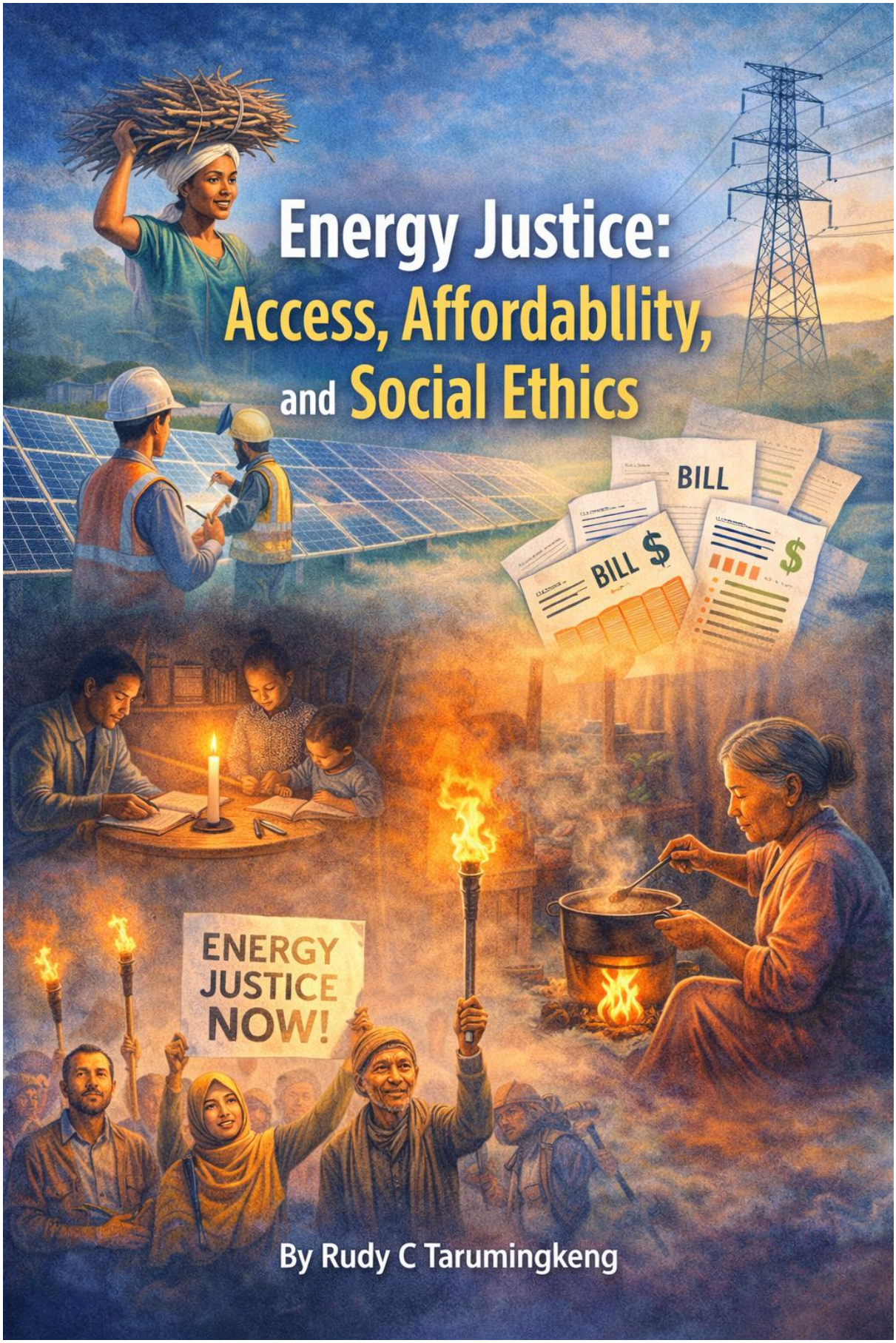
Energy Justice:
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NOW!
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ENERGY JUSTICE: ACCESS, AFFORDABILITY, AND SOCIAL ETHICS

Introduction

Energy is often discussed in technical language: megawatts, grids, tariffs, fuels, carbon intensity, storage, and efficiency. Yet energy is never merely technical. It is deeply social. Electricity determines whether a child can study after sunset, whether a clinic can refrigerate vaccines, whether water can be pumped safely, whether a small business can function, and whether a household can cook without inhaling toxic smoke. For that reason, the question of energy is also a question of justice. The global development agenda itself reflects this moral dimension. Sustainable Development Goal 7 is not framed only in terms of supply expansion; it calls for access to **affordable, reliable, sustainable, and modern energy for all**. The 2024 *Tracking SDG7* report notes that the world remains off track on all 2030 SDG 7 targets, showing that energy injustice remains a living global reality rather than a solved policy problem. (IEA)

The problem becomes clearer when examined through present global evidence. The 2025 SDG 7 progress update reported that almost 92 percent of the world's population had basic access to electricity, yet more than 666 million people still remained without it, meaning the current pace is insufficient for universal access by 2030. At the same time, access to clean cooking has progressed more slowly: in 2023, more

than 2 billion people still lacked access to clean cooking, and WHO reports that around 2.1 billion people worldwide continue to rely on open fires or inefficient stoves fueled by kerosene, biomass, or coal. These are not just development statistics. They are markers of unequal life chances, health risks, time poverty, and exclusion from modern citizenship. (World Bank)

Energy justice emerges precisely from this recognition. It asks who has access to modern energy, who bears the costs of transition, who suffers pollution and infrastructure neglect, who benefits from public subsidies and private investment, and who gets a voice in energy decision-making. It also asks a deeper ethical question: what does a just energy system owe to people as human beings? The answer cannot be limited to efficiency alone. A system may be economically efficient and still socially unjust if it excludes the poor, burdens rural populations, sacrifices certain communities to pollution, or shifts transition costs onto those least able to pay. Recent UN policy work on just transitions underscores that energy transition strategies must prioritize justice, equity, inclusiveness, and sustainability, including a fair distribution of costs and benefits. (Sustainable Development Goals)

This essay argues that energy justice rests on three interdependent pillars: **access**, **affordability**, and **social ethics**. Access concerns the availability of modern energy services. Affordability concerns whether those services can be obtained without unacceptable financial sacrifice. Social ethics concerns the moral principles that should govern energy systems, including dignity, health, fairness, participation, and intergenerational responsibility. Together, these dimensions show that energy policy is not merely a branch of engineering or economics; it is also a matter of public ethics and social order.

Understanding Energy Justice

Energy justice is best understood as an effort to evaluate energy systems not only by how much power they produce, but by how fairly they distribute benefits, burdens, and decision-making authority. In contemporary policy and academic practice, energy justice is often associated with three broad concerns: distributive justice, procedural justice, and recognition justice. Distributive justice asks how access, cost, risk, and opportunity are shared. Procedural justice asks who gets to participate in decision-making and whether processes are transparent and accountable. Recognition justice asks whether vulnerable, marginalized, or historically disadvantaged groups are properly seen and protected within the system.

Although this language is often used in scholarly debate, the underlying reality is visible in practice. Rural families without reliable electricity, urban poor households burdened by energy price shocks, women exposed to indoor smoke, and coal-region workers facing insecure transitions all inhabit different forms of energy injustice. A clean-energy system can also be unjust if it is decarbonized for the wealthy while poor households remain trapped in dirty fuels or unaffordable tariffs. This is why justice in energy cannot be reduced to carbon reduction alone.

The global clean-cooking crisis illustrates the point sharply. WHO states that around 2.1 billion people still cook with polluting fuels and technologies, and the IEA reports that household air pollution from these practices is linked to around 3.7 million premature deaths a year. That means one of the world's most significant energy injustices occurs not in spectacular blackouts or high-profile climate summits, but in ordinary kitchens where poor households are exposed daily to preventable harm. (World Health Organization)

Energy justice therefore expands the moral scope of energy policy. It rejects the idea that energy systems should be judged only by cost minimization or aggregate supply adequacy. Instead, it insists that

energy systems must be evaluated according to whether they support human flourishing in fair and sustainable ways.

Access as the First Principle of Energy Justice

Access is the most basic dimension of energy justice. Without electricity or clean household energy, other rights and opportunities are constrained. Education becomes more difficult, health care weaker, communication slower, livelihoods more fragile, and public services more limited. This is why energy poverty is not simply one deprivation among many; it is often a multiplier of deprivation.

The latest SDG 7 evidence shows both progress and insufficiency. According to the 2025 progress update, basic electricity access rose to almost 92 percent of the world population, yet over 666 million people still lacked access. Earlier 2024 reporting had placed the number higher, reflecting the stubbornness of the challenge and the vulnerability of progress to crises, debt pressure, and conflict. Access gaps are heavily concentrated in sub-Saharan Africa and parts of developing Asia. (World Bank)

Access, however, should not be understood in a minimalistic way. Formal connection alone is not enough. A household with a grid connection that supplies only a few hours of unstable power per day may be technically counted as electrified yet still remain energy-poor in practice. A village connected to electricity but unable to power productive activity remains only partially included in modern economic life. Access in justice terms therefore must be assessed by adequacy, reliability, safety, and usefulness.

This wider understanding matters because modern development increasingly depends on energy-intensive services. Digital connectivity, education technology, refrigeration, irrigation, water systems, electric mobility, and microenterprise all depend on electricity that is not merely

symbolic but functional. The Energy Sector Management Assistance Program (ESMAP) has emphasized how energy access programs support government capacity, least-cost electrification planning, distributed renewables, and pipeline development. Such work reflects an implicit justice logic: access is not charity, but foundational infrastructure for participation in society. (ESMAP)

There is also a spatial ethics to access. Remote communities, islands, mountainous settlements, and informal urban neighborhoods are often the last to receive quality energy services because they are more expensive to serve. If markets alone govern infrastructure extension, such communities may remain neglected indefinitely. Justice therefore requires public policy to compensate for unequal geography. Universal access is not achieved by waiting for commercial logic to reach the hardest places; it requires deliberate cross-subsidy, planning, and public commitment.

Clean Cooking as a Justice Imperative

No discussion of energy justice is complete without clean cooking. Clean cooking is often overshadowed by electricity, yet it may be the most intimate and gendered form of energy inequality in the world today. In 2023, more than 2 billion people still lacked access to clean cooking, and WHO reports that current trends would leave nearly 1.8 billion people without clean cooking by 2030 if progress does not accelerate. WHO also notes that only about 78 percent of the global population is expected to have access to clean cooking by 2030 at current rates. (IEA)

The ethical significance is profound. Polluting cooking fuels impose burdens that are not randomly distributed. They fall disproportionately on poor households, especially women and children, who often spend more time near household fires and more time collecting fuel. This produces a chain of injustice: health damage, lost time, reduced educational opportunity, environmental degradation, and deepened

gender inequality. WHO's recent materials further indicate that clean fuels are far more effective than "improved biomass stoves" in reducing harmful pollutants. That means partial or symbolic solutions may not be ethically adequate if they leave households exposed to unsafe air. (World Health Organization)

From a social-ethics standpoint, this matters because clean cooking is not only an environmental issue but a question of bodily integrity and domestic dignity. A just society should not normalize the idea that millions of poor households must inhale harmful smoke in order to prepare food. When viewed in that light, clean cooking is not a secondary welfare program; it is part of the moral minimum of modern citizenship.

Affordability: The Economic Face of Justice

Access without affordability is incomplete justice. A household may be formally connected to modern energy and still be energy-insecure if tariffs, connection fees, appliance costs, fuel prices, or payment structures make regular use unaffordable. In such situations, people ration energy to unhealthy levels, revert to dirtier fuels, accumulate debt, or go without essential services. The IEA's SDG 7 data-and-projections materials note that rising energy costs and reduced household incomes between 2019 and 2022 slowed progress on clean cooking as many households reverted to traditional fuels. This is an important reminder: affordability shocks can reverse access gains. (IEA)

Affordability is also politically central. Energy price increases trigger social unrest more quickly than many other policy changes because energy enters daily life so directly. Electricity, cooking, transport fuel, and heating affect every household, and in lower-income settings they often consume a large share of disposable income. For this reason, energy justice cannot ignore tariff design, subsidy structures, and inflation vulnerability.

But the ethical issue is more subtle than simply "keep prices low." Very low prices can discourage investment, weaken utilities, reduce service quality, and lock systems into underperformance. Universal blanket subsidies can disproportionately benefit higher-income users who consume more energy. Justice therefore requires more than cheap energy; it requires fair energy pricing. That often means targeted support, lifeline tariffs, cross-subsidies, social protection, and carefully sequenced reform.

World Bank-linked policy material on equitable energy access highlights that affordable and equitable energy can empower women, reduce time burdens, and foster independence, while affordability challenges—especially rising costs—can obstruct those gains. This points to a broader truth: affordability is not only a consumer issue but a capability issue. When households can afford meaningful energy services, they gain time, productivity, safety, and autonomy. (World Bank)

The Ethics of Pricing and Subsidy

Energy pricing is one of the clearest places where economics and ethics meet. Prices are necessary signals. They encourage efficient use, support cost recovery, and guide investment. Yet prices also have moral effects because they determine who can participate in modern life. In ethical terms, the key question is not whether energy should be priced, but how pricing should be structured in a just society.

A useful ethical distinction can be made between **basic energy needs** and **discretionary or luxury consumption**. Justice may require protecting access to a minimum level of electricity and clean cooking for all households, even if higher levels of consumption are priced more fully. This is consistent with the idea that some energy services are foundational to human dignity, while others fall more clearly into the sphere of market choice.

This distinction supports instruments such as lifeline tariffs, targeted subsidies, social transfers, or publicly supported connection programs. It also supports the ethical argument that regressive energy reform is unjust even if economically efficient in narrow terms. If subsidy reform is designed in a way that harms the poor before compensatory systems are in place, then policy may be fiscally rational yet socially unethical.

At the same time, ethics also requires attention to long-term sustainability. Subsidies that lock in inefficient fossil-fuel use or starve clean infrastructure of investment can create future injustice. The moral challenge is therefore to design affordability policy that protects the vulnerable today without undermining a healthier and more sustainable system tomorrow.

Social Ethics and the Moral Meaning of Energy

The phrase "social ethics" broadens the discussion beyond distribution alone. Social ethics asks what moral norms should guide institutions and public systems. In the context of energy, at least six ethical principles are especially important: dignity, fairness, care, responsibility, participation, and sustainability.

Dignity means that energy systems should enable people to live decently, not merely survive. Households should have the means to light homes, refrigerate food and medicine, cook safely, access information, and participate in community life.

Fairness means that costs and benefits should not be distributed arbitrarily or along predictable lines of poverty, race, geography, class, or gender. Communities already burdened by pollution should not also bear the heaviest transition costs.

Care means that policy should attend to vulnerability. Energy systems affect children, the elderly, the sick, informal workers, and people in

isolated places in distinct ways. Ethical governance notices these asymmetries instead of assuming a generic consumer.

Responsibility means that governments, firms, and institutions must answer for foreseeable harms. If energy decisions create pollution, displacement, health damage, or exclusion, those harms are not accidental side effects in a moral vacuum.

Participation means that people affected by energy decisions deserve a voice. Procedural justice matters because communities are not just sites where infrastructure is placed; they are moral agents with interests and knowledge.

Sustainability means that present energy access cannot be built by imposing intolerable environmental damage on future generations. Intergenerational justice is part of energy justice.

These principles help clarify why energy justice is not a narrow advocacy slogan. It is a framework for thinking about energy systems as moral institutions.

Energy, Health, and Ethical Obligation

Few areas reveal the ethical depth of energy policy as clearly as health. WHO's household-air-pollution evidence makes the point strongly: the use of polluting fuels and stoves contributes to major health burdens, especially among women and children. When energy systems expose people to preventable illness because they are poor, remote, or politically neglected, the injustice is not merely economic; it is corporeal. (World Health Organization)

This invites a public-health interpretation of energy justice. Electricity access powers hospitals, cold chains, oxygen systems, telemedicine, and sanitation. Clean household energy prevents disease rather than simply improving convenience. Reliable power also protects schools, water

systems, and essential services. Understood this way, energy policy overlaps with the ethics of public health and the ethics of care.

The implication is important: energy deprivation should not be treated as a marginal utility problem alone. It is a social determinant of health. A just energy policy must therefore be judged partly by the health harms it prevents and the health capabilities it enables.

Gender, Time, and Invisible Energy Inequality

Energy injustice is often gendered in ways that conventional planning underestimates. When households rely on biomass, wood, charcoal, or kerosene, women and girls frequently bear a disproportionate burden of fuel collection, cooking labor, and exposure to smoke. They may lose hours each day that could otherwise go to education, income generation, rest, or civic participation. This means energy poverty is also time poverty.

Policy documents on equitable energy access increasingly recognize these links. Energy access can reduce unpaid labor burdens, increase safety, and expand economic agency. Clean cooking especially can transform domestic life in ways not captured by kilowatt-hour statistics alone. (World Bank)

From an ethical standpoint, this matters because injustice is not only about final outcomes such as income or mortality. It is also about daily structures of burden. If the energy system systematically consumes the time, health, and opportunity of women and girls, then it sustains a morally unequal social order even if national energy indicators appear to improve.

Procedural Justice: Who Decides?

Energy justice also depends on how decisions are made. Large energy projects—whether fossil, hydro, grid, or renewable—can reshape landscapes, displace communities, alter livelihoods, and redistribute

public resources. If those affected are excluded from consultation or treated as obstacles rather than participants, procedural injustice arises.

This is true not only for legacy fossil infrastructure but also for the clean-energy transition. A decarbonized system can still be unjust if it is built through opaque contracting, land dispossession, weak community consultation, or exclusion of local benefits. Justice therefore requires transparent processes, accessible information, grievance mechanisms, and respect for community voice.

The recent UN policy brief on universal access and just transition explicitly argues that energy-transition strategies must prioritize equity and inclusiveness. That point has procedural as well as distributive meaning. Inclusion is not only about who receives services; it is also about who shapes the rules. (Sustainable Development Goals)

Intergenerational Ethics and Sustainability

Any serious energy ethics must include future generations. A system that expands access today by deepening climate risk, ecological damage, and financial fragility may solve one injustice while creating another. This is why sustainability is not a luxury add-on to justice. It is part of justice itself.

At the same time, intergenerational justice should not be interpreted in a way that justifies neglecting present deprivation. Poor communities should not be told to wait indefinitely for affordable, modern energy in the name of abstract future benefits. The ethical task is to combine decarbonization with inclusion, not to sacrifice one to the other.

This is the deeper challenge of a just energy transition. If the transition is too slow, present and future generations face worsening climate harm. If it is too poorly designed, vulnerable groups bear disproportionate costs. Justice requires that transition policy hold both truths together.

Energy Justice in the Age of Transition

The shift from fossil fuels to cleaner systems has created a new phase of energy justice debate. Historically, injustice was often discussed in terms of lack of access, pollution exposure, and extractive infrastructure. Those concerns remain. But transition adds new questions: who pays for grid upgrades, who receives subsidies for solar and electric vehicles, which workers lose jobs, which regions gain new investment, and whether clean-energy policy is serving elites first.

A transition can reproduce inequality if it prioritizes affluent adopters of rooftop solar, electric cars, and energy-efficient homes while low-income households remain exposed to high bills, poor-quality service, and dirty cooking fuels. It can also produce territorial injustice if former coal regions are abandoned without meaningful redevelopment. A just transition, by contrast, requires deliberate policy to distribute benefits broadly and cushion unavoidable harms fairly.

This is why justice should not be appended to transition after the fact. It must be designed into the transition from the start. Access, affordability, health, labor, and participation should be treated as central design criteria, not as side issues to be handled by compensatory programs later.

The Role of Government

Because energy is infrastructural and socially essential, government has a unique responsibility in pursuing energy justice. Markets can mobilize investment and innovation, but they do not on their own guarantee universal access, fair pricing, clean household energy, or just transitions for vulnerable communities. These are public goals that require public authority.

Government's role includes at least six tasks.

First, it must **set universal and just objectives**. Policy should define access and affordability not as optional welfare concerns but as basic national commitments.

Second, it must **regulate fairly**. Tariffs, utility obligations, connection rules, service-quality standards, and subsidy systems must be structured around social inclusion as well as financial sustainability.

Third, it must **invest strategically**, especially where commercial incentives are weak—remote communities, poor households, social infrastructure, and clean-cooking expansion.

Fourth, it must **protect the vulnerable** through targeted subsidies, social protection, and transition assistance.

Fifth, it must **build capable institutions** that can collect data, identify gaps, manage utilities, and evaluate justice outcomes, not only engineering outcomes.

Sixth, it must **preserve procedural legitimacy** by ensuring participation, transparency, and accountability.

ESMAP's recent work shows how capacity building, least-cost planning, legislative support, and dedicated funds are used to advance energy access. This reinforces a key point: justice depends not only on values but on administrative capability. (ESMAP)

Markets, Utilities, and the Limits of Pure Commercial Logic

One of the persistent tensions in energy policy is between commercial viability and universal service. Utilities need revenue. Infrastructure needs financing. Yet if energy systems are governed only by commercial logic, unprofitable users and locations will be neglected. Justice requires institutions that bridge this gap.

That may mean cross-subsidies within tariff systems, public service obligations, concessional finance, distributed renewables, mini-grid

support, or socialized infrastructure investment. It may also mean reforming utilities so they can be financially healthier without abandoning equity goals.

The central ethical principle is that essential energy services should not be distributed solely according to market purchasing power. Markets remain useful instruments, but they are not adequate moral arbiters of social necessity.

Measuring Energy Justice

For energy justice to influence policy seriously, it must be measurable. Traditional energy metrics often focus on installed capacity, generation mix, losses, and investment. Justice-oriented measurement adds other questions: How many households still lack reliable access? What share of income is spent on energy by poor households? How many households rely on polluting cooking fuels? Which communities face the highest outage burden? Who benefits from public incentives? Which regions are receiving transition investment, and which are losing employment?

The SDG 7 framework already provides part of this measurement architecture by tracking access to electricity and clean cooking. But justice requires additional disaggregation by geography, gender, income, and vulnerability. Without such data, energy policy may improve averages while leaving structural injustice intact. (IEA)

Toward a Normative Framework for Just Energy Systems

A practical framework for energy justice can be built around five policy questions.

First, **minimum sufficiency**: does every household have access to a basic threshold of modern, reliable, and safe energy services?

Second, **equitable burden sharing**: are energy costs, reforms, and transition burdens distributed fairly, especially across poor households and vulnerable regions?

Third, **health protection**: does the system actively reduce exposure to harmful household and ambient energy pollution?

Fourth, **participatory legitimacy**: do affected communities have meaningful voice in energy decision-making?

Fifth, **future responsibility**: does the system expand access in ways that are environmentally and fiscally sustainable?

These questions do not eliminate trade-offs, but they force policymakers to confront them openly and ethically.

Conclusion

Energy justice reminds us that energy systems are moral systems. They determine not only how electrons flow, but how opportunities are distributed, how burdens are assigned, and how dignity is protected or denied. Access matters because exclusion from modern energy limits human capability. Affordability matters because formal connection without economic usability is hollow. Social ethics matters because energy decisions reflect judgments about whose lives count, whose burdens are tolerable, and what kind of society we are willing to build.

Current global evidence makes the urgency unmistakable. More than 666 million people still lack basic electricity access, more than 2 billion still lack clean cooking, and millions continue to face avoidable health harms linked to household energy use. Meanwhile, the global transition to cleaner systems creates both opportunity and risk: opportunity to build healthier and more sustainable systems, and risk that old inequalities may be reproduced in new forms. (World Bank)

A just energy future therefore cannot be defined only by decarbonization rates or installed renewable capacity. It must also be defined by whether the poor are included, whether bills remain bearable, whether women and children are freed from toxic household energy, whether vulnerable communities have a voice, and whether future generations inherit systems that are both sustainable and humane.

In the end, energy justice is not a peripheral moral aspiration added to technical policy. It is the test of whether energy policy truly serves society. A society may become richer in power supply and poorer in justice if it ignores access, affordability, and ethics. But if it treats energy as a shared social good—one that must be reliable, fair, healthy, and sustainable—then the energy system becomes more than infrastructure. It becomes part of the moral foundation of a decent public order.

Glossary

Affordability

The ability of households to obtain energy services without unacceptable financial sacrifice. In energy-justice terms, affordability matters because formal access is incomplete if electricity or clean cooking cannot be used regularly due to cost. SDG 7 itself defines the goal as access to energy that is not only reliable and sustainable, but also affordable. (IEA)

Clean cooking

Access to cooking solutions that avoid the harmful health impacts of polluting fuels and inefficient stoves. Current global progress remains too slow: more than 2 billion people still lack access to clean cooking, and continued dependence on biomass, kerosene, or coal contributes to serious health risks. (IEA)

Distributive justice
A principle of justice concerned with how benefits and burdens are shared across society. In energy policy, it asks who gets reliable electricity, who pays higher tariffs, who receives subsidies, and who bears pollution or transition costs. The UN's just-transition framing stresses fair distribution of costs and benefits as part of inclusive energy transitions. (Sustainable Development Goals)

Energy access
The availability of modern energy services, especially electricity and clean cooking, in ways that support basic human welfare and development. The 2025 SDG 7 progress update reported that almost 92% of the world's population now has basic electricity access, but more than 666 million people still remain without it. (World Bank)

Energy justice
A normative framework that evaluates energy systems according to fairness, inclusion, dignity, and sustainability rather than output alone. It links questions of access, affordability, health, participation, and environmental responsibility. The UN's policy brief on universal access and just transitions explicitly connects energy expansion with justice, equity, and inclusiveness. (Sustainable Development Goals)

Energy poverty
A condition in which households lack adequate access to affordable, reliable, and safe energy services for everyday needs such as lighting, cooking, cooling, communication, and productive activity. Energy poverty may exist even where a formal grid connection is present if service is unreliable or unaffordable. The SDG 7 reporting framework reflects this broader concern by tracking both electricity and clean cooking access. (IEA)

Household air pollution
Indoor air contamination caused mainly by the use of polluting fuels and

technologies for cooking, heating, and lighting. WHO states that around 2.1 billion people still cook with open fires or inefficient stoves fueled by kerosene, biomass, or coal, generating harmful household air pollution. (World Health Organization)

Just transition

A transition toward cleaner energy systems that is fair, inclusive, and attentive to vulnerable communities, workers, and low-income households. It requires that decarbonization not deepen social inequality. The UN policy brief emphasizes that just transitions should prioritize justice, equity, inclusiveness, and sustainability. (Sustainable Development Goals)

Procedural justice

Justice in the way decisions are made. In the energy field, it concerns transparency, accountability, consultation, and whether affected communities have a meaningful voice in policy and infrastructure decisions. The UN's just-transition approach links equitable outcomes with inclusive policymaking. (Sustainable Development Goals)

Recognition justice

The principle that vulnerable or historically marginalized groups must be properly acknowledged in energy policy. In practice, this includes rural communities, low-income households, women, informal settlements, and populations exposed to pollution or service neglect. The global access literature increasingly highlights disparities that require targeted policy responses. (World Bank)

Reliability

The extent to which energy services are available consistently and with sufficient quality for practical use. Energy justice requires more than nominal connection; it requires service that households and institutions can depend on. This is embedded in the SDG 7 formulation of reliable modern energy for all. (IEA)

Social ethics

The branch of ethics concerned with the moral principles that should guide social institutions and public systems. In energy policy, social ethics raises questions of dignity, fairness, care, participation, and responsibility for present and future generations. The UN just-transition framing reflects this by connecting energy policy to broader social and ethical goals. (Sustainable Development Goals)

Time poverty

The condition in which people lose large amounts of time to unpaid survival activities, such as collecting firewood or preparing fuel for cooking. In many settings, this burden falls disproportionately on women and girls, making energy injustice also a gendered problem. WHO and global clean-cooking reporting support this concern by showing the scale and persistence of reliance on traditional fuels. (World Health Organization)

Universal access

The goal that all people should have access to affordable, reliable, sustainable, and modern energy services. This is the core language of SDG 7 and the central normative reference point for contemporary energy-justice discussion. (IEA)

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