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Raphael J Heffron



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By Raphael J Heffron.

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Raphael J Heffron is Professor for Global Energy Law and Sustainability at the Centre for Energy, Petroleum and Mineral Law and Policy at the University of Dundee, UK. He is a Jean Monnet Professor in the Just Transition to a Low-Carbon Economy. His work combines energy law, policy and economics. He has held visiting academic positions in the UK, France, Greece, Australia, Mozambique, Colombia, Trinidad and Tobago, and the US.

The Commonwealth Sustainable Energy Transition (CSET) Agenda encourages and promotes collaboration amongst Commonwealth member countries in the transition to sustainable energy systems and action towards achievement of the SDGs. It builds on the recognition at CHOGM 2018 of the critical importance of sustainable energy to economic development and the imperative to transition to cleaner forms of energy in view of commitments by member countries under the Paris Agreement. It is anchored on the following three key pillars drawn from the agreed outcomes of the inaugural CSET Forum in June 2019 and leverages existing programmes of the Commonwealth Secretariat:

- *Inclusive Transitions*: advocating equitable and inclusive measures for energy transitions that recognise and address impacts on economies, communities and industries.
- *Technology*: propagating advances in technology solutions and innovations as well as research and development for sustainable energy systems.
- *Enabling Frameworks*: supporting the development of enabling frameworks, including policy, laws, regulations, standards and governance institutions for accelerating energy transitions.

For more information, contact the Series Editors: Alache Fisho (a.fisho@commonwealth.int), Legal Adviser, and Victor Kitange (v.kitange@commonwealth.int), Economic Adviser, Trade, Oceans and Natural Resources Directorate, Commonwealth Secretariat.

Abstract

The threat of climate change has triggered a global transition to a low-carbon economy. The central challenge of this is to make sure that no one is left behind. Ensuring an inclusive energy transition is vital to achieving sustainable, stable, people-centred development that reflects the broader goals of society. This paper identifies how to deliver an inclusive transition for all stakeholders, as the pace of change accelerates in the next decade and beyond.

JEL Classifications: O13, Q01, Q48

Keywords: inclusivity, energy transition, sustainable development, environment, community

Contents

Summary	5
1. Introduction	6
2. Key issues	8
3. Opportunities, challenges and barriers	12
4. Exploring actions at national level: Lessons from case studies	16
5. Practical actions, scenario planning and transition pathways	19
6. The implications of COVID-19	22
7. Recommendations	25
Notes	25
References	25

Abbreviations and Acronyms

CES	co-ownership energy schemes
CSEF	Commonwealth Sustainable Energy Forum
EFRO	energy financial reserve obligation
EIA	environmental impact assessment
EITI	Extractive Industries Transparency Initiative
EU	European Union
GDP	gross domestic product
IEA	International Energy Agency
SDGs	Sustainable Development Goals
UNFCCC	UN Framework Convention on Climate Change

Summary

The challenge to society today concerns ensuring that the energy sector transition contributes to economic recovery with a new ‘heartbeat’ of inclusivity, reflecting the goals of equity, fairness and equality. The energy transition is playing an important role in society and in furthering sustainable economic growth. As the transition happens and society moves towards 2030, 2040 and 2050 goals, no one should be left behind. At the heart of the transition needs to be inclusivity. Commonwealth countries can achieve this inclusive transition, broadly defined as ‘advocating and promoting equitable and inclusive measures for energy transitions that recognise and address in a meaningful way the impact on economies, communities and industries’. This paper focuses on how to operationalise an inclusive transition into practice and identify practical solutions that can be applied by governments to deliver actionable outcomes. Stakeholders and institutions have to be identified and allocated responsibility for achieving transformations across the spheres of politics, economies and societies. New initiatives for inclusivity can happen at the international, national and local levels and they can be implemented differently by Commonwealth member states. Key actions to ensure the delivery of an inclusive energy transition include targeting action on the following ten issues: (1) data management, (2) limits and targets setting, (3) agency development, (4) responsibility for decision-making, (5) training and capacity for public servants, (6) public education for all, (7) investment decision-making on cost and

attractiveness, (8) building flexibility and resilience into policy-making, (9) law and policy alignment, and (10) post-decision monitoring.

Key Recommendations

- Identify stakeholders and institutions and align policy which is supported by data management and analysis techniques to deliver new investment, new jobs and ensure industry competitiveness in a manner that contributes to the inclusive and sustainable development of a society.
- Establish a government unit, agency or commission (of experts) to deliver an inclusive transition and ensure that opportunities from the energy transition are realised. This new inclusive transition commission can perform a number of functions, with a key one being to engage with stakeholders, collect data, and provide the evidence to enable ministries to make decisions on ensuring inclusivity
- Plan scenarios to action and achieve an inclusive transition new pathways and begin the following Inclusive Transition Action Plan process: (1) data management, (2) limits and targets setting, (3) agency development, (4) responsibility for decision-making, (5) training and capacity for public servants, (6) public education for all, (7) investment decision-making on cost and attractiveness, (8) building flexibility and resilience into policy-making, (9) law and policy alignment, and (10) post-decision monitoring.

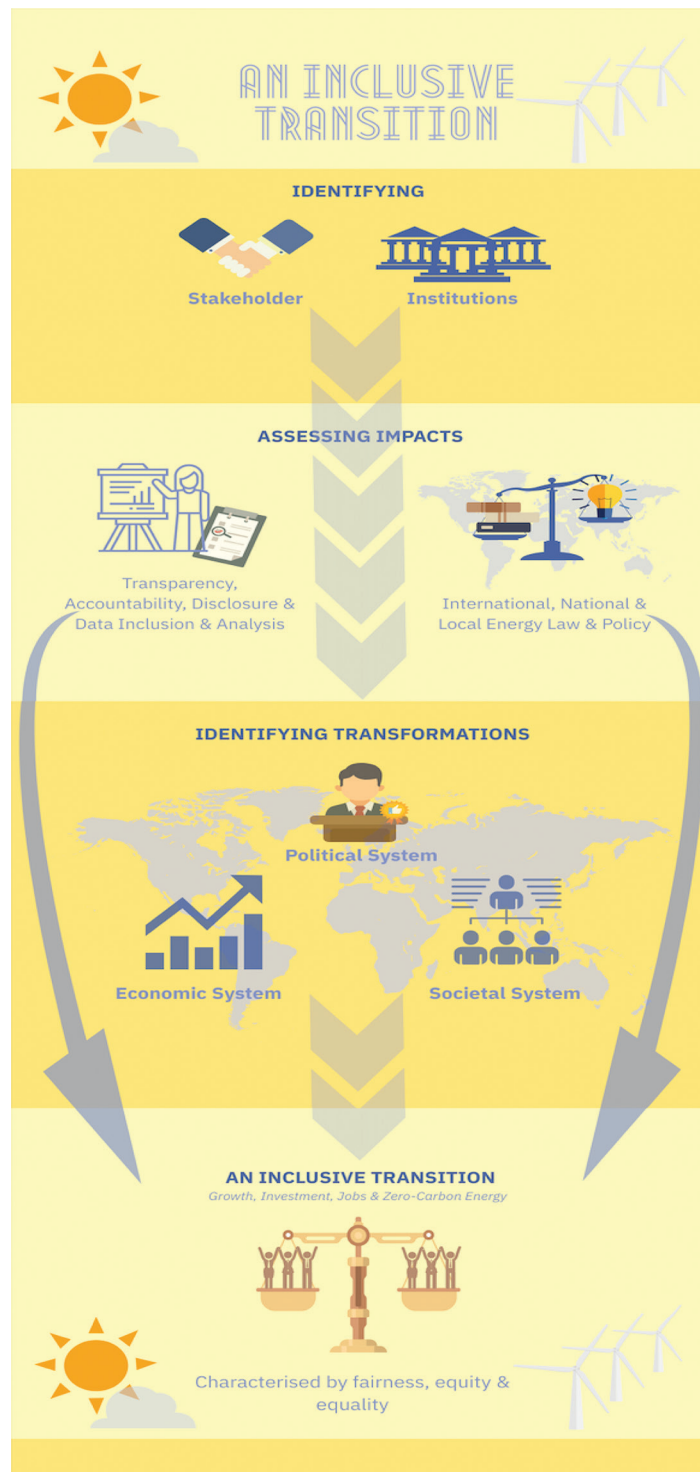
1. Introduction

1.1 An inclusive transition

The energy transition can contribute to an economic recovery that is equitable and inclusive. This paper examines practical solutions

that countries can undertake to achieve such a recovery, through advocating and promoting equitable and inclusive measures for energy transitions that recognise and address in a

Figure 1. The process of inclusive transition



meaningful way the impact on economies, communities and industries.

The move away from an unsustainable reliance on fossil fuels at the lowest social and economic cost is one of the major challenges faced by humanity today. The need to curb carbon emissions and to adopt new energy systems calls for a fundamental redesign of political, economic and social systems. Accountability of decision-makers and transparency of their decisions is fundamental to ensuring that the transition to a low-carbon economy is inclusive and just, where fairness, equity and equality are evident and different interests are taken into account.

Of importance also in this transition are the institutions involved and their perspectives regarding the pathways and different scenarios for achieving an inclusive transition. Fundamental for an institution is the data collected and the lens through which policy can be viewed, that is, a local, national and/or international (including regional) lens. A further important issue centres on communication and education around the inclusive transition and ensuring public confidence and acceptance.

In this paper, the aim is to move beyond the term 'inclusive transition' as a theoretical concept to its operationalisation into practice, identifying practical solutions, strategies, pathways and scenarios that can be applied by governments to deliver actionable outcomes. Diagrammatically, Figure 1 shows the process to achieve an inclusive transition.

The impact of and recovery from COVID-19 will have a significant influence on the energy transition and inclusivity within its process, and this is still evolving. However, what is beyond doubt is the need to introduce more resilient policy measures in light of such crises, and particularly in the context of the energy transition. Again, the paper will provide practical solutions in this context.

1.2 Energy transition performance around the world

The energy transition from fossil fuels to low-carbon energy has been happening for around two decades. It has provided challenges and opportunities for countries in many different ways. For example, it is important to consider the existing energy mix of a country, and what resources it has and may have access to in the future. Some countries have greater access to

low-carbon energy sources, given their geography and natural endowments, and can accelerate towards the energy transition. However, for other countries, there will be some institutional challenges and indeed slower transitions for those countries which do not have such access.

There exists a significant volume of reports on the energy transition internationally (for example, from the European Union [EU], World Bank, International Energy Agency [IEA], etc.) and repeatedly they highlight the successful energy transition developments and pitfalls that Western European countries have experienced. This can be attributed to key influences, such as the creation and advancement of European Union policy, access to finance and consumer demand. Irrespective of the success of EU countries in achieving initial goals of the energy transition, there remains the need for an inclusive transition in the EU for the same reasons as there is worldwide. Society has to ensure that the energy transition has equity and inclusiveness as key characteristics of the process.

More recently, as the debate around an inclusive transition has grown, issues such as climate change, public health and technological advancement are increasingly becoming influential. A key reason that combines elements of these issues above is that newer energy technology has become more cost-effective. The conventional energy sources of our old energy system, oil, gas and coal, have over time become expensive and less efficient, and they are subject to major price fluctuations. Slowly new competition has arrived in the form of low-carbon technology, which has begun to compete on price. In addition, this new technology has the additional benefits of curbing carbon emissions and therefore contributing positively to public health.

Hence, the energy transition should not result in the recreation of society in its current form, which consists of extremes in societal inequality. The benefits from the energy transition have to be distributed more fairly and sustainably, and in that way policy formulation and the resulting effects should deliver an inclusive transition.

Inclusion, empowerment and equality, must be 'at the heart of our efforts' to ensure sustainable development.

United Nations Secretary-General António Guterres, 17 July 2019

1.3 An interdisciplinary approach

The key issues and challenges on inclusive energy transition are multidisciplinary and, thus, need ‘interdisciplinary’ thinking to address them. While the disciplines concerning law and policy are critical, as they set the rules for the energy transition, other disciplines including economics, management,

social sciences and technology, are also essential – as they allow for interpretation of the dynamic capacity of this transition. The occurrence of COVID-19 and the resulting global, social and financial crisis demonstrates that future policy delivery, and also the economy in general, need to be more resilient to external shocks.

2. Key issues

2.1 Elements of an inclusive energy transition

As stated earlier, an inclusive (energy) transition is broadly defined as ‘advocating and promoting equitable and inclusive measures for energy transitions that recognise and address in a meaningful way the impact on economies, communities and industries.’ In assessing the key issues of an inclusive energy transition, it is necessary at first to identify its core elements. These revolve around identifying and aligning the stakeholders, the institutions and the policy needed to ensure an inclusive transition (Figure 2). Then the steps to achieving an inclusive energy transition can be determined and clarified.

2.2 Steps in an inclusive energy transition

The practical development of an inclusive energy transition will involve several steps that are necessary for identifying what an inclusive energy transition will be in a particular country. Figure 3 shows these practical steps to identify

and align the stakeholders, the institutions and the policy needed to ensure an inclusive transition. Further, it will assist in identifying future needs as the energy transition continues.

After the resulting analysis (from Figure 3) is completed, then it will be possible to identify the areas and economic sectors to address in an economy and understand: (a) how the energy transition will develop and impact a particular sector (such as industry, tourism, education etc.); (b) who are the stakeholders and institutions involved; and (c) how policy can ensure it is an inclusive process. It is important to realise that there is a major challenge here to ensure policy alignment across different sectors in the economy, such as labour, health, industry, education, tourism and agriculture. Actions in one sector have to be complemented by actions in others to ensure an inclusive transition. For example, if planning to reduce the reliance on oil and gas, policies have to be developed across the relevant ministries for energy, finance, labour and education to move society beyond traditional energy sources.

Figure 2. Three elements of an inclusive energy transition

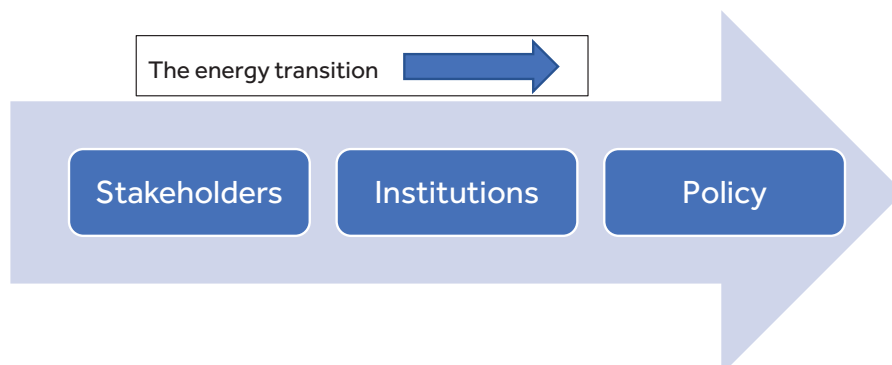
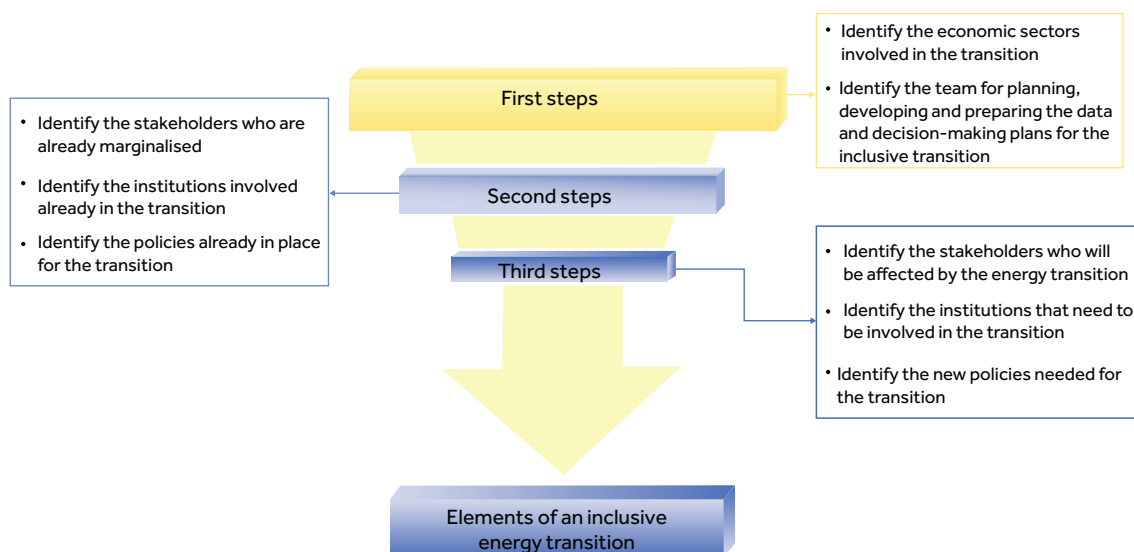


Figure 3. Three-step process to identify the elements of an inclusive energy transition



A successful energy transition can happen faster if it is inclusive, as there will be more support for a transition across the different stakeholders – that is, politicians, business and the public (see the discussion in Box 1). If an inclusive energy transition is planned and a long-term policy developed, it leads to increased policy certainty, which is necessary to ensure

sustained investment. Long-term policies that have public acceptance (see Box 1, where examples of success in Denmark and France are highlighted) will be easier to finance and attract investment, as they ensure policy certainty around the ‘investment’, while greater protection is provided to the investor with relevant property right protection.

Box 1. Mini case study: Energy transitions performance

France success since transformation in the 1970s

In the 1970s, France through the use of nuclear energy (a low-carbon energy source) realised near 80 per cent of domestic electricity production from this source. This was achieved through cross-political party decision-making, and domestic major and continuous subsidy support. There was public acceptance of the industry, which provided jobs, clean energy and the growth of an industry which began to export also.

France also has in government a Ministry for the Ecological and Inclusive Transition.

Denmark success since transformation in the 1970s

Denmark transformed from a country with near 100 per cent energy imports to 100 per cent green domestic energy production from the 1970s to today. This was achieved through its energy policy having cross-political party decision-making, domestic major and continuous subsidy support, and local population co-ownership schemes. In addition, Denmark now has a wind energy sector which exports.

Performance across a Commonwealth country selection: global ranking of early 2020 energy transition performance (World Economic Forum 2019 and 2020)

The World Economic Forum ranks countries from number one downwards on their energy transition performance. The UK is the highest ranked Commonwealth country, in seventh place, with a range of performances from other member states. This highlights the need for more policy action on the energy transition:

- Africa – Nigeria 113th, Kenya 79th, South Africa 106th and Mozambique 109th
- Asia – India 74th, Bangladesh 87th, Sri Lanka and Pakistan 94th
- Caribbean and the Americas – Trinidad and Tobago 77th, Jamaica 75th and Canada 28th
- Europe – UK 7th, Cyprus 48th
- Pacific – Australia 36th, New Zealand 17th

The above cases on France and Denmark highlight the positive impact of the inclusive energy transition, which transcends beyond the energy sector, and supports industry and can develop local employment (and in the case of Denmark, co-ownership of energy assets). Law and policy that support growth in the energy sector have to be developed, but also important is development of the low-carbon sectors around transportation, industry, tourism and infrastructure (which includes buildings and equipment – where energy efficiency is critical). It is a system-wide change that is needed. Box 1 also indicates the mixed performance of Commonwealth countries. Nevertheless, there is inspiration that can be garnered from large (e.g. the UK) to small (e.g. New Zealand) Commonwealth countries.

There are many benefits for society from an energy transition. There are two that are of particular importance. First, industry can benefit from lowering its operational costs in the long run and also, as evidence shows, it will do so with a more stable and flexible (Heffron et al., 2020) electricity supply, which increased renewable energy can supply. Second, at the local level, there are employment opportunities to be created. For example, in the US, there are deemed to be ten jobs in the green economy for every one job in the conventional fuels – around 9.5 million to 900,000 (Georgeson and Maslin, 2019). Further, this is also demonstrated by research in this area on other regions in the world. For example, in sub-Saharan Africa, a region with 3 per cent of the global gross domestic product (GDP) and one the fastest growing regions in the world, solar PV will be responsible for 65 per cent of total jobs in the energy sector by 2050 (and direct energy jobs will rise from 1.2 million in 2015 to 5.5 million by 2050) (Ram et al., 2020). However, renewable energy can result in more indirect jobs and further off-grid renewable energy development (in reports by the International Renewable Energy Agency¹) could create about 4.5 million jobs worldwide by 2050. This, for example, will result in jobs as a result of the growth of energy access and subsequently contribute to local employment through the resulting economic growth.

2.3 Data management and analysis

Data production and analysis is on the rise in modern times. The energy transition is no exception and there is a rise in energy data

being produced throughout the sector. In assessing what type of data is needed for an inclusive energy transition, it is necessary to ask some basic questions around data. These are as follows:

1. What data is needed?
2. Who will gather the data and where will it be sourced?
3. How will the data be analysed?
4. Who will interpret the data?
5. What will be the ‘limits and targets’ applied to the data?

Policy-makers (whether they be governments, government departments, regulators, governments agents, etc.) have to increase their capacity to gather, manage and utilise data. The responsibility for data gathering should be allocated to a specific government department and/or agent. Importantly for this inclusive energy transition, data will have to come from multiple sources, such as ministries responsible for energy, the environment, climate change, industry, tourism, labour and health.

Once the data are collected, then it needs to be decided how that data will be analysed, who will interpret the data, and what ‘limits and targets’ will be applied. The latter is very important in terms of the development of an inclusive energy transition. For example, one area of data collection that forms part of an inclusive energy transition is on energy poverty. Energy poverty is a disputed term from country to country, with some countries having it revolve around energy access data and others around energy affordability data. Nevertheless, the issue of energy poverty highlights why limits or target setting in policy-making can have a major impact in terms of decision-making.

Consider Box 2, which provides an example of a mini assessment of energy poverty indicators, and how for different countries they will have different priorities. Some countries set an amount of disposable income as a determinant of whether a citizen is in energy poverty or not; for example, if an individual spends more than 10 per cent of their disposable income, they are in energy poverty. Meanwhile, for other countries, there will be a focus on accelerating energy access, with the focus on the percentage of income spent on this energy a secondary consideration. Hence, the definition of energy poverty and the data then collected are of high importance to informing the policy debate and determining the next set of policy changes.

Box 2. Mini assessment of energy poverty indicators

- There is no common definition of how to measure energy poverty.
- There are two leading methods. For some countries, this is around (1) energy access and for others it is around (2) energy affordability, which will be income related (including disposable income).
- Academic research states that a citizen should spend no more than 10 per cent of disposable income on energy (and this applies in the UK).
- For many countries, those in energy poverty will not be able to afford energy and/or they will be given a subsidy based on their income.
- For developing countries, the priority is energy access.
- Sustainable Development Goal 7 (SDG7) aims to ensure access to affordable, reliable, sustainable and modern energy for all by 2030.
- 118 million people each year have gained access to energy since 2010.
- About 860 million people are still without access to electricity.
- Access rates are around 45 per cent in sub-Saharan Africa and 70 per cent in other developing countries.

Source: World Bank et al. (2019).

Therefore, in considering an inclusive energy transition, and how a policy is defined and the resulting questions around data management and analysis (that is, the five earlier questions around: the data is needed, data gatherers and sources, data analysis, data interpretation, and data limits and targets) are of vital importance to determine answers to. The allocation of responsibility for this process of data management and analysis is a necessary step in the process to an inclusive energy transition.

2.4 Data monitoring and time horizons

In considering data utilisation, as outlined above, it is necessary to reflect on time horizons. In assessing a country's performance in terms of an inclusive energy transition, there is an expectation that change is not achieved overnight. It will be an incremental process, that is, a process of transition.

In thinking of the energy transition, there are common timeframes understood

Table 1. Energy transition targets (2030 renewable energy targets for electricity sector)

Region	Country	2030 Targets (renewable unless otherwise stated)
Africa	Nigeria	30% target by 2030 and energy access target of 90%
	Seychelles	15% target
	South Africa	24.7% renewable target
	Tanzania	50% renewable target
Asia	India	40% clean energy target
	Bangladesh	20% renewable energy
	Pakistan	30% renewable energy target
Caribbean and the Americas	Barbados	30% renewable energy target
	Jamaica	50% renewable energy target
	Canada	90% CO ₂ emission-free target
Europe	Cyprus	19% share across final energy consumption
	UK	50% renewable energy target
Pacific	Australia	50% renewable energy target
	New Zealand	97% renewable energy target
	Tonga	70% renewable energy target
	Papua New Guinea	100% renewable energy target
Other regions	Latin America	collective target of 70%
	European Union	collective target of 32%

Note: These data are taken from multiple sources – in particular the International Renewable Energy Agency (IRENA, 2020).

internationally. Initially, many countries were working towards some type of 2020 objectives. However, now when governments, international institutions and other energy stakeholders are in discussion, the years 2030, 2040 and 2050 are the most common that are mentioned (with some reference to 2060 or 2080 already common in some countries).

As evidenced by the above, time horizons further add to the importance of the data management and analysis process. These have an important effect on what an inclusive transition will look like in 2030, 2040 and 2050. Further,

it will highlight whether a country is achieving its objectives and pinpoint times when progress should be checked, and policy reformulated where inclusivity goals are not reached. Hence, a crucial step is data monitoring in accordance with time horizons of 2030, 2040 and 2050 (whichever of these time horizons is relevant for the policy action in a particular country). Allocation of this data monitoring responsibility will also be an important step in achieving an inclusive energy transition, as well as the setting of periodic reviews of what the monitoring process should accomplish, and the methods used.

3. Opportunities, challenges and barriers

In considering an inclusive energy transition, there are multiple opportunities, challenges and barriers. For many countries, irrespective of their current income status – whether they are low, low-middle, middle or high income – a key problem is identifying how an inclusive energy transition will be achieved. Unfortunately, a significant majority of economic policy at the national and international levels does not focus on achieving equitable and inclusive outcomes (see, for example, discussions by leading international economists: Piketty, 2014; Tirole, 2017; Stiglitz, 2012).

3.1 Inclusivity at international level

There is increasingly common acceptance that the world has moved gradually over the last 400 years towards more societal inequality, and leading economists are in agreement on this.² The energy transition presents an opportunity to address this societal inequality, given the importance of energy within our societies.

There are barriers, however, in that as much as a country can achieve in addressing inclusivity, it is limited in certain capacities by the international agenda. This agenda also has its limitations, as outlined in Box 3. These international initiatives can act as opportunities, but at the same time they provide challenges and barriers. For example, they can affect the availability of and/or access to finance and this then can limit the potential of achieving an inclusive transition.

In this context, more proactive action is needed by the international community to

support the promotion of investment for developing low-carbon economies and for enabling investment frameworks to be adjusted. Many Commonwealth member countries need access to the finance, which was to be realised by the Paris Climate Change Agreement. Commonwealth states can initiate more regional or national investment forums to highlight the opportunities for energy investment. Proactive investment schemes that are supported by taxation regimes that reflect more distributive outcomes need to be encouraged across many countries; that is, collective action may secure improved terms from international investors (rather than member states competing with each other). In a similar way, some of the unfairness that exists (see Box 3) in the international taxation system needs to be tackled by collective action across member states so that they can begin to see increased energy taxation revenue and hence address societal inequality to a greater degree.

3.2 Inclusivity at national level

At the national level, it is clear again that policy needs to be addressed as to how a country can meet its inclusivity goals of the energy transition. The energy system of a country that is developed without consideration for inclusivity is not 'fit for purpose' and needs reform. The long-term vision for the energy sector needs to be supported by legislation that sends a clear message to investors that the country is open for investment in energy infrastructure

Box 3. International initiatives that address inclusivity and the energy sector

The 2015 Paris Agreement

The Paris Agreement was signed at the 2015 United Nations Climate Change Conference, and 188 countries ratified it within about three years. This is a very short period for an international agreement. The agreement is prompting change already. It requires countries to produce a plan for reducing their carbon dioxide emissions. Another key impact of this treaty is that it gets people to think of the energy transition as a 'just' transition to a low-carbon economy, rather than a 'business-as-usual' approach. We need an approach that has justice at its core, as there is a desire to have a more fair and equitable economy in the future.

A significant aim of the Paris Agreement was the finance it stated it would raise for developing countries. In effect, there was a realisation by the international community that more concerted action was needed to assist developing countries to realise their energy and climate targets if the Paris Agreement was to be realised. Through the Paris Agreement, the finance objectives for developed countries were to mobilise US\$100 billion per year by 2020 for developing countries; since then, this has been continued to 2025 with a higher figure planned for post-2025. Unfortunately, however, there remains disappointment that the figure was not set higher for the 2020–25 period. There is also debate about whether the US\$100 billion has been achieved, with reports from 2019 stating only 70 per cent of the target has been reached (Euractive, 2019).

UN Sustainable Development Goals

The 17 UN Sustainable Development Goals (SDGs) are having a major impact on a range of policies across society. The energy sector is obviously crucial here. One proposed assessment (published in *Nature Energy*) that demonstrates this determined that SDG7 on energy is the most influential of all the SDGs. If that target is resolved, it will have a major impact on whether we meet the rest of the SDGs (Nerini et al., 2018).

The UN SDGs may not result in direct financial gains; however, they will contribute to de-risking investment and then subsequent economic growth if applied.

Taxation

Since the 2007–09 financial crisis, society has begun to reassess the role of taxation for a more just society. The use of tax havens is now well documented, and there have been major leaks that have promoted change (for example, the Panama Papers and the Paradise Papers).

Now more scrutiny is being given to international transactions, particularly because multinational energy companies were exposed as heavy users of tax havens.

The Organisation for Economic Co-operation and Development (OECD) is aiming through several initiatives to examine the issues (particularly, inequality) that the unfair world of international taxation is causing in the energy sector (and especially in mining). This project has to realise gains financially for developing countries.

Tax abuse has a direct link to poverty and energy access in developing countries. It is well noted that tax abuse deprives governments of the resources required to fund economic, social and cultural programmes. The UN Committee on Economic, Social and Cultural Rights advances the case for more progressive tax systems, an end to tax abuse, avoiding a 'race to the bottom', and addressing the taxation imbalance between developed and developing nations.

and related activities that support an inclusive energy transition.

There is a need to transform thinking on delivering business development. In order to develop sustainable businesses, a medium-to long-term vision has to be adopted. For example, at times, if what economists refer to as 'super-normal' profits are realised by new energy companies (as has happened in Spain), governments tend to try and reduce the level of profits. However, this approach needs to change. These new low-carbon energy (technology) companies have to be given the time to develop and compete with conventional companies. Rather than stop their activity, like they did in Spain,³ more active research and development

(R&D) standards could be placed on the business activity. That is, if super normal profits are earned, it would be a requirement that a certain percentage should be spent on local R&D; benefits could also be shared with consumers through tariff structures and community co-ownership schemes could be initiated.

In this context and in general, national energy policy (as well as law and regulation) needs to be more responsive to creating an enabling environment for the new businesses for the energy transition. The actions by policy-makers need to be clear for investors, so that they can commit to a project and be ensured they will get a return on their investment. Hence, investors need the following from policy-makers:

- the timeline horizon for the national energy transition 2020–50, with 2030 and 2040 interval goals;
- planned energy developments;
- inclusivity targets; and
- business development support, including national partnerships, taxation etc.

3.3 Inclusivity at local level

At the local level, a central issue is the impact of energy projects on local populations (including disadvantaged groups in society, such as indigenous communities). In an inclusive energy transition, this impact needs to be reduced and the impact of past actions mitigated. One key

opportunity and benefit of the energy transition is that low-carbon energy sources generally (except nuclear energy or hydropower) have less of an impact on local communities than fossil fuel projects (for a short discussion on this, see Kaberger, 2018).

However, all energy development has an impact and key methods of being more inclusive at the local level involve applying one or more of the following actions: ensuring robust and enforced environmental impact assessment (EIA) legislation; developing a social-licence-to-operate (SLO); introducing an energy finance reserve obligation (EFRO); and co-ownership schemes (COS).

Box 4. Local Initiatives to develop more inclusivity

Environmental impact assessment (EIA)

- The EIA process has been around since the 1980s, but it has only now begun to really assist in developing a low-carbon economy. It is a procedure that is required before an energy project can be permitted, and it assesses the project's environmental and social impacts in detail from an interdisciplinary perspective. The legislation internationally has changed over the last decade, partly in response to the economic crisis. It has become stricter at the national level, and also at the international level, where international banking rules (known as 'the Equator Principles') now make the EIA a prerequisite for project financing. And further, the amount of data required in EIAs is increasing year-on-year.
- There are two recent examples of the latter issues where, in 2019, two coal projects were stopped in Australia and Kenya because their EIAs were considered unsatisfactory. The key reasons for the failure were that the EIAs lacked completeness in terms of data provision, the poor assessment of the social and environmental impacts from the existing data, while the projects' positive economic contributions were overestimated.

Social-licence-to-operate (SLO)

- The SLO is a fast-emerging principle in energy law and, in particular, is developed around the mining law and policy community. It can also take the form of a community development agreement, corporate social responsibility and local content obligations. An SLO in general is an agreement between the project developer and the local community. It covers the relationship between the two parties during the operational phase of the project and also the waste management plans.
- In essence, it ensures the implementation of what was set out by the developer in the EIA phase of the project and what was agreed during the public consultations and final EIA stages.
- The SLO is permeating through the rest of the energy sector and even to other parts of the economy. It is certain that in the future, the vast majority of the energy infrastructure will need an SLO before beginning operation. The principle is on the rise because society now has more data from which to analyse the performance of companies and their obligations over the lifetime of a project. In addition, the SLO also addresses the weakness of the EIA in that the EIA covers the planning and construction phase of a project, but not the operational phase and decommissioning of the project itself. Few countries across the world monitor the performance of project developers once the project is in operation. The SLO achieves that aim and continues to achieve it in the decommissioning and/or end-of-life phase.

Energy financial reserve obligation (EFRO)

- This is a general term for the obligation that companies should have when operating energy infrastructure and when their infrastructure is at the end of its commercial useful life. In essence, the EFRO refers to the waste obligation for decommissioning the energy infrastructure and cleaning the site on which the said energy infrastructure is located. An EFRO can sometimes also be referred to as clean-up obligations and environmental bonds.
- For example, the nuclear energy industry already contributes to waste management funds immediately from the point of operation, whereas in the coal industry, the operator just has to have the financial reserve capacity to do so. Indeed, this has become a major issue and there is a multitude of reports focusing on

this issue in relation to the operation of coal assets in Australia and US. For example, in the US, under the Federal Surface Mining Control and Reclamation Act (SMCRA), energy companies are required to remediate the lands where mining activity has occurred. However, many companies were allowed to self-bond and therefore if they went bankrupt, there would be no finance available for meeting reclamation obligations.

- The difference with an EFRO is that finance is placed with an independent bank/agency so that the money is available to the government should the energy company try to avoid responsibility. In future, EFROs will fast become a pre-condition for acquiring permission to build and acquire energy infrastructure.

Co-ownership energy schemes (CES)

- One of the benefits of renewable energy is that in comparison to conventional energy, it can be built on small scale. Hence, such projects can immediately influence levels of energy access and reliability. Further, if they involve some level of community ownership, they can play a fundamental role in achieving an energy transition that is inclusive.
- For example, small-scale renewable energy development is now being built in partnership with local communities and where local communities are co-owners – usually with about 15 to 40 per cent ownership. This has the benefit of ensuring local investment, co-development of jobs, and ensures public acceptance and inclusion in the energy transition.

3.4 Special topics

There are three special areas that also can act at the same time as opportunities, challenges or barriers. These are analysed in brief below and include institutions, capacity building and what can be classed as ‘commercial justice’.

Institution development and support

National policy-makers need to consider whether the institutions are in place that can deliver an inclusive transition. If not (or even if they are), what new institutions are needed and what improvements need to be made to existing institutions?

In terms of achieving an inclusive transition, a key barrier is the absence of an over-arching institution which is responsibility for ensuring that the transition is inclusive. That responsibility has to be allocated to one government department or agency. More will be stated on this in Section 4.

Capacity-building education and understanding of the issues

To deliver an inclusive transition, there need to be capacity-building programmes that involve education and training on how an inclusive transition can be achieved. This not only needs to cover the important issues of policy reformulation, but must also identify other areas, such as assessing existing problems and what are the future targets.

For example, two key areas where knowledge is needed are first, the existing quality of energy infrastructure – as this will act as a key

determinant and starting point for how to move through different phases of the energy transition. Second, it is vital to understand data on population distribution and growth in a country. This is vital to determine where the inclusive transition will take place, and other issues, such as the urban/rural divide.

Education of government and the public sector is necessary to develop the knowledge base from which to make the decisions on developing an inclusive transition. Equally important, however, is the education of the public to ensure they have a role in the energy transition (that is, it is an inclusive transition) and that there is public acceptance of the planned energy transition – so that investment will happen faster in a country.

Commercial justice

Commerce needs to play a role in an inclusive transition. There are actions such as corporate social responsibility; however, these do not ensure that change happens. In some cases, there has been a breakdown in trust between private enterprise and governments, and as a result governments have taken action. For example, in India and Canada, legislation has been introduced. Canada, in particular, is concerned about how its citizens are treated abroad due to the behaviour of its energy companies. Legal steps have been taken to apply more justice in the world of commerce, and some of these are outlined below.

Many of these commercial justice initiatives involve mandating more transparency

and disclosure in the energy sector than before. These include:

1. International accounting standards now require more disclosure, specifically for energy projects.
2. Taxation – the Extractive Industries Transparency Initiative (EITI) (if a signatory) requires a state and an investor to disclose the details of their taxation relationship on payments and receipts (the EITI Secretariat will monitor the submission).
3. The earlier-mentioned SLO (the relationship between energy corporations and the local community, which is formalised through a contract) requires more transparency between an energy project developer and the local community. Some projects were stopped recently in Colombia when the terms of the license were not honoured.
4. The ‘energy financial reserve obligation’, which requires through legislative change an operator to place money in a designated escrow account equal to the estimated cost of decommissioning an energy asset. This ensures that clean-up will be funded, even if the operator goes bankrupt or sells the asset to a company without the financial capacity to pay for it.

4. Exploring actions at national level: Lessons from case studies

4.1 Accelerating the energy transition

According to key research and policy literature, the energy transition is not happening fast enough globally.⁴ Investment post-COVID 19 has the twin aims of stimulating economic growth and also supporting inclusive low-carbon economic development.

Policies need to be aligned as stated earlier, and action needs to happen fast. Figure 4 demonstrates the energy transition performance of different countries. This figure is interesting in that it compares ‘transition readiness’ on one axis with energy ‘system performance’ on the other. There is no surprise that many developed world economies are leading the transition, as they have stronger institutions and systems in place that have greater access to resources. Nevertheless, Figure 4 does not indicate whether the transition is inclusive. Data on individual country performance is provided below the table. This indicates that while there is a range of performance across Commonwealth member states, there is clear opportunity to progress inclusive energy transition policy, as many countries can improve their ranking.

High performance in achieving an energy transition may not indicate whether this is an inclusive transition. For example, how will some countries aim to ensure their energy transition delivers an inclusive energy transition where justice is at its core? However, it is clear that some countries over the last few years have

been trying to ensure that inclusivity is a major part of their energy transition. At their simplest, this usually involves one of two actions. The first is the creation of a new unit within government or a government department that aims to identify (and possibly implement) a range of policies alongside the energy transition that will ensure inclusivity. The second involves the general further development of low-carbon energy infrastructure (usually, solar and/or wind).

In considering the latter point first, there is the view that the development of small-scale wind and/or solar energy directly contributes to an inclusive energy transition at first instance. This is because, through small-scale development, energy access can be increased, secure and stable supplies can be delivered, local jobs are created, and co-ownership schemes can be developed; and all of these are inclusive, as they deliver positive and sustainable economic outcomes for the local community. Further, the use of small-scale renewable energy has a public health benefit, in that carbon-intensive sources of energy are not used.

The main benefits of solar and wind are further outlined in Figure 5. These include, in particular, various infrastructure sizes, prices which are consistent (not volatile due to external forces like oil and gas), and that energy can reach off-grid and island communities far more effectively – which is important for many Commonwealth countries.

Figure 4. Energy transition performance 2019



Commonwealth country energy transition performance 2020 ranking

- Africa – Nigeria 113th, Kenya 79th, South Africa 106th and Mozambique 109th
- Asia – India 74th, Bangladesh 87th, Sri Lanka and Pakistan 94th
- Caribbean and the Americas – Trinidad and Tobago 77th, Jamaica 75th and Canada 28th
- Europe – UK 7th, Cyprus 48th
- Pacific – Australia 36th, New Zealand 17th

Source: World Energy Forum 2020.

Figure 5. Benefits of solar and wind for the inclusive energy transition

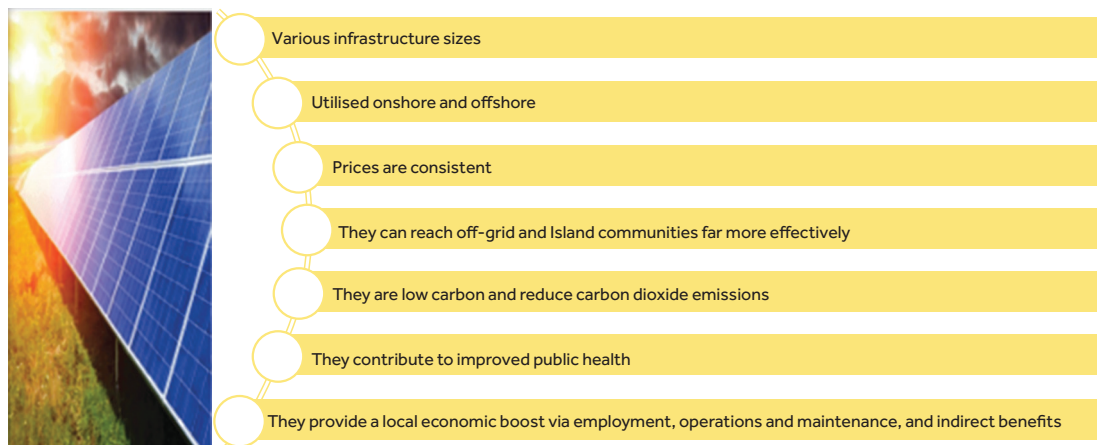


Figure 6. New government units to develop an inclusive transition

No.	Country	Unit created	External/internal to government	Inclusive focus	Powers and finance
1	Scotland	Just transition commission	External	+	+/-
2	New Zealand	Just transition unit	Internal	+	+/-
3	South Africa	National planning commission/council for scientific and industrial research (CSIR)	Internal	+	+/-
4	Canada	Task force on just transition for canadian coal power workers and communities	External	+	+/-
5	Germany	Commission on growth, structural change and employment	Internal and External	+	+
6	Ireland	Within ministry for communications, climate action, and environment	External and Internal	+	-

Key: green + positive action on inclusion and powers and finance; amber +/- mixed action on inclusion and powers and finance; red - limited or no action.

4.2 Creating a new government unit

The second method of ensuring an inclusive process begins with the creation of a new unit within government or a government department. This can be seen as separate to specifically building low-carbon energy infrastructure. These new units, in essence, become the overall unit with responsibility for detailing how a country plans to deliver an inclusive transition. A resulting benefit will be that it demonstrates the country's attractiveness for more secure and sustainable energy investment (and investment in other related sectors, such as tourism, industry and education).

There are a number of countries, including Commonwealth members, that have developed new, just government transition units – as outlined in Figure 6. It is clear that the most common form is a new agency, which basically assesses the data from both qualitative and quantitative perspectives. A central aim of all the new agencies has been to ensure the energy transition (whether broadly or narrowly defined) is inclusive.

There are differences between the developments in the countries above, but they are all recent, with many been created only in 2018 and 2019. In particular, the progress in New Zealand has been very positive, where the aim has been to engage a significant number of the stakeholders in the energy sector from the outset, so as to ensure inclusivity in the development of the actions of the New Zealand Just Transition Unit.

There are different approaches to establishing these new units. They either involve external or internal membership. An internal unit is in essence located within government or a ministry, for example, New Zealand's unit (2019), which consists of civil servants who then engage with

stakeholders. An external commission means it is a combination of a ministry/government department and external stakeholders, such as climate and energy experts, energy company representatives, trade union representatives etc. This is now in evidence in Germany (2018) and in Scotland (2019), where the majority of the membership consists of external appointments, with them being facilitated and in partnership with one or more government departments.

Another major issue is the powers and resources that these 'just transition units' will have, and these can vary from strong to weak. In Figure 6, it is evident which countries have given powers and resources to their new unit. For example, in Scotland the Just Transition Commission has powers – but these are more focused on data gathering, while there is a lack of financial support. This is in contrast to Germany and the EU overall, where financial resources will be (or are at least planned to be) distributed to support an inclusive transition.

One of the key tasks of these new units has to be determining their duties, which will be set out in policy and/or legislation when the new unit is created. Critical among these duties will be how it assesses and monitors the development of inclusivity in energy and related policies. For example, what information and data it will collect, who will gather it, analyse it and monitor it, and also whether over time different government departments and agencies will be obligated to report to it. There is a range of different questions that need to be addressed. These will depend upon what, as was stated earlier in Section 2, are the targets and limits of what an inclusive transition will be in a particular country.

The duties of these new just transition units are also important in terms of the production of information: that is, has it been produced inclusively? For example, how is the work of these groups produced, are methods of co-producing and/or outsourcing the work around an inclusive transition applied, etc? This can be achieved by receiving donor funding (for example, via the Caribbean Development Bank) and/or utilising expertise at universities. In Scotland, the Just Transition Commission is led and comprises a majority of academics who collect and produce the knowledge. Alternatively, there could be commissioned groups of researchers who focus on the data gathering and initial analysis for assessing an inclusive transition, while the government or government department makes the final determination on the interpretation of the data and the resulting decision-making process.

Finally, it is evident that the countries (Figure 5) which have made progress on this

form part of what may be classed as middle- or high-income countries. However, there are steps that are possible in creating similar structures in low- and low-middle income countries. For example, establishing units that examine whether the transition is being or will be inclusive is a good start, which can be achieved with limited financial resources. Consider what, for example, New Zealand developed within its new Just Transition Unit, which was established within the Ministry of Business, Innovation and Employment and has a key responsibility for exploring ‘impacts’, ‘opportunities’ and ‘policy alignment’. The risk in establishing such a unit is small, but the gains can be significant. These include developing stakeholder dialogue across business sectors, which can send signals to the investor community that markets are developing and will be open for investment.

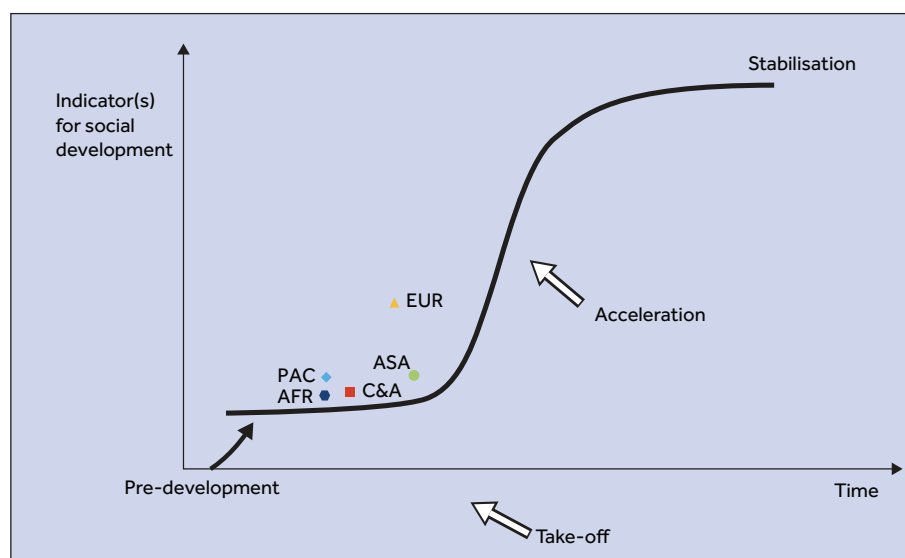
5. Practical actions, scenario planning and transition pathways

5.1 Achieving an inclusive transition

In terms of overall planning of how to achieve an inclusive transition, there are going to be different directions that countries take. Consider,

for example, the classic transition diagram with four key phases of the transition (Figure 7). Indicators for social development can include, for example, economic growth, educational

Figure 7. The four phases of transition



Key: All Commonwealth member countries represented by region: AFR – African member countries; PAC – Pacific member countries; C&A – Caribbean and Americas member countries; ASA – Asian member countries; and EUR – European member countries. Source: Adapted by R. Heffron (2020) from Rotmans et al. (2001).

attainment, public health services, economic capital, the environment, human rights applications, and cost of doing business; all of these will provide an indication of whether a society is inclusive.

Many countries are still in the pre-development phase or just in the take-off phase (Figure 7). Overall, the four stages are as described below:

- a pre-development phase of dynamic equilibrium, where the status quo does not visibly change;
- a take-off phase, where the process of change gets underway because the state of the system begins to shift;
- an acceleration phase, where visible structural changes take place through an accumulation of sociocultural, economic, ecological and institutional changes that reflect to each other; and
- a stabilisation phase, where the speed of social change decreases and a new dynamic equilibrium is reached (ibid).

Figure 7 shows that the pre-conditions for achieving a transition will be different, and therefore how an inclusive transition will be achieved will vary from country to country. However, for many governments and for many citizens, what an inclusive transition means will be the same. For example, issues around income, and access to health, education and energy are generally the same from country to country. There are, however, a number of different issues that will result in variations. It is evident that populations are increasing in a range of different Commonwealth countries. Also, the trend prior to COVID-19 was that people were moving from rural to urban areas in many countries, and this may place stresses in differing ways, such as through jobs and energy access.

Further, for island nations, in particular, there are different issues. These countries will be affected by the increased effects of climate change, with rising sea levels and therefore subsequent loss of habitat and consequently tourism. There are many island nations in the Commonwealth, so this is a key issue.

However, despite these differences in achieving an inclusive transition, there are a number of common approaches that can be pursued. These can be grouped under three categories: (1) transition pathways, (2) scenario planning, and (3) practical actions.

5.2 Transition pathways

Many countries have set their transition pathways already. This has been for many reasons, but the key ones have been individual initiatives, the Paris Agreement and external financing reasons. In analysing Commonwealth member countries collectively, there are five transition pathways that the majority of countries have set. These include a combination of the following: a 2030 plan; 2040; 2050; 2050 net zero plan; and then a range of other climate action plans (for example, following COP25, 73 parties to the UN Framework Convention on Climate Change [UNFCCC], 14 regions, 398 cities, 768 businesses and 16 investors are 'working' to achieve net-zero CO₂ emissions by 2050).

In considering these pathways, not all express a clear and identifiable role for an inclusive transition. In reality, it is not clear at all where the transition pathways indicate that the transition will be inclusive. For example, consider the UK's 2050 net zero GHG emission target; although this has been put into law (in 2019), the legislation has focused on targets (increasing the target from 80 to 100 per cent or net zero for 2050 in terms of GHG emissions from 1990 levels), with little reflection on how this process will be inclusive. In the accompanying explanatory note by the UK government to the legislation, it is noted that a just transition should be achieved; however, it states that it needs a broader strategy across society and, notably, it does not explain how this inclusive transition to 2050 can be achieved.⁵ An improved transition pathway approach would provide inclusive transition targets that could be adjusted, for example, at the interval periods of 2030 and 2040 for 2050.

Nevertheless, there are what can be classed as inclusive transition targets set out for countries which signed and ratified the Paris Agreement 2015 and adhere to UN SDGs. Neither the Paris Agreement nor the UN SDGs explicitly state that the aim is an inclusive transition; however, it can be inferred. The message certainly seems to suggest a key aim is to see fewer people left behind, which is at the core of inclusivity – that is, the principles of equity, fairness and equality are part of the policy formulation process. Already, some countries are taking action in terms of their Paris Agreement submissions. In making their

Figure 8. SDGs for an inclusive transition



submissions, they are increasingly referring to the achievement of an inclusive (economic) transition – meaning that no one is left behind in the continued economic development of that particular country. And in this context, it is necessary to map out how a country is going to achieve an inclusive transition in relation to at least nine UN SDGs, as listed in Figure 8. Also, in developing an inclusive transition, it is worth recalling the quote used by the former head of the International Monetary Fund (IMF) and now head of the European Central Bank, Christine Lagarde, from that of John Maynard Keynes, who stated that the challenge often ‘... lies not so much in developing new ideas, as in escaping from old ones’. In essence, the energy transition cannot result in an energy sector with the same qualities of today; it needs to have the characteristics of equity, fairness and equality at its core.

5.3 Scenario planning

Scenario planning is a strategic planning tool that aims to allow for the expectation that different scenarios will emerge as decision-making happens over the short to medium to long term – that is, it is difficult to predict the future and uncertainties can be factored in within a scenario planning approach. An example of its application for an inclusive transition would be where a country has energy transition goals, but may only meet 50 per cent or 80 per cent of that target. Clearly, therefore, rather than lose momentum, the new scenario (at that 50 or 80 per cent revised target) becomes the next phase on the pathway and scenario planning ensures that policy on inclusivity is retained.

This can be expressed in Figure 9 and, as is demonstrated despite the different possible scenarios that may emerge, a policy of inclusivity should continue and *be* sustainable. Creating

Figure 9. Transition and scenario planning

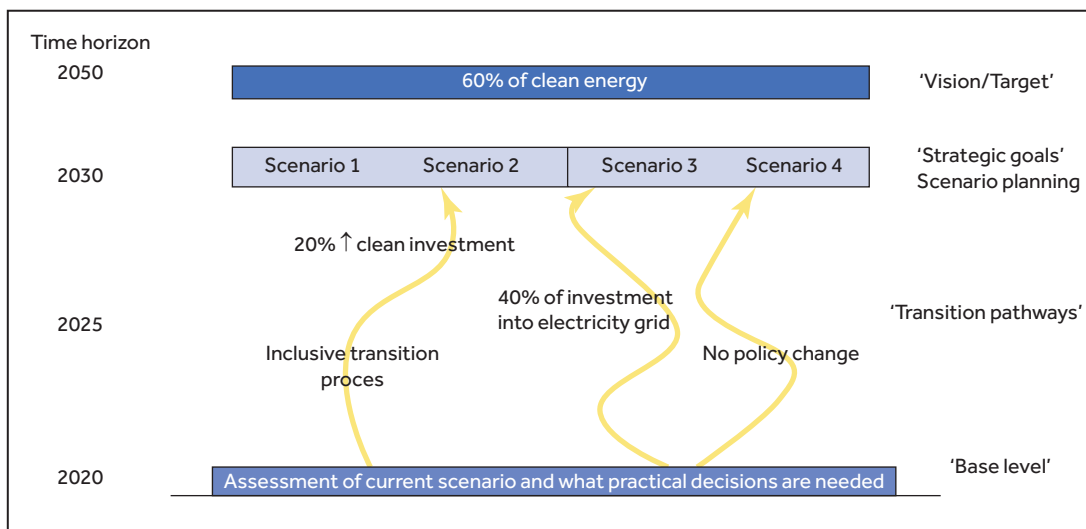


Figure 10. Ten key actions to establish an inclusive energy transition – the Inclusive Transition Action Plan

1	Data	Developing an information and data gathering taskforce.
2	Limits and targets	Deciding what the 'limits and targets' are for an inclusive transition.
3	Agency	Developing a new unit/agency (commission of experts) to conduct tasks 1 and 2 and to recommend how an inclusive transition can be achieved.
4	Responsibility	Allocate responsibility to a government ministry and/or agency (commission) to decide on recommendations.
5	Training and capacity	Provide <i>technical education</i> on how an inclusive transition can be developed, delivered and monitored.
6	Public education	Provide education on the energy transition, so that public acceptance is present and, over time, therefore, the energy transition will be an inclusive process with the public accepting their role and their responsibility in achieving the energy transition.
7	Investment	Assessing how energy investment (EI) is costed, decided and attracted through foreign investment and ensuring that attached to such policies and decisions there is a focus on how EI can deliver an inclusive transition.
8	Flexibility and resilience	Building flexibility into energy decision-making (that is, through diversification of energy strategy) and in technical capacity of energy operations (that is, solar and wind energy can provide flexibility to electricity supply).
9	Alignment	Aligning tasks 1-8 to an initial one-to-two-year timeframe and ensuring that it aligns with time horizons and policies that are already developed for 2030, 2040 and 2050, and including the Paris COP21 Agreement.
10	Monitoring	Building in a monitoring phase and responsibility to track how inclusive the energy transition is developing in a respective country.

a long-term policy focus with inclusivity at its core has multiple benefits, as stated earlier, but also enables a country to retain investor confidence and attractiveness. Hence, the policy of inclusivity should have flexibility as to how it can be achieved and be able to smoothly adapt to the different scenarios that may emerge, such as the four different scenarios below. The same logic can be applied to the effect of COVID-19 and ensuring policy resilience in terms of future economic shocks.

The main reason to utilise scenario planning is that as different scenarios are planned for and then in time realised, then core policies such as

inclusivity can remain and be achieved. Ways of achieving this are detailed in the next section, which identifies practical actions. It is important that despite whatever crisis emerges, such as COVID-19, inclusivity will remain a focus as policy adjustments are needed in light of the crisis.

5.4 Practical actions

The practical actions that can be achieved are categorised in Figure 10. These centre on what has been analysed before and include the different target areas. At the core, are ten areas where actionable policy can begin.

6. The implications of COVID-19

6.1 Attracting investment and exploring taxation post COVID-19

As the world faces the challenge of COVID-19, there is an even clearer need for economies to deliver just outcomes. Data point to low-income

and disadvantaged members of society as being key people; they are most vulnerable to the effects of COVID-19 and the resulting financial crisis, including the economic contraction. How fast economies recover worldwide is open

to debate, but early analysis points towards anywhere from three to even ten years (for more on this, see discussions from UN, 2020). Hence, at this time we live in a world where the energy transition is happening alongside a financial crisis and the global health crisis (from COVID-19), and that means achieving an inclusive transition is of even more significance. A recent report highlights that for energy, six areas can make a key contribution to a country in order to have a sustainable recovery: electricity, transport, industry, buildings, fuels and emerging low-carbon technologies (IEA-IMF, 2020). However, the report does not focus on an inclusive recovery – one has to infer it.

There has been significant focus on using the period post COVID-19 in terms of re-igniting national economies through supporting the development of a low-carbon economy. Consider, for example, the recent call amid the pandemic in Box 5.

For the energy sector, there is one key important factor to consider regarding the additional mechanisms for attracting and sustaining investment. Hence, in terms of COVID-19, one of the key implications for many countries will be a renewed effort to attract new investment across different economic sectors, with the energy sector no exception. Thus, more policy innovation will be needed.

The likelihood is that in order to attract this new investment, there will have to be different investment incentives offered (as part of a broader tax policy design). In particular, one example is that these incentives could be in the form of increases in targeted tax allowances (tax deductions and tax credit) for certain investment expenditure. However, a key issue will be whether these tax incentives will ensure an inclusive transition, and there is a worry already as to whether such tax incentives will

result in more or less inclusivity, as importantly taxation regimes do impact upon human rights (and therefore affect inclusivity) (Heffron and Sheehan, 2020).

Taxation is an area of public policy that was already under the microscope at the national, regional and international levels prior to the 2020 crisis. Already, an early prognosis is that developing countries are utilising their tax systems to mitigate the impact of the 2020 pandemic. These may be short-term solutions. What is needed are clear medium- to long-term strategies around taxation and avoiding the harmful effects of tax competition. The energy sector is no exception in being a sector of the economy where tax abuses happen. With a link between tax abuses and human rights, there is a threat to an inclusive economic recovery. As a result, reforms around taxation need to ensure that there is more coordinated action across Commonwealth member states, as tax competition could potentially result in a ‘race to the bottom’ in international taxation. This could in turn end with further erosion of human rights and hence impact on whether an inclusive transition can be achieved.

In thinking of the future and post-2020 crisis, developing countries need to develop sustainable and resilient economic growth. Consequently, they need clear and strategic taxation policy on energy, and in particular to develop clean energy projects with which to stimulate the economy. It can be acknowledged that there is a role for foreign direct investment (FDI) and other international finance in a crisis-hit economy, but for taxation policy not to have negative consequences more international action is needed in this area. This is notwithstanding that there need to be other attractive investment conditions beyond taxation – for example, good infrastructure, macroeconomic

Box 5. Global trends in renewable energy investment 2020 – new report by UNEP, BNEF and FS-UNEP

‘Simply repeating the investment of the last decade over the next would buy far more clean energy than it did before. The slump in the fossil fuel sector due to Covid-19, combined with the resilience clean energy has shown during this period, make it clear that clean energy is a smart investment.

If governments take advantage of the ever-falling price tag of renewables to put clean energy at the heart of Covid-19 economic recovery, instead of subsidising the recovery of fossil-fuel industries, they can take a big step towards clean energy and a healthy natural world – which ultimately is the best insurance policy against global pandemics.’

UN Environment Programme, Bloomberg New Energy Finance and Frankfurt School-UNEP (2020)

stability, clear and enforceable property rights, and strong governance and judicial systems. This international action has to happen from developed countries, which need to address the key issues of multinational corporations (MNCs) and their behaviour and influence (that is, aggressive tax planning and the erosion of the potential to raise tax revenue by governments). Leadership has to come from the developed nations, irrespective of their own financial position post COVID-19. Action on this problem was not sufficient before the crisis, as the ‘race to the bottom’ had already started; now, post the 2020 crisis, there is a need for decisive international and collective action, and this could be reviewed across Commonwealth countries.

6.2 Investment protection

For the new investment required by many countries to continue and/or accelerate the energy transition, one of the mechanisms that needs to change but also be strengthened is around investment protection. Currently, there is an increasing amount of research and practitioner perspectives on how rules on investment protection are protecting assets that do not support the energy transition – for example, investments in coal, oil and gas, and related activities by foreign companies. There needs to be an acknowledgement that investments are risky and that in the energy sector, these assets can become ‘stranded assets’ – which are devalued and gradually worthless.

In order to achieve the twin objective of an inclusive energy transition and new investment post COVID-19, then there may have to be some review of the rules around investment protection. In addition, and at the same time, investors in the energy transition (such as renewable energy technology) need to be afforded the same opportunity for investment protection as conventional energy sources, or there must be a reform of the investment protection regime. Reforms need to acknowledge that for an inclusive energy transition to happen alongside a country meeting its energy and climate goals, intervention must happen in the market that favours low-carbon energy and reduces the guarantee that an investor has in terms of long-term contracts to supply electricity etc. from their coal or gas operations, for example.

6.3 Building ‘resilience’ into policy

A key aspect of policy formulation post COVID-19, and the resulting financial crisis, is that new policy formulation for the energy sector will have to be more resilient. The energy sector is vital to a national economy and energy security plays a significant role in ensuring stability in performance of the economy; that is, where unstable energy supplies exist, there is a greater likelihood of instability in the economy. Hence, given shocks to the energy system that result from a pandemic or a resulting financial crisis, it is important to ensure resilience in policy-making.

There are lessons to learn from previous shocks to the energy system, such as the financial crisis 2007–09. After that crisis, the energy sector experienced a range of different impacts. These included, in brief, more difficulty in accessing finance, conservative investment policies, an increase in transparency and disclosure standards, and new environmental standards.

Therefore, when considering this recent economic crisis of 2007–09, the oil and gas price fluctuations, the COVID-19 pandemic and the resulting financial crisis, it is important to ensure that energy policy-making is more resilient. Building resilience into policy-making can be achieved by increased understanding around the benefits of a low-carbon energy system which can in turn build a resilient energy sector. A more resilient energy sector will be less price sensitive and can also provide greater flexibility to the energy system (in particular, in terms of electricity provision). Indeed, a flexible energy system can make the energy sector more resilient, and this flexibility is needed to diversify investment and in electricity provision and its stability.

A key reason for resilience is because of increased uncertainty. Yet actions to ensure resilience in policy-making should have the following characteristics: (1) interdisciplinary thinking; (2) ongoing learning and feedback systems; (3) a monitoring process of limits and targets; (4) adaptability; and (5) an understanding of which institutions, stakeholders and policies are more resilient over time. Understanding information and data (as outlined earlier in Section 2.3) is vital to ensure practical action on delivering resilience.

7. Recommendations

The challenge to society today concerns ensuring that the energy sector transition contributes to economic recovery with a new ‘heartbeat’ of inclusivity. That is, that the transition reflects the goals of equity, fairness and equality. This requires implementing the following key recommendations:

- Establish a government unit, agency or commission (of experts) to deliver an inclusive transition and ensure that opportunities from the energy transition are realised. This new inclusive transition commission can perform a number of functions, with key ones being to engage with stakeholders, collect data, and provide the evidence to enable ministries to make decisions on ensuring inclusivity.
 - Achieving an inclusive energy transition represents an opportunity to deliver sustainable economic growth. Inclusive energy policies can deliver sustained new investment, new jobs and ensure industry competitiveness. At first, however, the stakeholders and institutions need to be identified and policy alignment needs to happen. This should be supported by data management and analysis techniques.
 - Plan scenarios to action and achieve inclusive transition new pathways. Begin the following Inclusive Transition Action Plan process: (1) data management, (2) limits and targets setting, (3) agency development, (4) responsibility for decision-making, (5) training and capacity building for public servants, (6) public education for all, (7) investment decision-making on cost and attractiveness, (8) building flexibility and resilience into policy-making, (9) law and policy alignment, and (10) post-decision monitoring.
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Notes

- 1 For publications from the *International Renewable Energy Agency*, see: <https://www.irena.org/publications>. (accessed 26 November 2020).
 - 2 Economics since the 2007–09 financial crisis has started to engage on this issue in a significant way (one can follow the work of leading economists such as Joseph Stiglitz (2012), and Thomas Piketty (2014). Indeed, Thomas Piketty, in his recent book *Capital and Ideology* (2020: 670), decries the issue and states that despite living in a world of big data, public data on inequality is inadequate. Piketty (2020) notes the key issue of inequality and climate change emissions, and from this perspective he highlights how this will cost economies (and more likely, developing ones) 5 to 20 *per cent* of global GDP, if not more. He cites the Stern Review (2007) and the Intergovernmental Panel on Climate Change (IPCC, 2018)) report demonstrates these effects may be accelerated as a result of pollution and environmental damage since 2007.
 - 3 Spain withdrew subsidy support schemes for renewable energy, as it considered that the subsidies they offered were excessive. Many of the companies involved went on to sue the Spanish government for compensation, while such action by governments also sends the wrong signal to investors.
 - 4 This was emphasised by the leading research journal in the world, *Nature*, in a special issue on the energy transition and by the global transition expert Christina Figueres (2017: 593–595).
 - 5 See the United Kingdom Parliament and Government websites and reports: <https://commonslibrary.parliament.uk/research-briefings/cbp-8590/> and https://www.legislation.gov.uk/ukdsi/2019/9780111187654/pdfs/ukdsi_9780111187654_en.pdf (accessed 26 November 2020).
-

References

- Euractive (2019) ‘Wealthy Countries still failing on \$100 billion climate finance pledge’. 17 September. <https://www.euractiv.com/section/climate-environment/news/wealthy-countries-still-failing-on-100-billion-climate-finance-pledge/> (accessed 26 November 2020).
- Figueres, C. et al. (2017) ‘Three Years to Safeguard our Climate’. *Nature*. 546(7660), 29 June: 593–595.

- Frankfurt School (FS)-UNEP-Bloomberg (2020) *Global Trends in Renewable Energy Investment*. https://www.fs-unep-centre.org/wp-content/uploads/2020/06/GTR_2020.pdf (accessed 26 November 2020).
- Georgeson, L. and M. Maslin (2019) 'Estimating the scale of the US green economy within the global context'. *Palgrave Communications* 5.
- Heffron, R., M. Körner, J. Wagner, M. Weibelzahl and G. Fridgen (2020) 'Industrial demand-side flexibility: A key element of a just energy transition and industrial development'. *Applied Energy*, 269(115026). <https://www.sciencedirect.com/science/article/pii/S0306261920305389>
- Heffron, R. J. and J. Sheehan (2020). 'Rethinking international taxation and energy policy post COVID-19 and the financial crisis for developing countries'. *Journal of Energy and Natural Resources Law*. <https://www.tandfonline.com/doi/abs/10.1080/02646811.2020.1796315> (accessed 26 November 2020).
- International Energy Agency-International Monetary Fund (IEA-IMF) (2020) Report on Sustainable Recovery. June. <https://webstore.iea.org/download/direct/3008> (accessed 26 November 2020).
- Kaberger, T. (2018) 'Progress of Renewable Electricity replacing Fossil Fuels'. *Global Energy Interconnection*, 1(1): 48–52.
- Lagarde, C. (2016) *Managing an Inclusive Transition for the Global Economy – IMF*. <https://www.imf.org/en/News/Articles/2016/10/07/AM16-SP100716-Managing-an-Inclusive-Transition-for-the-Global-Economy> (accessed 26 November 2020).
- Organisation for Economic Co-operation and Development (OECD) (2018) *Achieving Inclusive Growth in the Face of Digital Transformation and the Future of Work*. https://www.oecd.org/g20/OECD_Achieving%20inclusive%20growth%20in%20the%20face%20of%20FoW.pdf (accessed 26 November 2020).
- Nerini, F. F., J. Tomei, L. S. To, I. Bisaga, P. Parikh, M. Black et al. (2018) 'Mapping synergies and trade-offs between energy and the Sustainable Development Goals'. *Nature Energy*, 3(1): 10–5.
- Piketty, T. (2014) *Capital in the Twenty-First Century* (translated by A. Goldhammer). MA, US: Belknap Press of Harvard University Press.
- Piketty, T. (2020) *Capital and Ideology*. (translated by A. Goldhammer). MA, US: Belknap Press of Harvard University Press.
- Ram, M., A. Aghahosseini and C. Breyer (2020) 'Job Creation during the global energy transition towards 100% renewable power system by 2050'. *Technological Forecasting and Social Change*, 151(119682).
- Rotmans, J., R. Kemp and M. van Asselt (2001) 'More Evolution than Revolution: transition management in public policy'. *Foresight*, 3(1): 15–31.
- Stiglitz, J. E. (2012) *The Price of Inequality*. London, UK: Penguin Books.
- Tirole, J. (2017) *Economics for the Common Good*. NJ, US: Princeton University Press.
- United Nations (2020) 'Prospects of Quick Global Economic Recovery from COVID-19 Are Unrealistic, Says Nobel Laureate, as Second Committee Begins General Debate'. Conference, October. <https://www.un.org/press/en/2020/gaef3531.doc.htm> (accessed 26 November 2020).
- UN Environment Programme, Bloomberg New Energy Finance and Frankfurt School-UNEP (2020) *The Global Trends in Renewable Energy Investment 2020 (GTR) Report*. <https://www.fs-unep-centre.org/> (accessed 26 November 2020).
- World Bank et al. 2019. *2019 Tracking SDG7: The Energy Progress Report*. <https://trackingsdg7.esmap.org/data/files/download-documents/2019-Tracking%20SDG7-Full%20Report.pdf> (accessed 26 November 2020).
- World Economic Forum (2020) *Fostering Effective Energy Transition*. http://www3.weforum.org/docs/WEF_Fostering_Effective_Energy_Transition_2020_Edition.pdf (accessed 26 November 2020).