

1 Triple wins? Prospects for pro-poor, low carbon, climate resilient energy services in Kenya

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1.1 Abstract

We provide a political economy analysis of two interventions in Kenya that promise to meet climate change and development aims: (i) incentives for the private sector to produce electricity from renewable sources; (ii) a Climate Change Action Plan to mainstream climate change in government policy. Support for climate compatible development may be gained through interventions that operate within existing landscapes of power, but dominant framings of energy and development constrain the prospect of pro-poor, climate resilient, low carbon energy services in the developing world. Ultimately, trade-offs between different policy objectives will be resolved through unequal relations of power.

1.2 Introduction

There is increasing interest among bilateral and multilateral donor agencies in supporting more integrated approaches to address climate change in the developing world: approaches that maximise the co-benefits and minimise the trade-offs between climate change mitigation, adaptation and development (Nunan, this volume). These aims are embodied in concepts such as low carbon climate resilient development, or climate compatible development (CCD). Mitchell and Maxwell's (2010:1) definition captures the broad normative aims of climate compatible development: 'development that minimises the harm caused by climate impacts, while maximising the many

human development opportunities presented by a low emission, more resilient, future’.

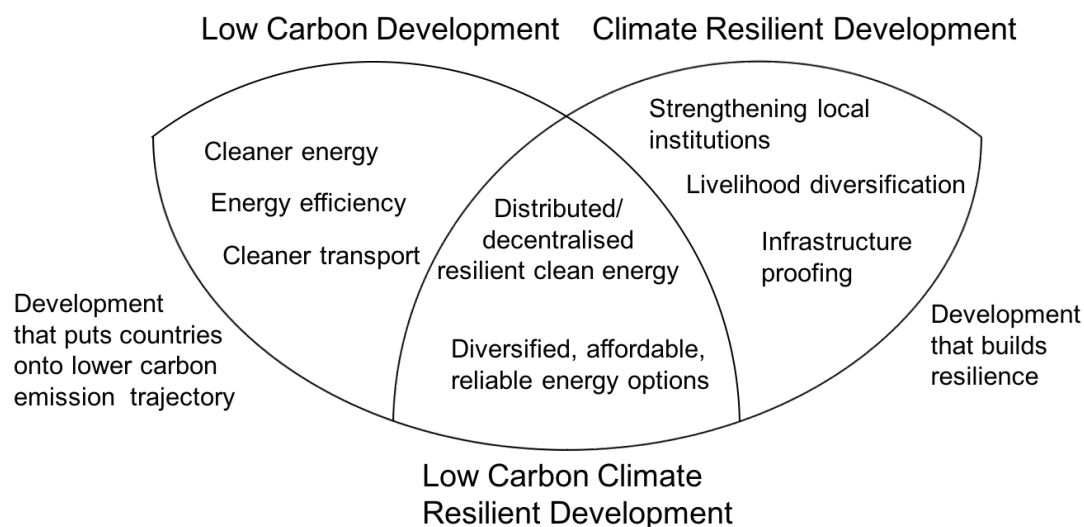


Figure 1-1 provides an illustrative example one way that UK Department for International Development (DfID) Climate and Energy advisors have applied Mitchell and Maxwell’s conceptualisation of CCD to the energy sector. But what might the process look like in practice? And what is gained and lost by the framing of a ‘triple win’ of mitigation, adaption and development?

In this chapter, we employ a political economy analysis to raise some un-answered and un-asked questions about how energy systems might be redesigned to simultaneously meet climate, development and adaptation goals. Energy systems refer not only to the technology and infrastructures of modern energy production and consumption – gas turbines, solar lamps, or transmission lines – but to the social and political systems through which these technological artefacts emerge and are governed. Our premise in this chapter is that issues of power and political economy will play a key role in determining the winners and losers from future energy systems and will shape the terms on which the trade-offs between competing policy objectives are resolved in practice.

To illustrate the politics of climate compatible development, we provide an account of two recent policy developments in Kenya: (i) government incentives for private power producers to generate electricity from renewable sources that is fed into the national grid (the feed-in tariff); (ii) the development of a government Climate

Change Action Plan to mainstream climate change considerations into a broad range of domestic policies, including energy policy. Both interventions seek to modify existing institutional and technological arrangements for energy. But thinking about who sets the terms on which policy is framed, designed and implemented raises key political questions about the relative power of different actors, interests, ideas and institutions in the energy sector. Here, we give particular attention to the politics of which social and technical configurations of energy systems are prioritised - by whom, and why and what this might mean for who secures access to electricity. The analysis is informed by 29 interviews with government officials, donors and businesses conducted during 2013; available academic and grey literature; data on household budgets and the cost of electricity to assess affordability for the poor of different electricity supply options; and reflections gleaned from a dissemination event on the research held in Nairobi in 2014.

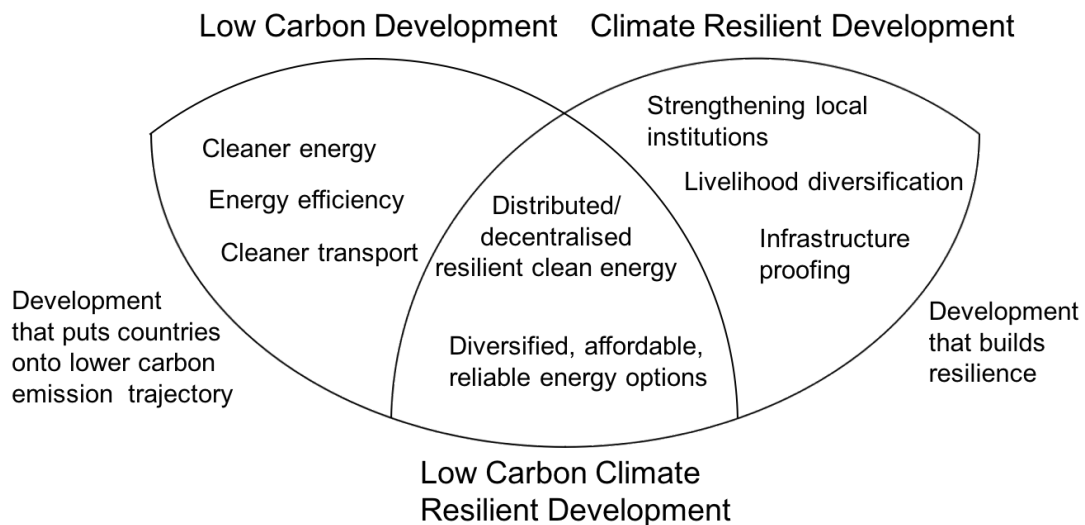


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1.3 Political economies of climate compatible development

There is a growing body of academic literature on efforts to design climate change policies that are integrated with development goals (Tanner and Allouche 2011; Urban and Nordensvärd 2013). Climate change mitigation policies that conflict with the development aspirations of political elites in developing countries are typically

judged to be ineffective and quite probably inequitable given the limited historical responsibility of low income countries for climate change. In light of the apparent trade-offs between climate change mitigation, adaptation and development there is wide recognition that ‘politics matters’ at a variety of scales. What is often less clear is *how* politics matters (Næss *et al* 2015). Comprehending the outcomes of efforts to integrate climate and development draws attention to who makes the decisions and who sets the terms of initiatives that promote the integration of climate and development agendas.

Some donors have sought to engage with the socio-political contexts in which their aid programmes operate (Routley and Hulme 2013). Why have well-intentioned and meticulously planned efforts at pro-poor reforms faltered in the real world? The UK department for International Development’s Drivers of Change analyses are illustrative of this more explicit engagement with the set of political incentives that guide the decision making of political elites in the developing countries. These studies have highlighted reforms that have been shallow and captured by powerful political interests. For example, Ng’ethe *et al* (2004: 4) suggest that:

The fundamental problem in Kenya is that the political elite have been able to capture public institutions and resources to serve their private interests... In the past, reforms have usually occurred when the elite has come under sustained pressure from interest groups... The elite have generally opposed pro-poor change where this threatens their interests and sources of patronage.

Analysis of ‘successful’ public policy reforms has highlighted the existence of robust coalitions of powerful incumbent actors, a breadth of institutional agents who build consensus and lend support for institutional transformations and attractive alternative logics to existing governance practices (Andrews 2013). Acknowledging the limited progress in institutional reform that has been made through the rigid prescriptions of ‘good governance’, many now ask which institutional arrangements might constitute ‘good-enough’ governance and how ‘politically savvy’ pro-poor reform programmes might be designed (Grindle 2004, Levy 2014).

While offering insights into areas of institutional weakness and barriers to change, this type of analysis has less to say about critically important political conditions and structures under which institutional agents operate. Institutions and reform processes matter, but within a broader landscape of power. For example, restricting analysis of climate resilient, low carbon energy to the national scale is to omit an important set of power relations that shape the production and financing of energy and the distribution of energy services. This includes donor agencies and international finance institutions themselves, as potentially powerful political actors in aid dependent countries. Critical studies of power sector reform are often more explicit about the role of multilateral development institutions in restructuring and liberalising the energy sector and in so doing reconfiguring the distribution of power between state and private actors and the balance of power within the state (Dubash and Williams 2011).

In this chapter we provide examples of two Kenyan policy initiatives that attempt to integrate climate change and development priorities in different ways. Donor agencies – particularly the World Bank – have historically held considerable power over the ideas and implementation of Kenyan energy policy (Tellam 2000). Despite global shifts in the political economy of aid that have seen China and other emerging economies providing alternative financing options, Kenya’s ‘traditional’ donors are able to set the tone for priorities in the energy sector in a number of ways (Newell *et al.* 2014). Both initiatives that we outline have received strong political, financial and technical support from a variety of multilateral and bilateral donors for whom climate change mitigation and adaptation strongly frame their programmatic support for Kenya’s energy sector.

First, we discuss government incentives for private sector power producers to generate electricity from renewable energy resources (‘feed-in tariffs’). Feed-in tariffs provide the state with a potential solution to chronic power shortages, but require trade-offs that are contested openly, since they pit (foreign) private sector profits against limited government budgets and energy bills for consumers. We outline how specific pro-poor measures could expand the possibilities for grid based renewable energy to expand electricity access, but that tensions remain in the market-based approach to energy service expansion that unites international donors and the Kenyan government (Newell & Phillips 2016).

Second, we discuss efforts to mainstream climate change concerns into government decision-making and planning, including in the energy sector. Kenya's Climate Change Action Plan has been successful in so far as it has produced a relatively robust consensus on a set of actions that are framed by climate change as an opportunity, including access to international climate finance. But it is less clear that this approach has broadened the space for climate compatible development beyond the provision of hardware and finance for existing policy priorities. In both cases, political relationships and struggles over competing objectives shape climate compatible development in practice and derive from the particular context of the energy sector in Kenya.

1.4 How is pro-poor, low carbon, climate resilient access to electricity understood?

Kenya has a range of low carbon energy options available for electricity generation. Importantly, some renewable energy resources are viable within the traditional economic calculations favoured by the Ministry of Energy and Petroleum and the Ministry of Finance. Large-scale geothermal power and wind power in the best locations are cheaper in cost than domestic fossil fuels (Wendle 2013; Ministry of Energy 2011). Subject to proper planning, large-scale solar photovoltaic (PV) technology can also provide cheaper power than the emergency diesel-powered generation that currently plugs the gap between electricity supply and demand (Rose *et al*, 2015). In such cases, discourses of energy security that shape domestic policy overlap with the climate change concerns of donors. Geothermal energy in particular seems to provide a win-win solution as it provides the possibility to consistently generate low carbon electricity at low cost from a domestic source. Geothermal resource development has, therefore, received strong political support in Kenya and financial support from international donors. However, as the following sections illustrate: (i) low cost electricity generation is not equivalent to pro-poor generation; nor does increasing generation necessarily improve energy access; (ii) the scope to broaden these areas of overlap is limited by the framing within which they have become attractive to the state: as the least cost option for grid based power supply.

For our purposes here, pro-poor, climate resilient access to electricity can be understood as access that provides poor people with energy services, enabling poverty reduction and a lower vulnerability to the impacts of climate change (Pueyo 2015). These services include for example: light, information and communication technologies, mechanical power for productive uses or water pumping, heating or refrigeration. Their poverty impacts can not be assumed, but may consist of income generation, female empowerment, or better education and improved health. To enable these impacts, electricity needs to be consumed at a sufficient level by the poor and provided reliably and at high quality. Improvements in electricity access can be considered pro-poor in weak form when it results in absolute increases in electricity use and in outcomes for the poor, regardless of how access improves for the non-poor. In a strong form, pro-poor access requires that availability, use and outcomes of electricity increase further for the poor than for wealthier groups, so that inequality in access to electricity also falls.

The poverty effects of the supply of electricity are not automatic, however and a number of intermediate goals need to be achieved for benefits to occur. First, once electricity is generated, grid-connected generation needs to be reliably fed into the system and off-grid solutions need to provide a durable and sufficient level of access to electricity. Second, this additional supply must be made accessible and affordable for the poor. With on-grid energy, this is a matter of extending the grid to areas with high poverty incidence, ensuring the quality and reliability of supply and setting connection costs and consumption tariffs which are affordable for the poor. For off-grid energy, it is a question of situating the generating capacity in areas of high poverty incidence, using business models that make upfront costs affordable for the poor and ensuring durability of the generation technology. Third, electricity needs to be used at a sufficient level and for a diversity of activities, crucially including income generation activities, if it is to translate into poverty reduction. This requires accessibility, affordability and knowledge of how to use the appliances required to turn electricity into energy services. Fourth and finally, increased electricity supply can also indirectly reduce poverty by boosting economic growth but only insofar as redistribution mechanisms are in place that allow the poor to benefit from this growth. However, the way to achieve these poverty impacts remains highly contested.

1.5 Politics in Competition; Politics in Consensus

While the generation and distribution of electricity faces considerable technical challenges, electricity policy is always political because it involves the distribution and allocation of resources. Electricity politics can be contested in any number of arenas and at multiple scales. It is found, for example, in the politics of which areas within the country are prioritised for grid extension investment and projects to build new energy capacity by the state, donors or private capital (and for whom and for what this extra capacity is required). It is contained in the politics of how much autonomy over policy is de-centralised to Kenyan counties; which public and private actors are allowed into the market and on what terms; at what level the tariffs are set and whether this level prioritises affordability for the consumer or profitability for investors; and in the competition between different providers of energy services and backers of competing energy pathways over who is best placed to help deliver the country's electricity policy objectives.

At work is both an openly competitive politics of different actors jostling for policy and financial support. But there is also a politics of alternative discourses, needs and policy options that are actively screened out of debate or do not come to be considered. This may be because the actors that might benefit from them are weakly mobilised or represented, or because they are poorly aligned with – or indeed threaten – the preferred energy pathways of state and corporate elites and their control over them (Phillips and Newell 2013). As we describe below, the politics of electricity can be found both in open competition between different interest groups and in the manufacture of consensus among competing policy objectives.

1.5.1 Politics in competition: feed-in tariffs

One policy that has generated interest among foreign investors – and attracted controversy – is Kenya's feed-in tariff (Ministry of Energy 2012). Through a feed-in tariff, the government purchases power that is generated by private sector power producers at a fixed fee guaranteed for a period of time (20 years in Kenya). Feed-in tariffs have been the policy of choice in many European countries and have been suggested as a potential policy tool for African governments, particularly in countries

such as Kenya that have followed power sector liberalisation programmes closely: unbundling the various functions of state-owned power sector institutions and creating new institutional arrangements to attract private sector power producers (Ministry of Energy 2004). The United Nations Environment Programme (UNEP n.d) has cited Kenya's feed-in tariff as a 'Green Economy Success Story', in terms that closely mirror those of climate compatible development: a 'triple-win' of additional renewables based generation capacity to the country, enhancing employment and poverty alleviation in the rural areas and increasing income opportunities for business development. In reality, the uptake of the feed-in tariff has been low. Key large scale projects such as the Lake Turkana Wind Farm and the Orpower geothermal project have relied instead on individually negotiated power purchase agreements. Public opposition to high tariffs has made the government reluctant to approve tariffs that raise costs for consumers and can provide windfall profits for foreign investors, as experienced by some European Governments. A representative from the Ministry of Energy claimed:

Investors are more concerned about making quick returns rather than large-scale impact and transformation of poor people's lives. This is why they complain about feed in tariffs being low... The government thinks these tariffs are reasonable both for consumers and investors... The government does not want consumers to pay higher for energy (Interview with senior staff, Ministry of Energy, Nairobi, 19 August 2013).

According to one energy sector regulator, the powerful former Permanent Secretary to the Minister of Energy made a conscious decision to dis-incentivise utility scale solar power investment: 'As an advocate for renewable energy, I can say that the decision to price solar low was a deliberate one'. The Permanent Secretary – a vocal critic of solar power – judged that the benefits did not justify the costs that the tariff would imply for consumers. As such, the solar tariff provided to potential project developers is half of the value considered to be sufficient to stimulate investment and no grid-connected solar power projects yet exist in Kenya (Ministry of Energy and 2012). Wind tariffs are judged to be only profitable for projects in the best locations or for those able to access concessional finance with very favourable conditions, while

changes in policy direction and tariff levels have damaged confidence in the long term stability of government incentives for renewable energy.

In this context, donors have sought a number of ways to reduce the cost and increase the competitiveness of renewable energy sources relative to fossil fuel alternatives. Geothermal has been the most strongly supported technology in the country and the government has been able to attract development finance at a low cost and long maturity. Government support to covering the costs of exploration and drilling (the most risky stages of geothermal development) has sent a clear indication to investors that the Government will support this technology. Donors have sought to reduce the cost of finance for electricity generation by de-risking private sector investment through investments on transmission and distribution infrastructure and on the capabilities of the grid operator, more transparent procurement and contracting processes, or clearer land property rights. But those risks that cannot be mitigated sufficiently or fast enough through policy de-risking instruments have typically required financial de-risking instruments, to transfer investors' risks to public actors such as development banks (Waissbein *et al.* 2013). These instruments would include government or development bank guarantees against power purchase agreements and political risk insurance covering non-commercial risk such as political violence, currency restrictions and expropriation.

The level of investment required in the energy sector is widely considered to require the participation of private investors. Yet energy sector liberalisation raises tensions with pro-poor, climate resilient energy services that cannot be avoided by simply addressing the cost of finance. Experience suggests that there are limits to what can be achieved against either weak or strong forms of pro-poor energy access, in so far as there are contradictions in the pursuit of a pro-poor electrification strategy driven by processes of privatisation, corporatisation or commercialisation of key electricity sector institutions (Bayliss and Fine 2008). In order to attract private sector investors in power generation, the purchaser of that power must be a solvent, credit-worthy body, such that publicly owned electricity distribution companies across Africa are increasingly structured to operate as corporations themselves without public subsidy. For a number of years, Kenya's electricity transmission and distribution company Kenya Power has been moving towards cost-reflective pricing, reducing subsidies to

low-income consumers and grid extension (Briceno, Garmendia and Shkaratan 2011, The Standard 2014). Risk guarantees provided by the World Bank and African Development Bank are also often essential to mitigate risk for independent power producers, but ultimately attracting investors in power generation has meant removing government support for low-income consumers to access grid-based power.

This dynamic is not particular to renewable energy; it is evident wherever governments seek the capital of independent power producers to increase or diversify the country's power supply. But where novel resources such as geothermal energy are to be commercialised, norms of risk and reward determine that states are required to provide knowledge (such as technology development and resource mapping), infrastructure (such as roads or transmission lines) and land to mitigate risks to investors. Though the politics of risk and reward are inherent to market models of electricity generation and distribution, narratives of private sector risk-taking rarely recognise the diverse roles of the state in bringing particular resources or technologies to market (Mazzucato 2015). In the case of geothermal this finds clear expression in the creation of the Geothermal Development Corporation created by the Government of Kenya to absorb the risk of resource exploration and assessment for private investor interests (CDKN 2013).

The market model for energy access is also extended further by those donors that seek to meet the energy needs of (mostly rural) people who have remained without access to modern energy under both the era of state-controlled, centralised power production and the subsequent era of market reform. New finance models are now conceived to lever the minimal purchasing power of poor consumers. Several donors support networks of 'energy entrepreneurs' to build distributed markets for off-grid solar technologies. Solar lamps or larger household scale systems can supply basic lighting and communicative functions such as mobile phone charging and can provide relatively inexpensive energy services to people for whom grid services are unaffordable or inaccessible. But they also shift the responsibilities of state and citizen, individualising energy supply. For example, the success of the mobile money transfer service, M-PESA, has been employed to reduce the upfront cost of solar lighting for poor consumers (Rolffs *et al.* 2016). These new financial and technological models are developed to enable profit making at (and from) the 'bottom

of the pyramid' (Prahalad 2005), consistent with models of 'electric capitalism' in Africa (McDonald 2009) which have developed on the back of the business opportunities from the high energy costs that consumers, especially poorer ones, pay.

The contradictions and tensions of this context for energy policy remain the elephant in the room for efforts to expand the scope of climate compatible energy development. The colonial and post-colonial state in Kenya failed to provide electricity for citizens beyond a core set of elite actors, businesses and urban areas. But infrastructural investments by the state have been important in countries with near-universal electricity access, such that some Kenyan policy makers understand market-led prescriptions from donors to be 'kicking away the ladder' (Chang 2002) by circumscribing the scope for the state determine developmental priorities in the electricity sector.

1.5.2 Politics in consensus: climate change mainstreaming

In the design of policies such as feed-in tariffs, governments are faced with striking a balance between providing incentives for private sector investment and limiting energy price increases for consumers. Yet the politics of climate compatible development are not always so visible, or so readily defined in competitive terms. Kenya's efforts to mainstream climate change into government planning are illustrative, in so far as they have sought to achieve a consensus around the opportunities presented by climate compatible development. Yet critics of planning processes suggest that if climate change mitigation and adaptation are inherently political processes, then managing competition out of planning can be counter-productive. Establishing consensus where the interests of different stakeholders are necessarily different can have the effect of silencing some perspectives or displacing conflict over policy priorities elsewhere (Wilson & Swyngedouw 2014).

Mainstreaming climate change into government decision-making requires mitigation and adaptation objectives to be integrated into energy policy and planning – a domain in which incumbent actors and established structures can fiercely resist change. In this regard, Kenya's Climate Change Action Plan (2013-2017) seeks to mainstream climate change across government departments and policy areas (horizontal

integration). And as Kenya's devolution process re-shapes the allocation of resources and responsibilities, it will be increasingly important to ensure coherence and consistency of policy across multiple levels of decision-making (vertical integration).

The Climate Change Action Plan explicitly aims to promote the horizontal integration of climate objectives across policy areas (Government of Kenya 2013). It has been promoted as a 'flagship model' for climate planning in Africa by its primary funder the Climate and Development Knowledge Network (CDKN), who receive funding from the UK Department for International Development and the Dutch Ministry of Foreign Affairs (CDKN nd). The Action Plan was developed in 2012 under the leadership of the Kenyan Ministry of Environment and Mineral Resources to enable the country to reduce vulnerability to climate change and to improve the country's ability to take advantage of climate finance mechanisms.

The Action Plan itself was developed through a year-long participatory process involving the government, private sector, academia, NGOs and representatives of civil society. Most importantly for CDKN, achieving the 'buy-in' of powerful ministries was considered critical to the success of the Action Plan. The Ministry of Planning was tasked with ensuring that the Climate Change Action Plan was integrated with the government's Medium Term Plan (2013-17) and long-term development ambition, *Vision 2030* (Government of Kenya, 2006). Ministry of Finance representatives were principle members of the coordinating task force and charged with catalysing climate finance and establishing policy on low carbon investment and carbon trading. Government and donor representatives described the consultation process as efficient, 'smooth' and 'rapid'. Perhaps more importantly, the process is said to have achieved consensus from a broad range of government Ministries.

While potentially providing long-term policy direction, development plans (climate compatible or otherwise) can obscure key trade-offs around energy choices and their implications. In 2013 President Kibaki rejected legislation that would have created an independent climate change authority with the power to ensure that the government complies with its stated climate change aims. Climate change policy coordination remained the mandate of the relatively junior Ministry of Environment and Natural

Resources, with little power to influence the policies of more powerful ministries such as the Ministry of Energy and Petroleum. Nonetheless, the rejected Climate Change Bill remained a priority as a means to attract international climate funds for adaptation and for 'green growth'. Kenya was among the first countries to create the national institutions to access UNFCCC Fast Start Finance and the first of six countries to access the World Bank-administered Scaling-up Renewable Energy Programme. Climate change mainstreaming has been the process of framing climate change as an opportunity, coordinating access to climate finance and avoiding direct conflict with powerful incumbent actors, ideas or institutions.

In the energy sector, incumbent systems refer not simply to fossil fuel resources, but to broader social, technical, political and cultural systems of energy production and consumption. In this respect, renewable resources such as geothermal energy that can fit relatively easily into existing socio-technical systems are often favoured by both government and donors. For example, independent power producers argue that an attractive tariff for utility scale solar power would be less expensive than the diesel-generated emergency power generation on which the government relies; but generating reliable electricity from intermittent solar radiation requires planning and changes to the management of electricity transmission and distribution systems, whereas emergency diesel generation is available to 'plug in' to the existing system.

Geothermal energy is a priority for government and donors because it can supply electricity at low cost within a similar socio-technical system to that which already structures the electricity sector. The Climate Change Action Plan is integrated with Kenyan energy development plans in so far as it provides support for the existing aims of Kenyan policy: 'To facilitate provision of clean, sustainable, affordable, competitive, reliable and secure energy services at least cost while protecting the environment' (Ministry of Energy and Petroleum 2014: viii). In these multiple and perhaps conflicting terms, it is consistent for the country's energy policy to promote renewable energy to 'enhance energy security, mitigate climate change, generate income, create employment and generate foreign exchange savings', while coal is described as 'one of the indigenous sources of energy that will drive the development of strategic initiatives for Vision 2030' (Ministry of Energy and Petroleum 2014: 37-42). The Climate Change Action Plan is similar to other climate change

mainstreaming initiatives worldwide in so far as it seeks to increase the attractiveness of low carbon technologies without actively dis-incentivising the development of energy that is carbon intensive, such as coal, or energy that might otherwise be incompatible with climate change adaptation, such as large scale hydropower.

In short, to achieve the political support of various Ministries, the Climate Change Action Plan is focused on assisting the government to realise existing renewable energy projects and plans. The technical and financial challenges of the government's ambitious renewable energy installations are indeed considerable, but the extent to which they constitute a shift in the social and political production and consumption of energy is questionable. The same can be said more broadly of the Climate Change Action Plan: by working within existing socio-technical systems, discourses of energy development and power relations, the Action Plan has found a place within Kenyan policy alongside existing policies. This also shapes the limits of such a plan and – as such – the scope to expand the scope of planning for climate compatible development.

1.6 Climate compatible development: what is being adapted?

The current support for some renewable energy technologies emerges from a fragile base of donor and government interests in low cost, centralised renewable electricity generation. The same conditions support the development of resources that are incompatible with equitable and resilient energy access in a safe climate, such as domestic and imported coal, oil, gas and large-scale cheap hydropower imports from Ethiopia. Kenyan government support for renewable energy is ultimately gained by the extent to which it addresses energy security concerns – a narrow but powerful basis for support that has seen the development of large-scale projects for wind and geothermal energy. In this final section we discuss some of the potential consequences of the current approach to promoting clean energy by donors and government, particularly what it implies for how difficult trade-offs between climate mitigation, adaptation and poverty alleviation might be resolved.

For many donor agencies important political economy questions over relations between state, market and citizens fall outside of the scope of their climate and energy programming. In this respect, there is a high degree of alignment among donors and

between government and donors around the desirability and necessity of market-based approaches to tackle Kenya's energy challenges. Kenya's electricity supply is undergoing a significant process of diversification to include new renewable and fossil fuel resources. But the social and political organisation of energy has not undergone significant associated changes that might expand the scope of climate compatible development. We are therefore prompted to ask: *What is to be adapted* in efforts to achieve climate compatible development? And *what is to stay the same*?

Some incremental gains might be made through supportive finance mechanisms and re-deploying existing resources in order to shape markets that address energy access among the poor. Advances may be made from working within this current approach: to seek mutually supportive climate and development goals that require further support within the existing landscape of social power. This would require policies that recognise that more and cheaper electric power does not necessarily mean pro-poor energy access, or greater energy equity. Kenya's current targets and policies would need to be explicitly pro-poor, or explicitly designed to reduce energy inequality.

Moreover, the supply of hardware and finance is insufficient to foster the sort of socio-technological change that is imagined in ideas such as climate compatible development and pursued through plans such as the Climate Change Action Plan. Experience from Kenya's successful market for off-grid solar power is illustrative. Detailed studies have highlighted how public funding played a decisive role in building networks, creating demand, absorbing risk and supporting early experimentation, without which the off-grid solar market in Kenya would not have been possible (Ockwell & Byrne 2016). This is in contrast to the donor-favoured narrative of states that shape 'enabling economic environments' – for example improving access to credit for low income groups or creating efficient regulatory regimes. In contrast, the reality of technology development has been of critical public risk taking (Ockwell & Byrne, this volume). As such, efforts at expanding the space for climate compatible development that are limited to removing barriers to investment or reducing the cost of finance have limited impact on the critical processes of technological learning and capability building that have driven social and technological transitions in the past. Donor programmes that specifically target the

development of low carbon technological capabilities could expand the scope for low carbon, climate resilient energy on a more equitable basis.

However, existing priorities and dominant framings of energy development may also constrain the prospects for more substantive gains in pro-poor, climate resilient energy service provision. To expand the space for climate compatible development may mean working against some interest groups, or the widely held faith in the market to deliver pro-poor energy services. While many donors recognise that reform programmes and climate change mainstreaming will come up against vested interests, the power of ideas to shape the scope of climate compatible development is often less visible, although no less powerful (Chhotray & Hulme 2009). In this respect, climate change and development literature often highlights the conservative character of ideas such as adaptation and resilience (Eriksen *et al.* 2015). The adaptation or resilience of an unjust system of energy production or consumption would not be geared towards the creation of more just alternatives, but to the maintenance of the existing system – one that is marked by inequality.

In this sense, established socio-technical and political systems of energy production and consumption in Kenya have proven notably resilient to change over decades despite their inequities and inefficiencies. Some new renewable energy technologies can be incorporated into established technological systems without significant disruption to a social order of energy that is increasingly defined by the norms and discipline of markets. But assumptions that power sector privatisation or commercialisation will serve the poor through market efficiencies are questionable. The uncritical embrace of win-win(-win) rhetoric may serve to obscure the inherently political character of energy policy in the distribution of risk, reward, responsibility and rights. What is urgently required is an open, honest and inclusive public debate about different energy futures in a changing climate and how these can be best secured, by whom and on whose terms.

1.7 Conclusions

This is a critical time for Kenya in deciding upon its energy future and the degree to which it might become 'climate compatible'. Issues of power and political economy

will play a key role in determining technological and social outcomes: the winners and losers from different energy pathways and on whose terms and how the trade-offs between competing policy objectives are resolved. Political economy analysis points to how and why some options are favoured over others. It helps to explain the seeming mismatch between the potential of an energy resource and the level of political commitment to harness it demonstrated thus far.

On the whole, Kenyan government priorities have not been driven by concerns for pro-poor energy access, but rather concerns around energy security and the competitiveness of industry in Kenya (Ministry of Energy 2013). This is typically recognised by donors for whom climate change action and energy access are priorities. Kenya's Climate Change Action Plan is an expression of this coming together of energy agendas – seeking to expand the space for 'triple win' policies for development, climate change mitigation and adaptation. But which objectives prevail is a function of the power of the different actors that promote them (Newell & Phillips 2016). Moments when different objectives are openly discussed – and efforts are made to reconcile them – are revealing of the power dynamics at play. Any attempt to promote climate compatible development will have to understand, navigate and engage with these dynamics, in contrast to the sometimes technocratic and apolitical presentations of the concept and practice.

1.8 Figures

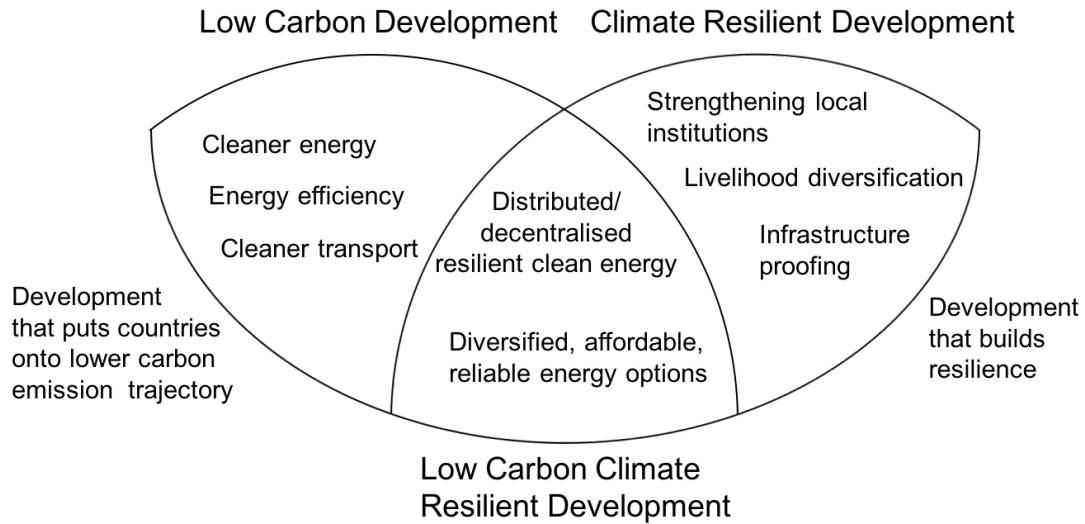


Figure 1-1. An application of the climate compatible development framework (Mitchell & Maxwell 2010) to energy. Source: Re-drawn by the authors from a diagram produced by Department for International Development (DfID) Climate and Energy Advisors

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