed demand. Mobile money, smartphones and digitalisation illustrate this dynamic well. These technologies were not primarily responses to explicit user demand. Rather, they created entirely new possibilities that many people had not previously imagined. Once introduced, they transformed how people communicate, transact and access services. Technology can sometimes open entirely new pathways rather than merely responding to existing needs.

"Mobile money and smartphones were repeatedly mentioned as innovations that created new demand rather than responding to demand that users had previously expressed."

Why it matters

User-centred approaches often assume that people know what they need. Yet some of the most transformative innovations created possibilities that few people had previously imagined. Transformation therefore requires both listening to people and expanding what they believe is possible. **How can innovation remain genuinely user-centred while still creating futures that users themselves cannot yet imagine?**

3 Technologies create possibilities. Systems determine which possibilities become reality

Technologies create new possibilities, but they rarely emerge in isolation. Innovation may originate from entrepreneurs, researchers, governments or communities, often through collaboration between them. These innovations generate new products, services, occupations and business opportunities. Yet these possibilities do not automatically translate into lasting social or economic transformation. Whether they do depends on how technologies are adopted, adapted and embedded within wider institutional, economic and social systems.

Why it matters

Innovation may emerge from many different actors, but lasting transformation depends on much more than invention alone. Institutions, markets, finance, policy and social norms determine which technological possibilities become reality—and for whom. **If systems ultimately shape the impact of innovation, should innovation policy focus as much on strengthening these wider conditions as on supporting new technologies themselves?**

4 Value is socially defined

Development actors and users do not always value the same things. What appears beneficial from a development perspective does not automatically align with the priorities that shape people's decisions.
Health benefits, efficiency gains, environmental improvements or long-term savings may matter to programme designers. Users, however, often make decisions based on convenience, status, affordability, familiarity or immediate practicality. Technologies succeed when they connect with what people themselves perceive as valuable.

"A farmer with a physical disability cultivated vegetables with support from family and neighbours. A project team decided to support him by installing a solar irrigation pump, drip lines and a water tank. From a development perspective, the intervention appeared highly beneficial: it would save time, reduce hard labour and increase productivity. Yet after some months the farmer largely stopped using the system and returned to his previous practices. The technology solved a problem that project staff perceived, but not necessarily the problem that mattered most to the farmer himself. What and why? We don't know."

Why it matters

Technologies succeed when they connect with what people themselves value, not necessarily with what designers, engineers or development organisations consider beneficial. Understanding how people make trade-offs may therefore be as important as improving the technology itself. **What if the greatest innovation challenge is not creating more value, but understanding how different people define value?**

5 Transformation emerges through co-evolution

Technologies shape behaviour. Behaviour shapes technologies. Innovation creates possibilities, while people adapt, modify and scale those possibilities. Transformation appears less as a linear process and more as an ongoing interaction between technology and society.
Innovation requires both creation and adoption. Without technology push, innovation never starts. Without user pull, it never lasts.

"Engineers initially focused on technical performance and efficiency of electric pressure cookers. Yet as products were introduced into new markets, users revealed challenges that designers had not anticipated. Written instructions and menus were replaced by pictograms because they better matched how people actually used the appliance. The technology itself changed because of interaction with users. Rather than simply adopting a finished innovation, people helped reshape it."

Why it matters

Transformation emerges through the continuous interaction between technologies, people and institutions. **If transformation is a process of co-evolution, should we spend less time asking where change begins and more time understanding how it unfolds?**

Continuing the Sensemaking

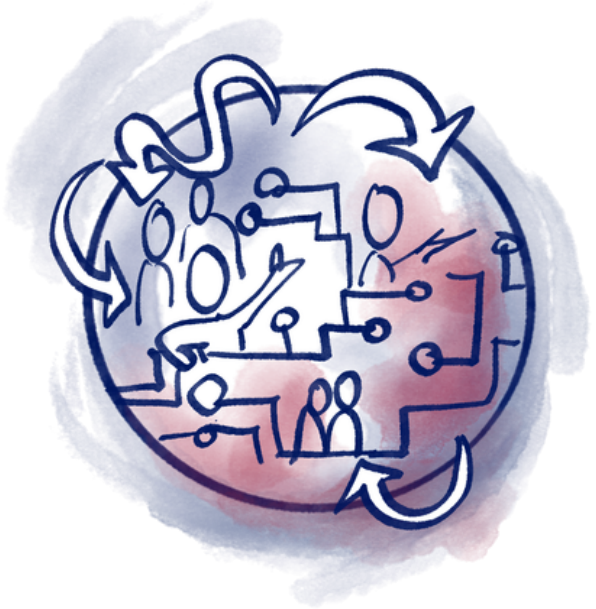
Connecting with current research

Innovation research has largely moved beyond the traditional distinction between technology push and market pull. Rather than viewing innovation as a linear process in which technologies are developed and subsequently adopted, contemporary research increasingly understands innovation as a socio-technical process in which technologies, users, institutions and markets continuously shape one another (Geels, 2019; OECD, 2023).

This shift is reflected across Socio-technical Transition Theory, Innovation Systems, Human-centred Design and Diffusion of Innovation. Although these traditions differ in emphasis, they share the view that successful innovation depends not only on technological performance but also on how technologies fit people's needs, capabilities and everyday practices. Adoption is therefore understood as part of an ongoing process of learning, adaptation and co-development rather than the endpoint of innovation (Rogers, 2003; IEA, 2024; UNDP, 2022).

An important shift emerging from the dialogue is the move beyond the familiar distinction between technology push and user pull. Innovation is instead understood as a reciprocal process in which technologies create new possibilities while users continuously reinterpret, adapt and improve them. Lasting innovation therefore depends as much on feedback, learning and local adaptation as on technological excellence.

The dialogue also broadens current thinking on innovation ecosystems. Rather than treating innovation as the successful transfer of technology, it emphasises continuous interaction between developers, users, financiers, policymakers and intermediary organisations. Recent research similarly views innovation ecosystems as spaces for collective learning in which new solutions emerge through ongoing interaction rather than one-way diffusion (OECD, 2023; IEA, 2024).



At the Frontier:

How can innovation processes strengthen the continuous interaction between technological possibilities and the evolving realities of the people and systems they seek to serve?

Key messages for shaping the future

Design for co-evolution
Innovation continues long after technologies are launched. The opportunity is to design innovation as an ongoing process of learning between technologies, users and the systems in which they interact.

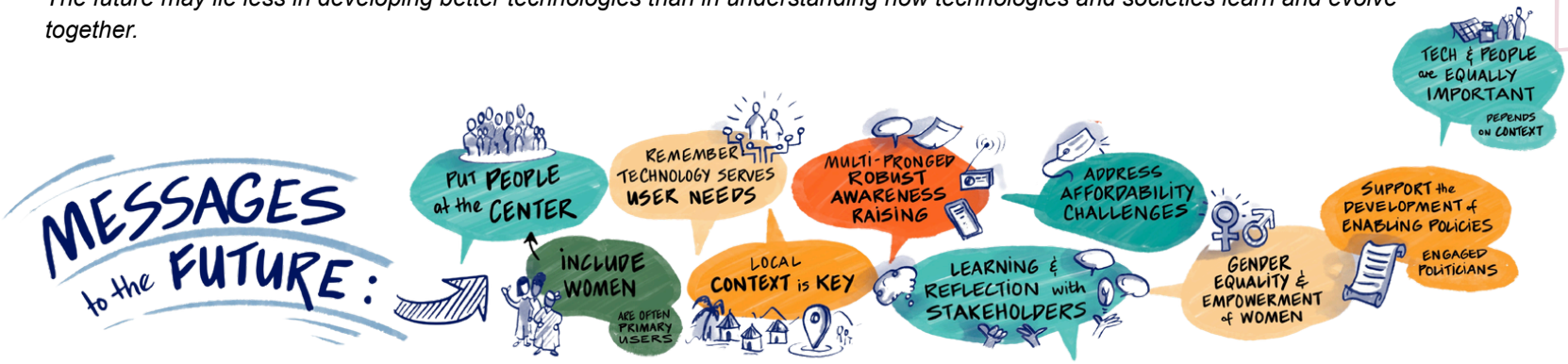
Expand possibilities, not only respond to demand
Some of the most transformative innovations create possibilities that people could not previously imagine. The invitation is to balance responding to today's needs with expanding tomorrow's possibilities.

Measure adoption, not invention
Technological success begins with invention but is realised through adoption - when innovations become trusted, meaningful and embedded in everyday life. The future challenge is to measure success by what people adopt, adapt and sustain rather than by what is invented.

Understand how people define value
Technologies succeed not because they create value in theory, but because they connect with what people themselves consider worthwhile. The opportunity is to design innovations around people's lived realities rather than externally defined benefits.

Strengthen innovation eco-systems
Technology creates possibilities. Institutions, markets, finance, culture and relationships determine which possibilities become reality. The invitation is to invest as deliberately in the systems surrounding innovation as in innovation itself.

Think beyond technology
Transformation emerges through the continuous interaction between innovation, human behaviour and changing institutions. The future may lie less in developing better technologies than in understanding how technologies and societies learn and evolve together.



The Next Frontier

For many years four recurring debates have shaped thinking in energy access.

- Should markets or governments lead?
- Should programmes prioritise efficiency or inclusion?
- Should investments maximise rapid impact or strengthen long-term systems?
- Should transformation begin with technology or with people?

Underlying these debates has been a familiar logic for defining success:

Expand access. Connect households. Increase adoption. Scale technologies. Reach more people.

This logic has delivered remarkable achievements. Millions of households have gained access to electricity. Clean cooking technologies have improved. New financing models have emerged. Private investment has entered markets that previously seemed unreachable.

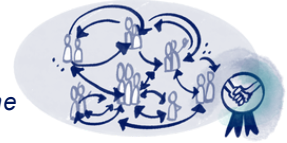
Yet a set of relevant questions remains. Why do some interventions create lasting transformation while others remain dependent on continuous support? Why do some markets continue evolving while others struggle to survive? Why do certain innovations unlock entirely new opportunities while others simply improve existing conditions? Perhaps these questions point towards something more fundamental. it may be time to ask whether the debates themselves are sufficient.

A different question begins to emerge: How do societies continuously increase their capacity to create positive change? The following reflections explore the recurring patterns across these debates and the questions they raise for the future of energy access.

The questions a sector asks ultimately shapes the investments it makes, the partnerships it builds and the futures it creates. The aim is to challenge some of the assumptions that continue to shape the sector—and to ask whether different questions might open up different possibilities.

Cross-Cutting Patterns

Across the tensions, a remarkably consistent set of shifts emerges. While expressed in different ways, together they suggest a broader transition in how transformation is understood.

SHIFT	What becomes visible
 **From actors to relationships**	*Transformation depends less on who acts than on the quality of interaction between actors—trust, coordination, learning and adaptive capacity become critical system properties.* 
 **From delivering interventions to enabling emergence**	*Lasting outcomes emerge less from individual projects (with linear metrics) than from the capacity of systems to continue learning, adapting and generating solutions after projects end.* 
 **From optimisation to adaptation**	*Improving existing solutions remains important, but increasingly insufficient. Long-term resilience depends on continuously adapting to changing technologies, markets and contexts.* 
 **From projects to ecosystems**	*Markets, governments, finance, technologies, enterprises and communities evolve together. The relevant unit of change is increasingly the ecosystem rather than the individual project, shifting the attention from successful (individual) programmes to creating collective, self-sustaining change.* 
 **From solving problems to expanding possibility**	*Development creates lasting value not only by addressing today's challenges, but by increasing what societies become capable of imagining and creating tomorrow.* 

Five Intriguing Questions

1. Have we become trapped by our own definition of success?

What if today's success indicators are quietly limiting tomorrow's transformation?

For decades, expanding household access has provided a clear and compelling vision of success. It transformed millions of lives and remains indispensable. Yet access describes only one dimension of what ultimately makes an energy system thrive. Thriving systems also generate productive demand, entrepreneurship, agriculture, industry, transport and public services. The question gradually shifts from: How do we connect more households? to: What kind of energy ecosystem are we ultimately trying to create?

This shift is already visible in the growing attention to productive use of energy (PUE), commercial and industrial (C&I) demand, e-mobility, productive agriculture and the wider nexus between energy, food, water and health.

Access remains essential. The challenge is whether it is sufficient as our primary definition of success. It may be the creation of opportunities that extend far beyond access itself.

Thus raises a practical challenge. Development systems do not simply pursue visions—they pursue what they measure.





2. Can successful ideas become barriers to innovation?

What if yesterday's breakthroughs become today's blind spots?

Every sector develops stories about how change happens. Over time, these stories evolve into shared mental models that shape what actors notice, what they invest in, and even which alternatives they consider possible. Household electrification. Market-led delivery. PAYGO. Commercial sustainability. Results-based financing. Each of these ideas has generated genuine progress. Yet, over time, successful ideas can become taken-for-granted assumptions. Innovation then becomes increasingly focused on improving existing models rather than questioning whether fundamentally different approaches are needed.

The challenge is not that these ideas were wrong. It is whether sectors remain capable of questioning their own assumptions when evidence, technologies and contexts continue to evolve. Mature sectors do not only innovate within dominant paradigms—they periodically question the paradigms themselves.

Five Intriguing Questions

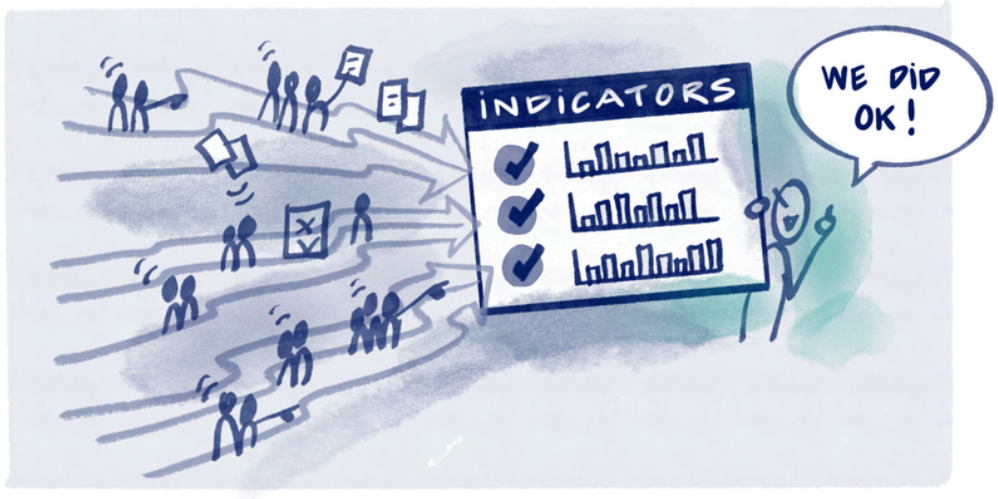
3. When do metrics become development strategies?

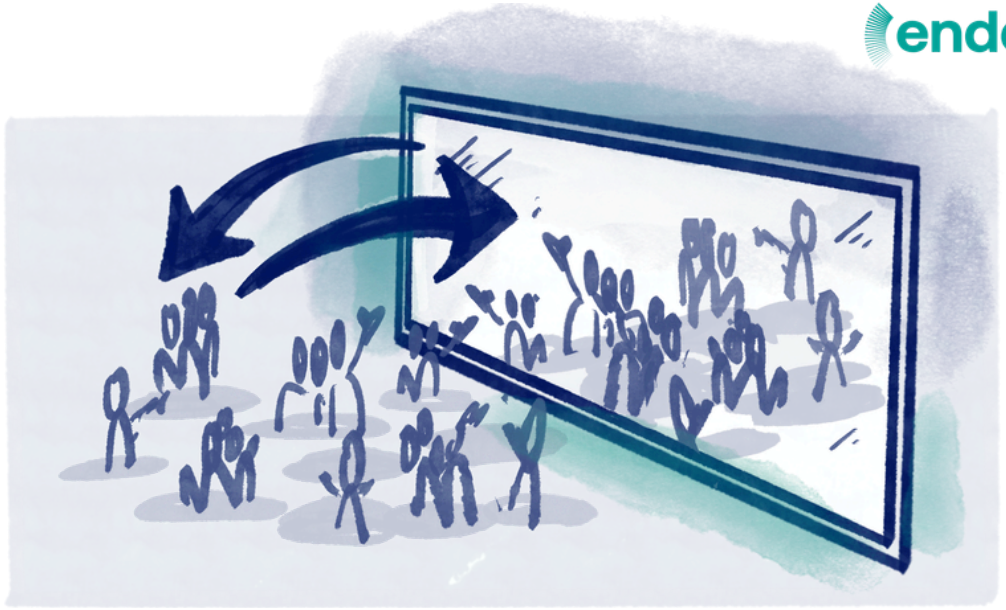
What if indicators do more than measure systems—what if they quietly shape them?

Development programmes inevitably optimise for what they measure. If success is defined by household connections, systems optimise for household connections. If success is defined by sales, systems optimise for sales. Over time, indicators stop being neutral measures of success. They become powerful design forces that shape investment decisions, organisational behaviour and sector priorities.

Example: Donor incentives, funding criteria and reporting frameworks often reward outputs that are easy to measure, such as connections or product sales. Companies adapt business models accordingly; governments adjust priorities and investors direct capital towards these outcomes. Each actor behaves rationally according to the incentives they face, yet the combined effect may unintentionally favour short-term optimisation over long-term system development.

This creates an uncomfortable possibility. Programmes may achieve every target they set while simultaneously underinvesting in the conditions that allow sectors to mature: productive demand, institutional capability, local innovation, market diversification and adaptive capacity. The question is therefore no longer whether we are measuring success correctly. It is whether our metrics are shaping the kind of energy system we ultimately hope to create and are truly valued.





4. Can the sector learn to see itself?

What if the greatest constraint is not a lack of coordination, but a lack of collective sensemaking?

Development programmes increasingly recognises the importance of stakeholder engagement through consultations, partnerships and multi-stakeholder platforms. These efforts matter. Yet participation and consultation alone do not generate transformation. The deeper challenge is creating conditions in which the wider system becomes visible to itself and starts working as one.

Example: A government may focus on regulation, companies on commercial viability, donors on programme results, researchers on evidence and communities on everyday realities. Each perspective is valid, yet inevitably partial. Only when these perspectives are brought together and kept together do the relationships between incentives, policies, technologies, markets and social realities become visible.

This has important implications for development practice. Organisations may individually deliver successful programmes while the wider ecosystem remains fragmented, with learning dispersed across projects and institutions. The challenge therefore shifts from coordinating individual interventions towards strengthening the ecosystem's collective capacity to learn, adapt and evolve across organisational boundaries,.The objective is therefore not simply better dialogue, but greater collective sensemaking: the shared capacity of the ecosystem to understand itself, recognise opportunities and constraints, and act on that understanding together.

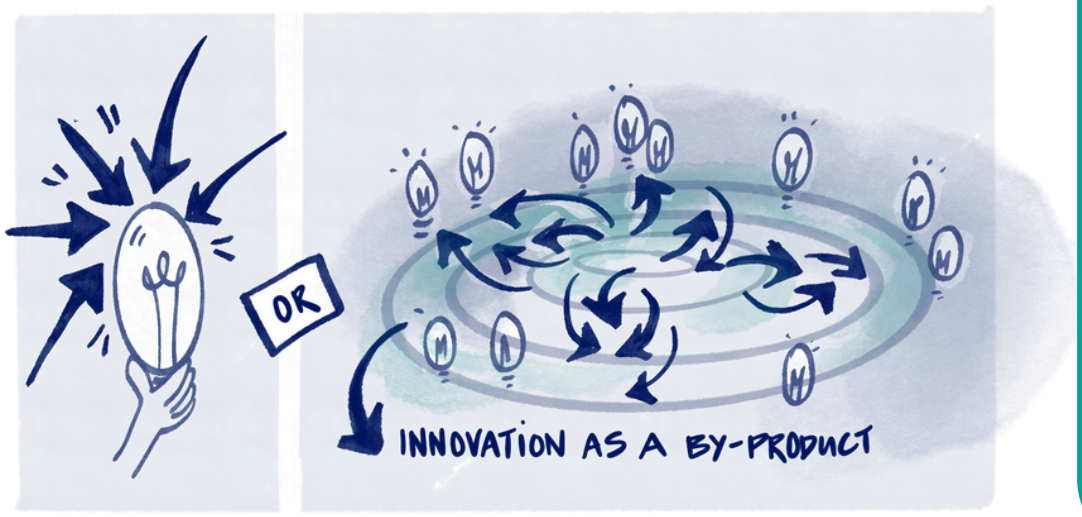
Five Intriguing Questions

5. Is the purpose of development to solve problems—or to expand possibility?

What if the greatest outcome of development is not the problems it solves today, but the possibilities it creates tomorrow?

Much of development practice is organised around solving existing problems. This remains essential. Yet thriving sectors do something more. They do not simply respond to change. They continuously generate new possibilities. New business models. New productive uses. New partnerships. New forms of value creation. Their defining characteristic is not stability. It is generativity —the capacity to continually create opportunities that did not previously exist, rather than sustain existing ones. An ecosystem capable of generating new productive demand, attracting new entrepreneurs and adapting to emerging technologies creates possibilities that no individual project could have designed in advance.

This suggests that the ultimate measure of development is not the number of problems it solves, but the number of new possibilities it enables societies to create for themselves.



If this is true - what should we do differently?

The dialogues suggest that the next frontier may lie in understanding how different perspectives and approaches interact, and under which conditions they reinforce one another over time.

If this is true, the implications extend beyond individual programmes. They point towards a new collective learning challenge for the sector: understanding how entire energy ecosystems evolve: How do relationships shape outcomes? How do incentives influence behaviour? How does adaptive capacity develop? Under which conditions do entirely new opportunities emerge that no single intervention could have designed in advance?

It is an invitation to broaden the questions we explore together. How do ecosystems learn? What enables collective sensemaking? How do funding mechanisms influence long-term system behaviour? Which capabilities allow energy systems to continually adapt and create new possibilities?

The dialogues themselves offer one possible starting point. They demonstrate that when a large group of diverse people comes together to explore tensions rather than defend positions, different questions begin to emerge. Those questions may ultimately prove as valuable as the answers.

Every generation of development is shaped by the questions it chooses to ask. For decades, the defining question was how to expand access. Increasingly, the question became how to build sustainable markets. The current dialogues suggest that another question may now be emerging. How do energy ecosystems become increasingly capable of shaping their own future?

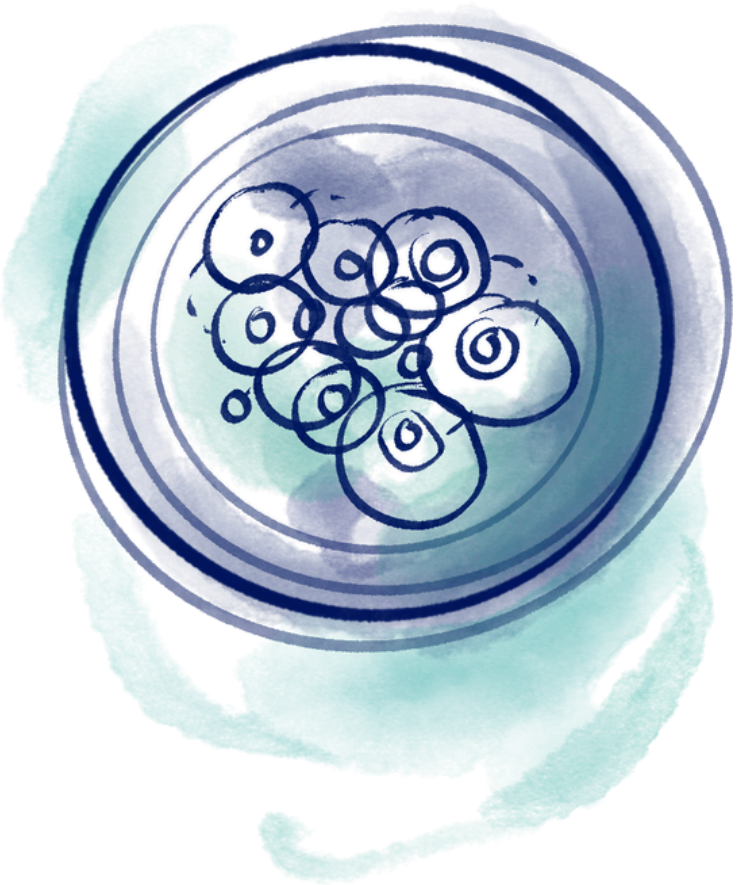
The next frontier is not finding better answers to yesterday's questions but developing the collective capability to ask—and explore—the questions that will shape the next generation of energy access. If we succeed, the greatest legacy of today's efforts is not simply be the projects they deliver, but the ecosystems they leave behind—better able to learn, adapt and create opportunities that today we cannot yet imagine.

Continuing the Sensemaking

Towards an Integrated Science of System Transformation

The four dialogues suggest more than four independent shifts in thinking. Together, they point towards a broader transition in how lasting change is understood. Across governance, development, innovation and systems thinking, attention is shifting from explaining change through individual interventions to understanding change as the product of interactions within evolving systems.

This shift is visible across multiple research traditions. Collaborative governance emphasises relationships, trust and institutional coordination (Ansell & Gash, 2008; Emerson & Nabatchi, 2015). Transition studies describe transformation as the co-evolution of technologies, institutions, markets and society (Geels, 2019; Köhler et al., 2019; Loorbach, 2010). Complexity science highlights emergence, adaptation and continuous sensemaking in dynamic systems (Kurtz & Snowden, 2003; Snowden & Boone, 2007), while systems thinking focuses on feedback, relationships and whole-system behaviour (Meadows, 2008; Hynes et al., 2020).



Rather than treating governance, inclusion, innovation and systems transformation as separate domains, the dialogues suggest they represent different expressions of a broader capability: the ability of energy ecosystems to continuously generate positive change. This shifts attention from actors to relationships, from projects to ecosystems, from optimising interventions to strengthening adaptive capacity, and from solving today's problems to expanding tomorrow's possibilities.

At the same time, the dialogues expose an important gap. Considerable research exists on collaborative governance, innovation systems, transition management and market development individually, but much less is known about how these dynamics reinforce one another across an entire energy ecosystem. How does collective sensemaking emerge? How do funding mechanisms shape adaptive capacity? Under what conditions do ecosystems become increasingly generative? How do successful paradigms eventually constrain future innovation?

Rather than proposing a new theory, the dialogues point towards a more integrated science of system transformation. They invite researchers and practitioners to explore how governance, innovation, market development and institutional learning interact to strengthen the collective capacity of societies to learn, adapt and create new possibilities over time.

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