

Energy Transition

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The energy transition is the process of shifting the global energy system away from the consumption of fossil fuels and toward low-carbon technologies in order to support international goals of limiting climate change.

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Watch this space. The Energy Transition section in PPPRC will be reviewed and updated at regular intervals. Here, you will find key resources to assist in the process of shifting the global energy system away from fossil fuel consumption and toward low-carbon technologies to support international goals for limiting climate change.

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The energy transition is the process of shifting the global energy system away from the consumption of fossil fuels and toward low-carbon technologies in order to support international goals of limiting climate change. Energy transition in developing countries will require an unprecedented transformation of the power sector infrastructure, scaling up energy efficiency and renewable energy, and phasing down coal-fired power generation.

In this section, you will find recent research along with links to the sections in PPPRC focused on transitioning to clean, renewable energy, improving energy efficiency, and gradually phasing out fossil fuels.

PPPRC Sections

[The World Bank Emission Reduction Program \(ERP\)](#) plays a critical role in accelerating the global energy transition by enabling financial incentives, strengthening policies, and supporting projects that move economies away from fossil fuels and toward sustainable, low-carbon energy systems. It aims to help countries leverage the benefits of Emission Reduction Credits (ERC) markets, including increased revenue streams, reduced emissions, and improved environmental sustainability.

To access this section in PPPRC visit:

- [Guidance for Countries in Assessing ERC Projects](#)
- [Country System Assessments](#)
- [Mobilizing ERC Finance](#)

[The Asset Recycling Guidelines](#) have been developed to support governments in selecting, preparing, and delivering asset recycling transactions. A well-implemented asset recycling program offers an option to monetize invested capital, helping meet infrastructure development needs while fostering sustainable

infrastructure solutions that promote low-carbon development pathways.

[The Guidelines on Innovative Revenues for Infrastructure](#) can be a way for governments to increase revenues. These guidelines explore innovative financing mechanisms to fund infrastructure projects, with Commercial Value Capture (CVC) as the primary focus. The opportunities for applying CVC are numerous, and governments should consider potential innovative funding options during the early planning or project preparation stages to ensure that planning does not unnecessarily limit or fail to identify and capture these sources. The World Bank has applied these guidelines in various projects, and the PPPRC includes more than [100 project summaries](#) with examples of commercial value capture in various sectors and countries, including energy.

[The Renewable Energy Section](#) in PPPRC offers insights into how different countries regulate and promote renewable energy development. By sharing renewable energy sample project documents and contracts, this section can also assist in adopting best practices in renewable energy.

Tools

[The World Bank Group's Climate Toolkits](#) for Infrastructure PPPs provide guidance to integrate climate considerations into infrastructure projects. Well-structured PPPs can enhance climate resilience, offering solutions for both mitigation and adaptation challenges. By allocating risks effectively between partners and providing long-term visibility and stability, PPPs compensate for the uncertainty of climate change through contractual predictability. The toolkits offer practical methods to incorporate renewable energy solutions and low-carbon strategies into infrastructure planning and investment:

- [Climate Toolkits: Roads](#)
- [Climate Toolkits: Renewables](#)
- [Climate Toolkits: Hydropower](#)
- [Climate Toolkits: ICT](#)
- [Climate Toolkits: Water Production and Treatment](#)

[The Renewable Energy Toolkits](#) section in PPPRC links to toolkits for evaluating and setting up public-private partnerships for renewable energy.

[The Energy & Power PPP Toolkits](#) provide best practices, standard templates, and guidance for establishing and evaluating public-private partnerships in power and energy projects.

[The Energy Transition Toolkit](#) from the World Energy Council is designed to define and better manage successful energy transitions.

[Governance of Transitions Toolkit](#) - The Governance of Transitions Toolkit from the European Commission provides insights into key questions for regions undergoing transition.

[Global Solar Atlas - research mapping tool](#) - The Global Solar Atlas offers access to data needed for preliminary assessment of solar energy projects.

Model documents

[Model RFP & Concession Agreement for Waste to Compressed Bio Gas Project](#) - Standardized documents for implementing waste-to-bio-methanation projects and create an enabling framework to encourage greater private sector participation in India's waste management sector.

[Model RFP & Concession Agreement for Waste to Electricity Project](#) - The Model Agreements include frameworks for Integrated Solid Waste Management (ISWM), Bio-methanation, and Waste-to-Electricity projects in India.

Key Resources

Strategies and Policy Frameworks

[Green Economy Transition Strategy](#) - According to its Green Economy Transition Strategy EBRD aims to undertake systematic screening to identify climate-sensitive projects at an early stage of development so that appropriate climate-resilience measures can be integrated into investment design.

[Just Transition for All: The World Bank Group's Support to Countries Transitioning Away from Coal](#) - Transitioning countries away from coal—the world's most dominant and most carbon-intensive source of energy—is crucial to ensuring a clean energy future. The World Bank has built an approach based on lessons learned from decades of transition experience.

[World Energy Transitions Outlook](#) - The report provides in-depth analysis of two areas particularly relevant for the decarbonisation of end-use sectors: electrification and bioenergy.

[Renewable Energy Policies in a Time of Transition](#) - identifies key barriers and highlights policy options to boost renewable energy deployment.

[Legislating for a low carbon and climate resilient transition: learning from international experiences](#) - The objective of this working paper is to inform policy experts, legislators and decision-makers on the recent trends in climate change policy-making around the world and to draw lessons learnt from the experiences with designing and implementing climate change legislation.

Financing and Market Mechanisms

[London Stock Exchange's Voluntary Carbon Markets solution – accelerating the availability of financing for projects supporting the low-carbon transition](#) - The London Stock Exchange has a centuries-old role as a venue that brings together those who need capital with those who have capital in service of an objective, be that the development of new products, investments in plant and machinery or the creation of jobs.

[FAST-Infra initiative \(Finance to Accelerate the Sustainable Transition-Infrastructure initiative\)](#) - FAST-Infra — the 'Finance to Accelerate the Sustainable Transition-Infrastructure' initiative — aims to close the trillion dollar sustainable infrastructure investment gap, with urgency, by transforming sustainable infrastructure into a mainstream, liquid asset class.

[Scaling Up to Phase Down: Financing Energy Transitions in the Power Sector](#) - The Scaling Up to Phase Down approach is a contribution by the World Bank to the ongoing debate on how to accelerate energy transition in low- and middle-income countries.

[Scaling Up Private Finance for Clean Energy in Emerging and Developing Economies](#) - This report's analysis identifies key barriers and how to remove them – and sets out the policy actions and financial instruments that can deliver a major acceleration in private capital flows for the energy transition.

[The Asset Recycling Guidelines](#) PPPRC Section

[The Guidelines on Innovative Revenues for Infrastructure](#) PPRC Section

Reports

[Theme Report on Energy Transition](#) - his proposed roadmap illuminates a way forward for how the world can achieve a sustainable energy future

[Country Climate and Development Reports \(CCDRs\)](#) - The World Bank Group's Country Climate and Development Reports (CCDRs) are a core diagnostic that integrates climate change and development.

[People in a Changing Climate: From Vulnerability to Action - Insights from World Bank Group Country Climate and Development Reports covering 72 economies](#) - Key insights based the Country Climate and Development Reports covering 72 economies.

[Global Perspective on Coal Jobs and Managing Labor Transition out of Coal: Key Issues and Policy Responses](#) - This report analyzes the status of coal phase-out around the world, the magnitude and character of coal mining jobs and their spillovers in local economies, and the challenges associated with future labor transition.

[World Bank Group Climate Change Action Plan 2021–2025: Supporting Green, Resilient, and Inclusive Development](#) - The Climate Change Action Plan 2021–2025 aims to advance the climate change aspects of the WBG's Green, Resilient, and Inclusive Development (GRID) approach.

[Assessing and Mapping Renewable Energy Resources](#) - The report's purpose is to explain, for a wide range of audiences, the importance of resource assessment and mapping, key steps and good practices, methodological issues, and potential sources for further advice and support.

[Guidelines to Implement Battery Energy Storage Systems Under Public-Private Partnership Structures](#) - The objective of this report is to provide guidance on how such structures can be implemented to grow the role of battery energy storage systems (BESS) in developing countries.

Case Studies and Examples

[MES Barcelona: Driving the energy transition through public-private partnerships](#) - The MES Barcelona (Barcelona Sustainable Energy Mechanism) program, conceived and designed by the 2030 Agenda Office of the Barcelona City Council, exemplifies the determination of public administrations to join the private sector in the search for solutions ensuring a sustainable future with greater energy savings and less dependence on fossil fuels.

[Mini Grids for Half a Billion People - Market Outlook and Handbook for Decision Makers](#) - This book includes actionable information for decision-makers, and it is the World Bank's most comprehensive and authoritative publication on mini grids to date.

[The Critical Link: Empowering Utilities for the Energy Transition](#) - The report and UPBEAT dashboard? examine over 180 utilities in more than 90 countries.

[France Ministry of Ecological Transition: portal for hydroelectric](#)

[Ministry of Energy Transformation](#)

[Spanish Ministry for Ecological Transition and Demographic Challenge](#)

Blogs

In the [PPPRC Blogs Section](#), you can explore blogs and gain insights on global energy transition or visit the [World Bank Group Blogs](#) webpage.

Sections

[Introduction to World Bank's Emission Reduction Program, hands holding globe ball on green grass](#)

[The World Bank's Emission Reduction Program \(ERP\)](#)

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[Innovative Revenues for Infrastructure \(IRI\)](#)

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[Case Studies: Municipal PPP Framework](#)

[Climate smart renewable energy](#)

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[Climate Toolkits for Infrastructure PPPs - Wind Energy, Power](#)

[World Bank Group Climate Toolkits for PPPs](#)

[Renewable Energy Toolkits: Solar Electricity Production](#)

[Power & Renewable Energy Toolkits](#)

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[Energy Transition Toolkit - World Energy Council](#)

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[Global Solar Atlas - research mapping tool](#)

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[Global Perspective on Coal Jobs and Managing Labor Transition out of Coal: Key Issues and Policy Responses](#)

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[Country Climate and Development Reports \(CCDRs\)](#)

[Malawi Draft Standard PPA, image of power lines](#)

[Assessing and Mapping Renewable Energy Resources](#)

[afternoon sky](#)

[Theme Report on Energy Transition](#)

[architecture](#)

[World Bank Group Climate Change Action Plan 2021–2025: Supporting Green, Resilient, and Inclusive Development](#)

[architecture](#)

[Scaling Up to Phase Down: Financing Energy Transitions in the Power Sector](#)

[Energy plant](#)

[Mini Grids for Half a Billion People: Market Outlook and Handbook for Decision Makers](#)

[World Bank Group \(main website\), WB HQ](#)

Research and Publications in PPPRC

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- [East Asia and Pacific \(EAP\)](#)
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- [Latin America and Caribbean \(LAC\)](#)
- [Middle East and North Africa \(MENA\)](#)
- [North America \(NA\)](#)
- [South Asia \(SA\)](#)
- [Sub-Saharan Africa \(SSA\)](#)

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- [Climate](#)
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- [Emission Reduction Credit](#)
- [Fragile and Conflict-Affected States \(FCS\)](#)
- [Gender](#)
- [Innovative Revenues for Infrastructure](#)

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