ISSUE No. 13

IRENA
International Renewable Energy Agency

REVIEW FOR PARLIAMENTARIANS

A PERIODIC BRIEF ON RENEWABLE ENERGY

IN THIS ISSUE

CITIES OF THE FUTURE – THE RISE OF RENEWABLES

Cities are critical to the global energy transition. The most visible energy transitions today occur in major cities. With their comparatively large revenue bases, big cities have the regulatory frameworks and infrastructure to scale up renewables and meet emissions reduction targets. Small and medium-sized cities (with fewer than one million inhabitants) often lack access to sufficient financing and policy support to move effectively in this direction. Despite being less visible than megacities, they are home to some 2.4 billion people – or 59% of the world's urban population – and are growing faster than any other urban category.

Urban areas across the world are home to an ever-increasing share of the global population. As of 2018, cities were home to 55% of the total population, up from 30% in 1950. By 2050, the United Nations (UN) expects that 68% of the world's population will reside in cities and projects that the fastest growth will occur in low- and lower-middle-income countries in Asia and Africa.

Renewable energy technologies, along with greater energy efficiency, play a central role in mitigating climate change and providing cleaner air. While renewable energy deployment measures in the power sector are often developed in the context of national-level policies, many measures relevant to end uses, such as in the buildings and transport sectors, are taken at the city level. Even so, national policies shape action at the local level.

It is important to build the capacity of cities to identify renewable energy solutions that suit their particular circumstances and needs, and to integrate these solutions in urban planning processes.


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RENEWABLE ENERGY BENEFITS

CITIES' POTENTIAL TO SCALE UP RENEWABLES BY 2030

- **Cities are where much of the world's economic activity is concentrated, accounting for more than 80% of global gross domestic product (GDP).**
- **Cities are engines of the economy, using about 75% of global primary energy.**
- **Energy-related policy making is a complex process involving the diverse motivations of many stakeholders, from local community groups to the private sector.**

Motivations and drivers of municipal action on energy – Cities are motivated to promote renewables by a number of factors. Critical considerations concern the cost and affordability of energy (including energy access); economic development objectives (including the ability to build local supply chains and to attract and retain a diverse array of businesses); and employment generation. Social equity considerations – reducing poverty and ensuring that poorer urban communities have access to clean energy solutions – are also central. Concerns about climate impacts are rising in importance, joining long-standing worries over the health impacts of air pollution from fossil fuel use, as well as the desire to ensure a high quality of life for all urban residents.

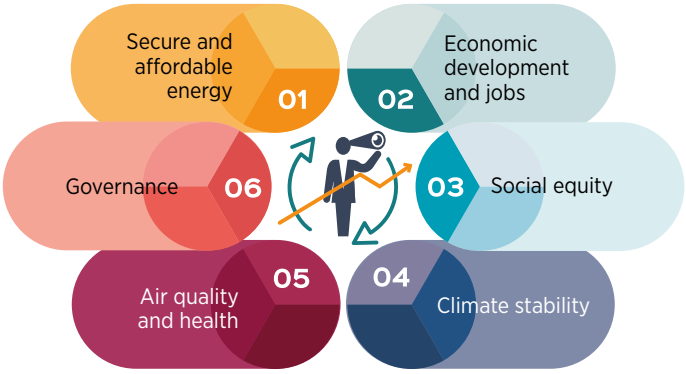
Energy-related policy making is a complex process involving not only governance structures and processes but also the diverse motivations of many stakeholders. Progress requires not only the formulation of comprehensive plans but also the resources and institutional capacity for successful implementation. Implementation requires vision, policy coherence and pragmatic co-ordination across various levels and layers of municipal governance.

A world powered by renewable energy is not only possible, it is inevitable. The key question is how fast

Local energy transition strategies are driven by multiple actors whose significance varies from city to city (and country to country), reflecting different administrative and policy-making structures, as well as civic cultures.

They may have great power to advance the policy agenda or to hold it back. Mayors, city councils and municipal agencies are key actors in planning, issuing regulations, and implementing policies and projects.

Utilities and energy companies are important actors too; their roles and influence can vary considerably. They could be strictly local entities, or they could operate on a larger scale (provincial, national or international) and be under public or private ownership. Regulatory authority and financing needs can give regional and national governments a strong say in urban affairs. Private-sector companies often have considerable influence. Last but not least, local community groups may in some cases be key drivers of change.



Motivations and drivers of municipal action on energy

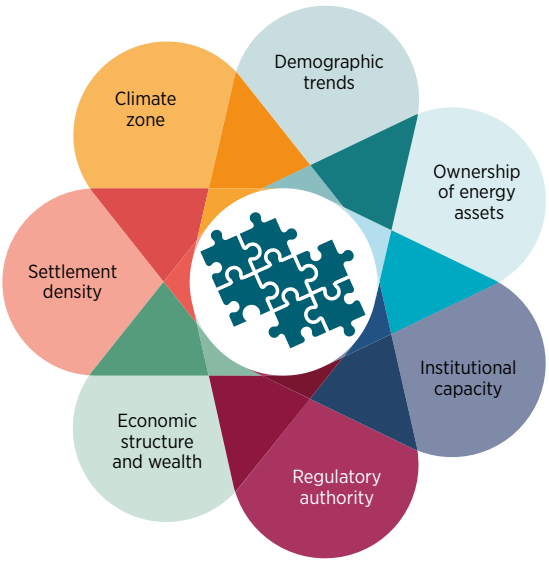
Municipal needs and capabilities – Although cities across the world face many similar challenges, their particular circumstances, needs and capacities to act can vary enormously, typically a product of their historically grown structures and reflecting their various political cultures. Cities' plans thus need to be tailored to their own circumstances.

A world powered by renewable energy is not only possible, it is inevitable. The key question is how fast. Individual cities' energy options are conditioned by an array of variables. Some, such as a city's particular climate zone, are immutable – although advancing climate change triggers new challenges. Cities with growing populations confront greater challenges than those with more stable demographics.

This is especially the case in urban areas with large and rapidly expanding informal settlements, where energy access is limited or where residents are energy poor. Compact cities are able to build attractive public transportation networks, while sprawling megalopolises struggle to make them work and often remain reliant on energy-intensive passenger cars.

In general, wealthy, economically dynamic cities (i.e. those where a diversified economy supports a significant flow of tax revenues) are able to act in ways that poorer cities cannot. But decision-making power over matters that affect urban areas does not always fully rest with municipal authorities.

The ability of cities to act is further shaped and constrained by the degree to which they either already have, or are able to acquire, adequate institutional capacity (planning and implementation, budgetary resources and staffing), as well as access to required technical and professional expertise.



Factors shaping city energy profiles

Finally, the role of private-sector energy providers varies from city to city, influencing the degree to which cities are able to exert control over energy generation in terms of ownership structures, investor preferences, operational authority or regulatory enforcement power. Cities typically have substantial influence over factors that shape energy consumption, such as spatial planning, building efficiency, urban transport modes, settlement patterns and household consumption practices.

The significance of cities in deploying renewable energy – IRENA's analysis on renewable energy in the urban context has identified several dimensions of the role cities play in shaping adaptation and mitigation and, as such, in accelerating the deployment of renewable energy solutions as a pillar of national sustainable energy targets.

Cities can be target setters, planners and regulators. They are often owners and thus operators of municipal infrastructure such as buildings and vehicle fleets. Cities are always direct consumers of energy and therefore aggregators of demand and can be conveners and facilitators. They can also function as financiers of renewable energy projects, through either municipal action or incentives to businesses and households. Finally, cities through their local governments can build awareness through their existing roles as target setters and planners and through local media.

A world powered by renewable energy is not only possible, it is inevitable. The key question is how fast. Although the transformation of the electricity sector is already under way, the bulk of deployment is still concentrated in a relatively small number of countries. The potential is great elsewhere, but more progress is needed, particularly in many developing countries, where perceived investment risks are a barrier.

Public finance can catalyse private investments, but its role extends to such important tasks as direct financing, especially in the context of expanding access to modern energy services in poor rural communities, as well as providing alternative sources of funding, such as social financing.

Investments are needed in both on-grid and off-grid solutions. Furthermore, national, regional and global action plans need to strive towards more equitable access to energy and greater convergence of energy use between the rich and the poor. An emphasis on energy services for productive end uses helps achieve the transformative impacts of modern energy access on poverty alleviation and other Sustainable Development Goals.

Accelerating growth to reach 2030 targets is still possible through stronger commitment from governments, an increase in funding and an expansion of innovative new technologies. Evidence is mounting that with holistic approaches, targeted policies and international support, substantial gains can be made in clean energy and energy access that will improve the lives of millions of people.

For further reading:
Renewable Energy Policies for Cities (IRENA, 2021)

CASE STUDIES

CHINA

Tongli, a town in the Wujiang district of Suzhou city, Jiangsu province, has a recorded history going back more than 1 000 years, situated among farmland, forests, rivers and lakes. Tongli has received more than 5 million visitors annually since 2011. The mounting number of visitors, meanwhile, has boosted energy consumption and created more risks to buildings in the ancient town. Renewable energy could help protect Tongli's integrity as a historical town while ensuring support for more tourism and supporting sustainable and clean energy sources is a core challenge. In 2019 it was reported that the renewable energy share in total final energy consumption reached 15%, mainly due to hydroelectricity, distributed solar photovoltaic (PV) and wind generation. The Suzhou city and Jiangsu provincial governments have adopted a series of policies to encourage the deployment of renewable energy, including targets, development plans and subsidies, while planning the phase-out of fossil fuels. The local government has recognised the major challenge of reconciling the growth of tourism with the parallel goal of increasing the use of clean energy in Tongli. In accordance with China's policy framework for renewables, Tongli releases no policies on its own but implements those released by higher-level government departments. Tongli's renewable energy deployment is hence the result of interwoven policies that include higher-level governments, as well as local initiatives. The town government of Tongli is responsible for defining strategy, setting targets, and implementing development plans and related policies.

COSTA RICA

Costa Rica has several defining attributes that set it apart from other locations. These include a large percentage of renewable energy sources in power generation and a highly centralised governance structure for both energy and transport. Cities do not make energy and transport decisions, but rather play a marginal role in local decision making and implementation, from power production to the operation of electric bus fleets.

As cities become central protagonists of the efforts to promote sustainable urban practices and liveable cities in many parts of the world, municipalities in Costa Rica, too, may become more interested in taking part in their country's ongoing energy transformation. In many ways, this is also about better urban governance and local choice. Governance adjustments are more likely in the realm of public transport. Solving the energy-transport conundrum in Costa Rica will require rethinking the role of urban planning and the greening of cities. The current level of centralisation may present a barrier to the successful implementation of the National Decarbonisation Plan. The transformation of public transport holds great promise because of the high cost of the current model.

UGANDA

Cities are increasingly important players in the deployment of renewable energy in Uganda, functioning as centres of demand growth but also as focal points of modern industries and research. For Uganda, cities are regulators, planners, service delivery vehicles and facilitators of development. The ability of Ugandan cities to shape local energy policies has expanded since the country took steps to decentralise its political system – first through a presidential policy statement in 1992, and later in the 1995 constitution and operationalised in the Local Government Act of 1997. The objective was to devolve functions, powers and services to local levels. These changes were driven by the recognition that long-term development challenges such as poverty reduction and greater socio-economic opportunities require more dynamic political processes, including more empowered local communities. A wide range of powers, responsibilities and functions were subsequently transferred to local governments at the district level and lower, including cities, municipalities and town councils. With regard to energy policy making, a municipality or town council has the power to: formulate policies and strategies for renewable energy development; initiate and maintain programme relations with third-party non-governmental organisations; provide incentives for adoption of renewable energy technologies; make by-laws, which if well designed would promote renewable energy; own and procure, by deploying renewable energy projects on municipally owned land, for instance, solar streetlights.

POINT OF VIEW

Hon. Loren Legarda, Member of the House of Representatives, Philippines

Deputy Speaker Hon. Loren Legarda currently serves as member of the House of Representatives of the Philippines, representing the Lone District of the Province of Antique.

Prior to her election to the current position in May 2019, she was a three-term member of the Philippine Senate where she chaired the Committees on Finance, Foreign Relations and Climate Change.

Legarda has authored many laws aimed at improving the lives of Filipinos and promoting inclusive, sustainable and resilient development.

Thirteen years ago, the Philippine Congress passed the Renewable Energy Act of 2008, a law that I co-authored in order to accelerate the exploration and development of renewable energy resources to reduce our dependence on fossil fuels. We knew back then that renewables can undercut the expensive price of fossil fuels and help foster a cleaner and healthier environment.

In 2020, the Philippine Department of Energy announced a moratorium on greenfield coal power plants, which would promote modern renewable energy and storage projects in the country. With this game changer, we expect the share of solar and wind energy in our supply mix to increase from 5.4% to 43.8% by 2030. This is an investment opportunity with an estimated value of over USD 30 billion over this decade.

The Philippines expressed national decarbonisation commitments through our Nationally Determined Contribution, which ambitiously sets us on the path of 75% greenhouse gas emissions reduction and avoidance in the energy sector, as well as in agriculture, waste, industry and transport.

Cities are at the heart of this transformation. Local governments in the Philippines have started to harness solar energy in powering public schools and other government buildings and to promote low-carbon transport solutions.

As we push to accelerate the transformation of our energy sector, I continue to urge our government to ensure that energy is integrated with economic management and that citizens participate in helping our government succeed in crafting a new future, with local implementation in mind.

Hon. Sven Clement, Member of Parliament, Luxembourg

Mr. Sven Clement is an elected member of the Luxembourgish Parliament since 2018, where he represents the Luxembourgish Pirate Party.

He is also an entrepreneur in the digital space and tries to implement an effective energy transition by using the leverage effects of digitalisation.

As a parliamentarian of the Pirate Party and in accordance with our party's principles and programme, I have consequently supported every legal initiative which aims to promote the production and use of renewable energies in the grand duchy of Luxembourg.

We have presented various motions to push the energy transition further, for example by urging the Luxembourgish government to deploy fast-charging stations at every fuel station in our country and to prohibit the use of nuclear energy in our national electricity mix.

I firmly believe that the energy transition must begin in our cities because these are the areas where we can easily and effectively implement actions that can significantly reduce carbon emissions and lead our country to more energy autarky.

During my mandate, I have proposed our Sunergy plan for Luxembourg, in which we insist on the massive implementation of photovoltaic electricity production on the rooftops of private buildings. Concretely, we propose that the state prefinances photovoltaic collectors over so-called power purchase agreements over a period of ten years. During these ten years, the fund takes over all the costs and benefits from the revenues of the production. After ten years, the collector switches its holder and belongs to the person who owns the building.

IN FOCUS

RETHINKING CITY ENERGY SUPPLY

- **Renewable power generation in the urban context can be done at utility scale, such as through solar PV, wind or geothermal facilities.**
- **A combination of energy efficiency and renewable energy can do a great deal to shrink the carbon footprint associated with the energy uses of a city's buildings.**
- **It is important to improve transport systems by making them cleaner, more accessible and more affordable to the public.**

Power Sector - If cities can be said to be the heart of human activity, energy is what keeps the urban heart pumping. Cities are engines of the economy, accounting for more than 80% of global GDP. Urban energy powers transport, industrial production, commerce, building construction, public works, lighting, air conditioning and countless other human activities. Accounting for about 75% of global primary energy use, cities have a major role to play in advancing and shaping the global energy transition, including with their choice of energy. And increasingly, cities seek to supply energy that is clean and renewable, and therefore sustainable. Cities play a multitude of roles in the energy sector, and although their needs and opportunities vary as much as their capacities to act, they can undertake a variety of measures to support renewable energy.

To date, the fastest uptake of renewable energy globally has occurred in electricity generation, and cities have played a key role in accelerating the transition of the urban electricity mix to one that is based on renewable energy. Municipal authorities may also adopt clean energy guidelines governing their purchases of energy. By setting targets, adopting labelling schemes or requiring "green" certificates, they can influence what kinds of energy sources private providers develop and offer to local households and businesses. Some cities have put in place feed-in tariffs or net metering for renewable power. Cities that own utilities can directly shape their energy offerings and may consider, for example, green premium products or tailored renewable energy contracts for urban customers.

Urban energy supply and electrification are often under the purview of national energy utilities and regulatory authorities. In some countries, however, municipalities have a strong role to play, though the privatisation of utilities has altered the policy-making landscape in recent decades. In Nordic countries, for example, cities that own their utilities have developed wind, hydro and bioenergy generation capacities (including for methane capture from wastewater, sludge and landfills) in their capacity as planners, financiers and operators. Germany is another country where local utilities, owned by municipalities (so-called Stadtwerke), as well as community-based energy co operatives, play a significant role in electricity generation and distribution. In the United States, the cities and counties with 100% clean energy all have local, public control over electricity procurement.

Growing numbers of cities are attempting to source more of their energy supply from renewables and to increase the role of local generation. The degree of ambition varies as well, in terms of both the scope of planned actions and their time horizon. While cities play important roles in articulating a vision for their energy transitions and adopting overall plans and targets in pursuit of it, they face different types of challenges, at different scales, in greening their energy supply. Where national governments have not already taken action, municipal authorities may do so in their function as local electricity regulators.

Buildings and construction – Another area in which municipal authorities may adopt their energy supply are buildings. According to the *2020 Global Status Report for Buildings and Construction*, the operation of buildings accounted for 30% of world energy demand in 2019, rising to 35% when construction is included, or 151 exajoules. Emissions from building operations ran to 10 gigatonnes of carbon dioxide ($GtCO_2$), the highest ever, and were equal to 28% of total global energy-related CO_2 emissions. Construction-related emissions (including manufacturing of materials such as cement and steel) brought the total to 13.5 $GtCO_2$ and buildings' share to 38%.

The growth of building floor area in the last decade far outpaced population growth. The encouraging news is that energy demand from this new construction grew far less, expanding at roughly half the rate of floor space additions (with floor space increasing by 21% versus 9% for energy use), indicating higher levels of energy efficiency. Although the COVID-19 pandemic triggered a substantial drop in new construction during 2020, building floor area worldwide is expected to double to more than 415 billion square metres (m^2) by 2050, with energy demand potentially increasing by 50%.

In this context, ensuring that the global average temperature increase stays well below 2 degrees Celsius and as close as possible to 1.5 degrees Celsius requires cutting building-related CO_2 emissions by up to 85% within the next three decades. From 2030 onwards all new buildings need to be zero-energy buildings; meanwhile, the renovation of existing buildings needs to increase, from just around 1% of building stock per year to 3% per year.


Emre Topdemir/Shutterstock.com

Reducing overall building energy demand through better design and greater efficiency (foremost in new structures, and also through retrofitting existing buildings) makes the task of meeting remaining energy needs with a large share of renewable energy and achieving net zero emissions more feasible. It is therefore critical to think holistically and regard renewable energy as part of an integrated package of measures. In addition, because buildings have a useful life of several decades and even up to a century, the design of such structures has long-term consequences for energy consumption. Retrofits of existing buildings may promise substantial benefits but are more expensive than designing a building to be energy efficient and renewables-ready from the very beginning.

Some of the greatest opportunities for reducing buildings' carbon footprint are found in avoiding conventional energy requirements through smart building design. By designing to reduce floor area – for example, by opting for co-working or co-housing – or by siting and positioning buildings to maximise the benefits of solar rays, a building's energy and carbon footprint is reduced compared with traditional design. Improved building insulation and connection to efficient district heating and cooling networks can also help achieve decarbonisation goals. Of course, energy consumption can be best minimised in new construction rather than retrofits since avoidance strategies (i.e. smart design) can be integrated into every facet of new buildings. However, most efforts to reduce buildings' energy use will centre on existing structures. For this reason, this brief will examine broadly applicable strategies for reducing energy use in existing buildings, such as improving efficiency and promoting renewable energy.

Municipal governments can influence the decisions of builders, owners and users of buildings through a variety of regulations and incentives. These include land-use policies such as urban planning and zoning, building codes and permitting processes, energy performance regulations, solar ordinances, technical standards, and public housing programmes. In addition to regulations, mandates, and financial and fiscal incentives, raising public awareness through information campaigns, stakeholder forums and public consultation is crucial. Energy performance monitoring and reporting are essential for establishing benchmarks and setting goals. Energy audits can pinpoint problems and opportunities for improvement.

Transport – Cities promote human interaction by bringing together the people and resources needed for commerce, recreation and cultural activities. Some of these connections are digital, some are informational, but a great many are physical. In a city's efforts to enable physical connections, transport of all kinds plays a central role. For urban stakeholders working to build greener cities in the years ahead, creating a sustainable transport sector will be critical to success.

The United Nations defines sustainable transport as "..the provision of services and infrastructure for the mobility of people and goods – advancing economic and social development to benefit today's and future generations – in a manner that is safe, affordable, accessible, efficient, and resilient, while minimising carbon and other emissions and environmental impacts".

Sustainable transport systems require a well-co-ordinated and integrated set of policies, within and beyond the transport sector, and within and beyond cities. City leaders must harmonise the activities of business and civil society actors across a diverse set of transport modes, ensuring that required energy sources, supporting infrastructure and other transport inputs are available as needed. Policies in other sectors are also critical to creating a sustainable transport sector powered by renewable energy.

The energy transition in the transport sector cannot be driven solely by changes in the composition of the energy mix. It needs to be accompanied by changes in the modal mix, urban infrastructure and land-use priorities. Other city-level actions could include policies to reduce the demand for transport, e.g. by promoting telecommuting and other behavioural changes. And of course, city leaders must also ensure that their transport strategy harmonises with policies emerging from regional and national governments.

Fortunately, cities worldwide are finding pathways through this thicket of challenges. Urban transport offers excellent opportunities to boost renewable energy use in cities. The transport sector is one of the largest energy users in the urban environment and is driven by a broad range of urban challenges. Enlarging the role of renewables directly addresses some of them:

- **Climate change –** Cities are increasingly at risk from climate disruptions. Given that transport represents a quarter of global energy-related carbon emissions, it is clear that a transport sector powered by renewables can be a major contributor to stabilising the world's climate.
- **Air pollution** imposes serious burdens on human health and costs on urban economies,many of which would be reduced or eliminated through the use of renewable energy.
- **Congestion** is a perennial problem for many cities that costs citizens and businesses valuable time and productivity; encouraging the use of transit – preferably renewables-based electricity powering electric buses, trams and light rail – can free up road space.
- **Road safety** is a priority for many citizens and leaders, given the numbers of people who die or are injured in accidents each year.

The use of buses and other forms of mass transit – again, powered or fuelled by renewables – can reduce road injuries and deaths.

There is thus ample need – and opportunity – to enhance the role of renewable energy, especially in the context of robust increases in energy demand. The share of renewables is currently much lower in the transport sector than in the power sector or in heating and cooling.

A broad range of transport modes are important to cities. Road, rail, shipping and aviation move people and goods. In the resulting web of connections, each mode offers unique opportunities for advancing the use of renewable energy. To harness this potential, it is important to consider the particular requirements of each mode. For example, cars, light rail and bicycles have very different requirements for fuel and infrastructure. Taking this diversity into consideration is also important when planning systems for their smooth and integrated operation.

Cities can shape and accelerate the evolution of a sustainable urban transport sector through their varying roles as regulators, operators, financiers, facilitators, awareness builders, demand aggregators and target setters. Each of these roles differs from city to city and from country to country, but the large range of options for urban transport policy highlights that there is clearly something every city can do.

For further reading:

Renewable Energy Policies for Cities: Power Sector (IRENA, 2021)

Renewable Energy Policies for Cities: Buildings (IRENA, 2021)

Renewable Energy Policies for Cities: Transport (IRENA, 2021)

POLICY COMPASS

MEASURES TO STIMULATE THE DEPLOYMENT OF RENEWABLE ENERGY IN MEDIUM-SIZED CITIES

Cities can drive local renewable energy deployment by championing it through municipal policy and awareness-raising programmes. Progress will likely be greatest if local citizens play an active role in formulating and implementing municipal policies, and if policy makers ensure that all urban residents benefit from the move to renewable energy. The social equity dimension is thus crucial.

1. Social equity and sustainability

» **Vital components of a better urban quality of life include improved energy access and energy poverty reduction –** ensuring that poorer urban communities have access to clean energy solutions.

» **Ensure that all urban residents benefit from the energy transition –** distributing the majority of social and economic benefits locally.

2. Implementation of community energy solutions

» **Develop local energy access into a community responsibility –** local stakeholders may own the majority or all of a renewable energy project; voting control rests with a community-based organisation; most social and economic benefits are distributed locally.

» **Such projects may be initiated and directed by municipalities –** even as co-operative structures allow urban residents to participate in decision-making processes directly and actively.

3. Active involvement of local residents and community groups

» **Involvement of residents and community groups –** including co-operatives, non-profit associations, community trusts and others that support renewable deployment in urban spaces.

» **Raise awareness of residents about the potential of innovative renewables technologies –** citizens must acquire the knowledge and capacity needed to act as informed participants in energy decision making.

» **The energy transition** progress will likely be greatest if local citizens play an active role in formulating and implementing municipal policies.

4. Adjustment of action plans

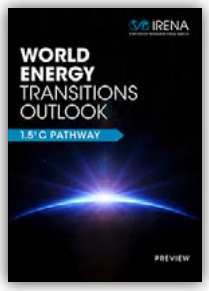
» **Tailoring measures to specific circumstances of the city –** considering climate zone, demographic trends, settlement density, economic structure and wealth, legal and budgetary authority, institutional capacity and expertise, and regulatory power and asset ownership, in the development of action plans.

» **Adopting measures to decarbonise regional transport –** encouraging passengers to shift to the most efficient or environmentally friendly mode(s) to improve trip efficiency. Policies to support such shifts include the promotion of car sharing, closing certain roads (entirely or for high-emission vehicles), and the creation of pedestrian walkways and bike-sharing systems.

Further reading:

Renewable Energy Policies for Cities (IRENA, 2021)

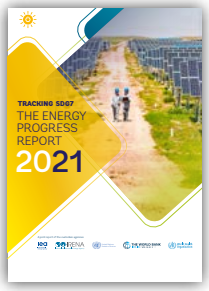
SELECTED PUBLICATIONS



WORLD ENERGY TRANSITIONS OUTLOOK: 1.5°C PATHWAY

The *World Energy Transitions Outlook* outlines a pathway for the world to achieve the Paris Agreement goals and halt the pace of climate change by transforming the global energy landscape. This report presents options to limit global temperature rise to 1.5°C and bring CO_2 emissions to net zero by 2050, offering high-level insights on technology choices, investment needs, policy framework and the socio economic impacts of achieving a sustainable, resilient and inclusive energy future.

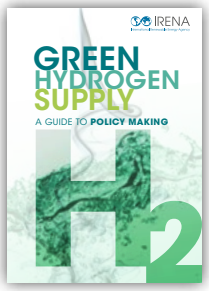
IRENA, June 2021



TRACKING SDG 7: THE ENERGY PROGRESS REPORT (2021)

This joint annual report from the custodian agencies of Sustainable Development Goal (SDG) 7 on energy serves to guide international co operation and policy making to achieve universal, sustainable energy access by 2030.

IRENA, June 2021



GREEN HYDROGEN SUPPLY: A GUIDE TO POLICY MAKING

The supply chain for hydrogen is not yet fully developed. Several barriers, such as the high cost of green hydrogen compared with non-renewable alternatives and the lack of dedicated infrastructure, are still impeding hydrogen's full contribution to the energy transition. This report aims to provide a basis for understanding these challenges and the solutions available. It highlights the range of policy options available, complemented by country examples.

IRENA, May 2021

REVIEW FOR PARLIAMENTARIANS: ISSUE 12

THE POST-COVID RECOVERY: AN AGENDA FOR DEVELOPMENT, RESILIENCE AND EQUALITY

The COVID-19 pandemic has devastated people's lives around the world. On top of the tragic death toll, widespread lockdown measures have thrown the global economy into a severe crisis – one set to become the worst recession since the Great Depression of the 1930s. Policy makers now have a unique chance – to align short-term investments, regulations and policies with the long-term need for decarbonised economies and societies. By placing energy transition at the centre of national recovery plans, governments can alleviate the current economic downturn and simultaneously tackle the climate crisis.

English *Français* *Español*

IRENA, March 2021

2022 IRENA LEGISLATORS FORUM

The Legislators Forum, IRENA's initiative in parliamentary engagement, is a global platform of exchange for members of parliament. IRENA facilitates dialogue among peers, with experts and with other key stakeholders to align actions to accelerate the energy transformation and play a decisive role in achieving sustainable development and a climate safe future. In just a few years, the Legislators Forum has seen an increasing number of participants and countries represented – a testimony to the growing interest of parliamentarians in raising ambition and actively engaging in the promotion of renewable energy.

"The issue of diversification of energy sources is one of the central issues of our time and renewable energy is an important sustainable source that we must exploit and employ in the best way by developing policies, legislations, and tools to accelerate the pace of its expansion and adoption in various countries of the world, especially among the sectors of future promising young people."

H.E. Mr Saqr Ghobash, Speaker of the UAE Federal National Council

"In many constituencies, parliaments have the power to legislate, hold the government to account and allocate resources for relevant policies. The renewable energy sector is one where parliamentarians and legislators in the world can make a huge difference"

Martin Chungong, Secretary-General of the Inter-Parliamentary Union

SAVE THE DATE

7TH IRENA LEGISLATORS FORUM

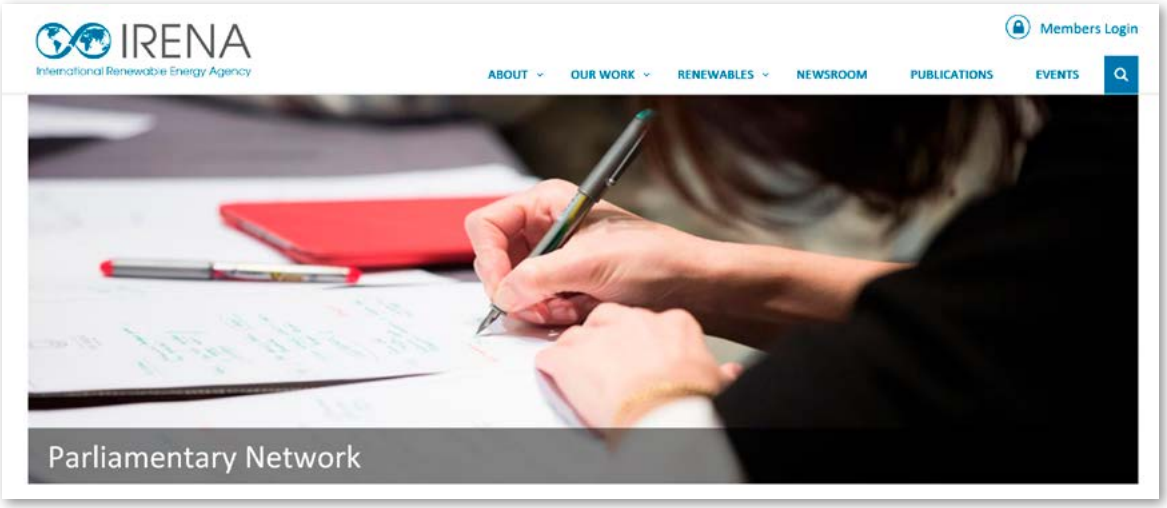
13 JANUARY 2022

VIRTUAL EVENT

Express your interest in participating by sending an email to legislators@irena.org

The 7th IRENA Legislators Forum will take place virtually on 13 January 2022. Hosted in conjunction with the 12th Session of the IRENA Assembly, this forthcoming edition is taking place at a time when the imperative to transform the current energy system to one that is sustainable, resilient and inclusive has never been more apparent. With less than ten years left to realise the 2030 Agenda for Sustainable Development and shift to an energy path aligned with the goals of the Paris Agreement, expediting widespread and far-reaching change has become a global duty. With that in mind, the IRENA Legislators Forum will thus present a timely opportunity for inclusive and diverse discussions on actions to shift the energy transition to the next level, in the context of moving from Commitments to Implementation in the Decade of Action.

ENGAGING WITH IRENA THROUGHOUT THE YEAR



REview for Parliamentarians

Legislators Forum

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