



Power lines pass over a rural community without electricity access in Gaibandha District, Bangladesh. Photo credit: Mehbuba Yasmin/Oxfam in Bangladesh.

IFI ENERGY INVESTMENTS IN BANGLADESH

A WAY FORWARD TO SDG 7

Bangladesh is one of the world's most climate-vulnerable countries, yet at the same time it has demonstrated climate leadership, particularly in pioneering solar energy for all. The government has committed to ensuring access to affordable and reliable electricity for all citizens by 2021. This briefing note examines how appropriate lending for energy projects by international financial institutions (IFIs) can help Bangladesh to implement the Paris Agreement on climate change and Sustainable Development Goal 7 on universal energy access – and blaze a new sustainable development pathway.

1 INTRODUCTION

Bangladesh is one of the world's most disaster-prone, climate-vulnerable countries. Despite having done very little itself to cause climate change, it is taking impressive steps to tackle the issue, using its influence on the international stage and also leading by example in the globally responsible development choices it is making at home.

With its people experiencing some of the worst impacts of climate change, from super cyclones to extreme flooding, disappearing arable land and displaced communities, the Government of Bangladesh and its people know that inaction is no longer an option.

The government has set a firm target to power 10% of its fast-growing economy with renewable energy by 2020, and has ambitions to go much further. Along with other climate-vulnerable countries in the global South, Bangladesh supports the aspirational goal of transitioning to 100% renewable energy by 2050, given appropriate support. The government has also committed to achieving universal access to electricity by 2021 – years in advance of the 2030 Sustainable Development Goal (SDG) deadline – and has taken a big stride towards this with its revolutionary rooftop solar initiative.

As Bangladesh accelerates towards middle-income country status by 2021, and high-income country status by 2041, the challenge will be to meet the growing demand for power. It is estimated that demand will triple by 2030.¹ This will require significant investment, and international financial institutions (IFIs) will play a key role in mobilizing the finance needed. This briefing note makes recommendations as to how IFIs can ensure that these energy investments are sustainable and reach the poorest people.

Box 1: Key statistics for Bangladesh

- Population: 163 million.
- Responsible for 0.35% of global greenhouse gas emissions.
- Per capita electricity consumption among the lowest in the world, even among countries in South Asia (286.9 kWh).
- 62% of the population has access to electricity.
- Electricity mix: renewable energy <4%, natural gas 64%, petroleum 25%, coal 2%.
- Energy security is an issue as petroleum is imported and it is estimated that domestic gas supplies will run out in 2025.
- 10% of people have access to clean cooking.
- If climate change continues unchecked, Bangladesh could suffer annual losses of up to 9% of GDP by 2100, and 20–30 million people may be displaced from climate hotspots by 2050 (one-sixth of the current population) – dwarfing the scale of today's Rohingya crisis, which involves over half a million people.

For sources see endnotes.

2 IFIS IN BANGLADESH

The World Bank is Bangladesh's largest external development financier,² and holds the majority of its external debt.³ The country is one of the biggest clients of the World Bank's concessional fund for least developed countries, the International Development Association (IDA). The Asian Development Bank (ADB) is its second largest lender. Both multilateral banks continue to play an important role in Bangladesh, and with their high volumes of lending exert influence over government policy and private sector investment.

At the same time, new IFIs are emerging, such as the Asia Infrastructure Investment Bank (AIIB). The AIIB offers an alternative and potentially more expedient source of finance – albeit without the concessional terms that Bangladesh has access to through the World Bank's IDA arm and the ADB.

3 NATIONAL AMBITIONS: AN AGENT FOR CHANGE

As one of the world's most climate-vulnerable countries, Bangladesh has been a leading moral voice for greater ambition to tackle the challenges of global warming. Together with other vulnerable countries, it successfully advocated for the inclusion in the Paris Agreement of a global goal to limit temperature increases to 1.5°C, and was one of the first countries to ratify the accord.

Bangladesh has also signed and ratified the SDGs, including SDG 7, to 'ensure access to affordable, reliable, sustainable and modern energy for all' by 2030 (i.e. electricity and clean fuels and technologies for cooking). The goal also contains sub-targets to increase energy efficiency and expand the use of renewable energy. At home the government has made a series of commitments, as set out in Box 2.

Box 2: Bangladesh's sustainable and inclusive energy commitments

- Universal access to electricity by 2021 (Vision 2021, adopted in 2012).
- Install 30m clean cook stoves by 2030 (Country Action Plan 2013).
- 10% of energy to come from renewable sources by 2020 (2008 Renewable Energy Policy). The government has since set a renewable energy target of 3.1GW by 2021.
- Climate Vulnerable Forum (CVF) common vision to move to 100% renewable energy between 2030 and 2050 (Manila-Paris Declaration, 2016).
- Conditional and unconditional pledges to curb growth of emissions in the power, transport and industry sectors (Nationally Determined Contribution, 2015).
- Foster energy security for development, through exploring supply-side options (including diversifying sources) and demand management to conserve energy and discourage inefficient use (Vision 2021).
- Mechanize farmlands through solar energy by 2021 (Seventh Five Year Plan), and incentives for farms using renewable energy (2016 Industry Policy).
- Increase energy efficiency by 15% by 2021, and by 20% by 2030 (Energy Efficiency and Conservation Master Plan, adopted in 2016).
- Has already established one of the world's first domestically funded climate change funds, part of which is earmarked for renewable energy.

One way that Bangladesh is driving solutions is through its off-grid solar initiative. This is the largest off-grid electrification programme in the world.⁴ Supported by the World Bank and the ADB, which pool resources through a nationally owned finance platform – the Infrastructure Development Company Limited (IDCOL) – the initiative has seen over 4m Solar Home Systems (SHS) installed, reaching 12% of the population, who previously used kerosene lamps for light. Women have been trained as technicians to provide after-sales services for the SHS.⁵ The success of this scheme demonstrates what clear policy and political will – backed with finance – can achieve in Bangladesh.

Bangladesh is the fifth-leading country worldwide for installing cleaner, more efficient cook stoves, as well as domestic biogas plants to produce clean cooking fuel.⁶ More than a million clean cook stoves have been distributed across the country – though there is still a long way to go to reach the government's target of 30m by 2030. While Bangladeshi women wait, they pay with their time (collecting fuel), and with their health (labouring over a smoky fire).

CHALLENGES TO KEEPING UP THE GOOD WORK

Despite the government's commitments to renewable energy and its aspirational aims, its current plans may be inconsistent and could lead to an implementation gap. As Bangladesh's domestic supply of gas dwindles, there is a risk the country will shift to imported fossil fuels (gas and coal) instead of exploring domestically-available renewable energy. The 2016 Power System Master Plan – financed by the Japan International Cooperation Agency (JICA) – has an emphasis on imported coal and gas, as well as nuclear power, at the expense of renewable energy.⁷ On paper, Bangladesh has the eighth biggest coal expansion programme in the world,⁸ with a planned capacity of 16GW. Yet 4GW of this has already been put on hold, and it is likely that more will be cancelled due to changing economic conditions, as is starting to happen in India. It is telling that much of the finance for coal-fired projects is coming from bilateral deals between governments, such as that of Japan⁹ and other neighbours, many of which are themselves moving away from coal domestically and yet are still looking to export outdated coal-fired technology.

4 IFI COMMITMENTS TO THE GLOBAL GOALS

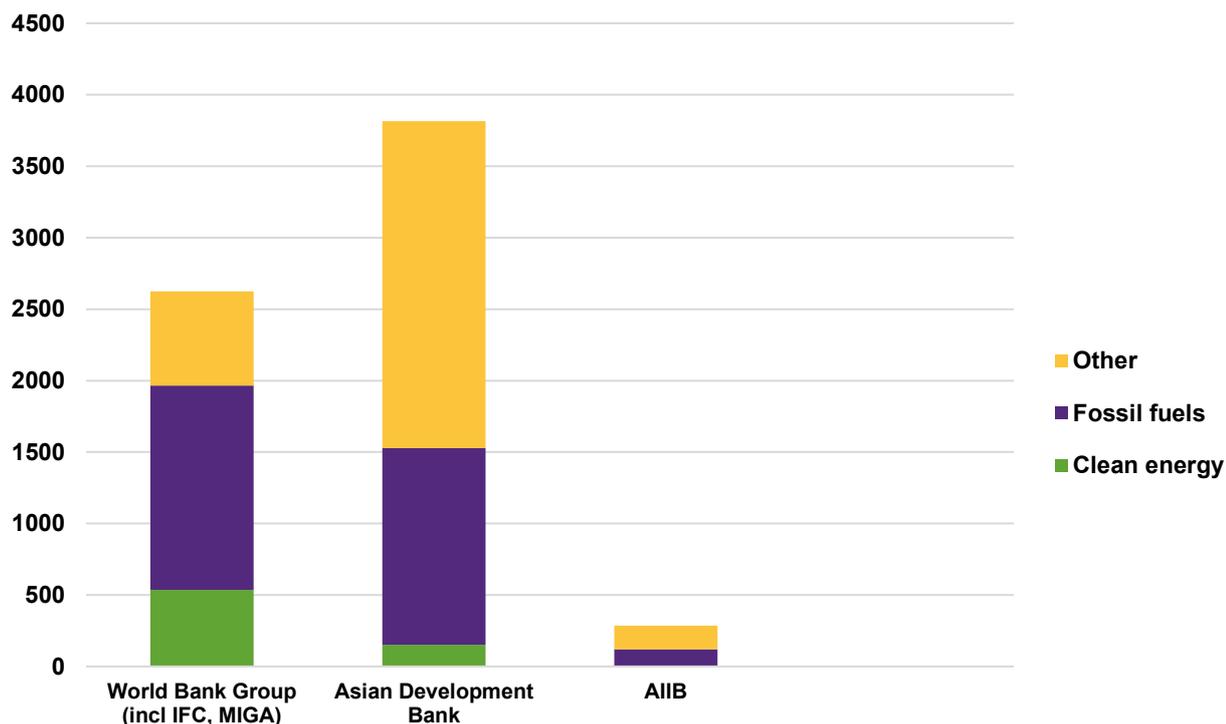
Governments decided under the Paris climate agreement that finance flows must be consistent with a pathway towards low emissions of greenhouse gases (GHGs) and climate-resilient development. IFIs have acknowledged that they have a key role to play in making this happen, and have made a joint commitment to align their operations with the global goals (both Paris commitments and the SDGs).¹⁰ They have also made a series of individual commitments:

- The World Bank will double its renewable energy generation and scale up climate-relevant finance to 28% of the Bank's operations by 2020, while ending finance for upstream oil and gas (having already moved out of coal).¹¹
- A key aim of the ADB's upcoming 2030 strategy is to reorient the bank towards achieving the Paris goals and the SDGs.¹² The ADB's new Climate Change Operational Framework commits to scale up its climate finance to \$6bn by 2020 (\$4bn for mitigation and \$2bn for adaptation).
- The AIIB's 2017 Energy Sector Strategy 'embraces' the Paris agreement and the SDGs, and talks of supporting countries to 'meet their goals and commitments under these global initiatives'. The president of the bank has pledged that it will help members meet their Nationally Determined Contributions (NDCs) under the Paris Agreement, and has stated there is no coal in the pipeline.
- The New Development Bank serves BRICS countries at present, so does not loan to Bangladesh. However, it provides an interesting comparison, as the Bank aims to focus 60% of its overall lending on renewable energy. Its energy project portfolio is currently 100% invested in renewable energy and energy conservation.¹³

IFI ENERGY LENDING IN BANGLADESH

The figures below show how the World Bank Group (including its private sector arm, the International Finance Corporation (IFC)), the ADB and the AIIB have directed their energy finance in Bangladesh, since 2010. As the AIIB has been in operation for only a couple of years, its portfolio is still relatively small.

Figure 1: IFI energy portfolios in Bangladesh (2010 to date) – shares for clean energy vs fossil fuels (US\$ million)



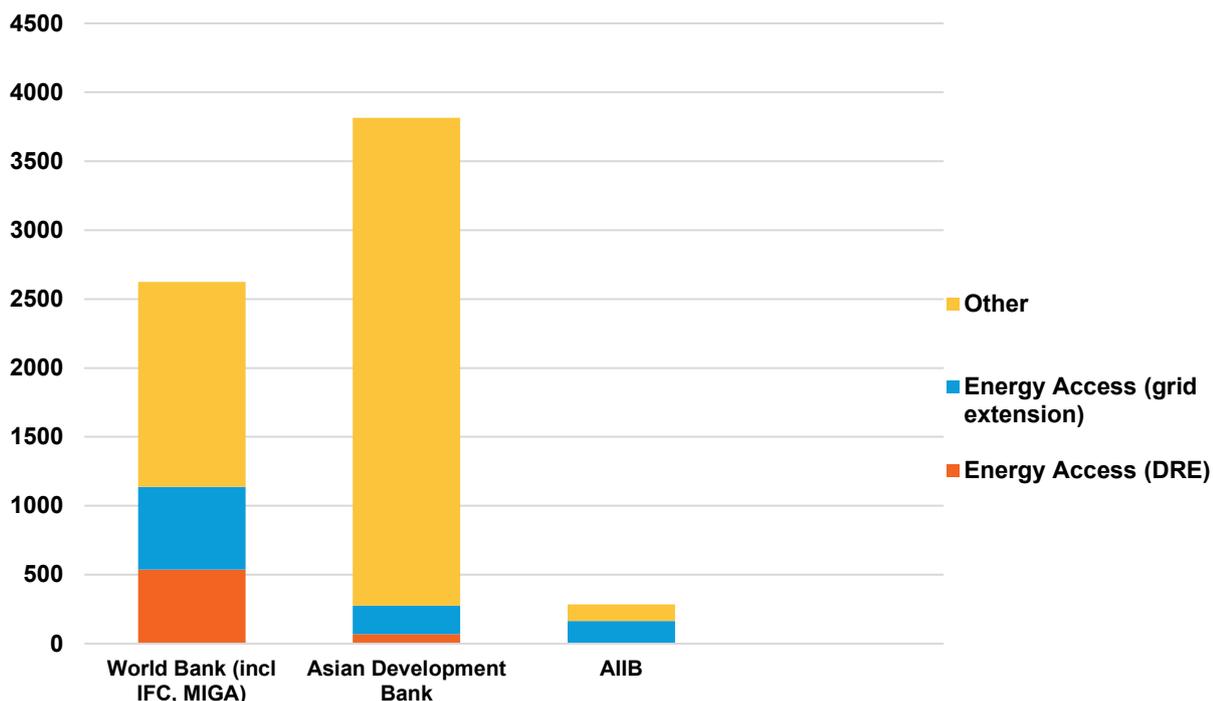
Note: Figure 1 shows the breakdown of IFI energy finance since 2010 by value between clean energy (renewable energy and energy efficiency), fossil fuels and ‘other’ (grid infrastructure). See endnote for methodology and source.¹⁴

Bangladesh does not yet have any utility-scale renewable energy projects. In the case of the World Bank, the clean investments shown in Figure 1 are all for distributed renewable energy; and in the case of the ADB they are a mix of energy efficiency and distributed renewable energy. AIIB has not yet made any clean energy investments.

Despite IFI green commitments, the current picture is one where financing for renewable energy and energy efficiency projects is not nearly enough, and is heavily outweighed by fossil fuel finance. Since 2010, the combined IFI investment in the Bangladesh energy sector is about \$7bn, of which almost \$3bn is for fossil fuels and \$0.7bn is for clean energy. For example, the ADB has spent four times as much on fossil fuels as clean energy. The IFC, while promoting climate investment opportunities,¹⁵ has in reality spent \$390m on fossil fuel projects – such as the Sirajganj gas power plant – and just \$1m on renewable energy.

The picture would likely be even worse if ‘indirect’ finance was included – i.e. finance that IFIs channel via intermediaries, which in the case of IFC has been linked to coal.¹⁶ It is impossible to track how many coal projects are backed by private banks which in turn receive loans from IFIs – although the IFC has taken recent steps to shine a light on the problem, which will hopefully start to close this ‘back door’ financing loophole.¹⁷

Figure 2: IFI energy portfolios in Bangladesh (2010 to date) – shares for access to energy (US\$ million)



Note: Figure 2 shows the share of IFI energy finance since 2010 that is targeted at improving energy access. The share for distributed renewable energy (DRE), i.e. off-grid, mini-grid and clean cooking solutions is shown in orange. Only grid projects that lead to new household connections have been categorized as energy access. See endnote for source and methodology.¹⁸

Looking at the portfolios in terms of energy access, the World Bank is the best performer, with nearly half of its portfolio targeted at improving access to energy. Of this, a good share is for distributed solutions (solar off-grid, mini-grid and clean cooking solutions), which are the quickest and most effective ways of getting energy to poor rural communities.

LOOKING FORWARDS: THE FUTURE DIRECTION

These figures show the trend to date; however, what is important is the future direction. The World Bank Group and the ADB recently agreed their country strategies with the Bangladesh government. These documents will guide future investments through till 2020, and they do not show any signs of a shift in approach.

In fact, of the 10 projects foreseen in the World Bank’s country strategy for Bangladesh, seven are for fossil fuels and only one is for renewable energy. It is not clear whether any are designed to benefit men or women living without access to energy. Of the nine ‘firm’ and ‘standby’ lending projects foreseen in the ADB’s Country Operation Plan 2018–2020, only one is for renewable energy (6% of the total budget), three are for fossil fuels (a third of the total budget), and the rest are grid projects.¹⁹ More information is needed to establish whether these will lead to any new household connections, or only benefit existing consumers. Clean cooking does not feature.

Of the 10 projects foreseen in the World Bank’s country strategy for Bangladesh, seven are for fossil fuels and only one is for renewable energy.

It is disappointing that the government, the World Bank Group and the ADB have not done more to prioritize projects in line with the country’s goals for a sustainable and inclusive energy transition.

5 OPPORTUNITIES: TOWARDS CLEAN ENERGY FOR EVERYONE

A common reason given by IFIs for not prioritizing investment in renewable energy or energy access projects is that there is no demand from client countries. It would be strange if this were the case for Bangladesh, as long as the government's targets remain unmet. The question might be whether IFIs choose to meet – and encourage – this demand. In some cases IFIs may need to be proactive, but in other cases concrete investment opportunities already exist.

ENERGY ACCESS OPPORTUNITIES

Despite dramatic progress, energy access is unfinished business in Bangladesh. As of 2014, some 38% of the population still lacked access to electricity, and only 10% of women could cook without harm to themselves and their children.²⁰ This provides plenty of scope to accelerate the existing household initiatives, with renewed focus on clean cooking.²¹

In addition, the government is opening up new energy access frontiers, by piloting solar mini-grids to power small businesses, and solar irrigation for farmers. These are exactly the kinds of promising initiatives that IFIs can help to de-risk and kick-start. Irrigation will be crucial in the context of climate change²² and, compared with diesel pumps, solar systems will save farmers money – but only if they have access to schemes that help them afford the higher upfront costs of the equipment.²³ It is overwhelming demand from the people of Bangladesh that has made the existing SHS scheme so successful, with families choosing to buy in instalments the kits it offers in order to power their homes. The new pilots suggest there could be similar demand from farmers and small businesses for energy services that meet their needs and are packaged in an affordable way.

Box 3: Energy choices that put women and farmers first

According to media reports, the Bangladeshi government is moving forward with the Matarbari coal-fired power plant and related coal import terminal, which will be financed by a Japanese loan in the realm of \$4.5bn. **Instead of building what has been called the nation's most expensive power project, for the same amount of finance, the Government of Bangladesh could comfortably provide solar irrigation to hundreds of thousands of farmers, bring clean cooking to over 20m households and finance all the mini-grid projects in its pipeline.**

On top of the opportunity costs are concerns about emissions from the project. Every dollar invested in an ultra-super-critical coal plant like Matarbari – which uses the 'cleanest' technology – could lead to up to \$29 worth of damage in terms of related climate change impacts globally.

Thus the climate change price-tag associated with any investment in Matarbari would dwarf the value of the original investment. Behind these climate costs lie impacts such as damaged harvests, or farmland poisoned by salt-water intrusion – impacts that would hit vulnerable communities particularly hard, as they are least able to shoulder them.

See endnote for sources²⁴

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RENEWABLE ENERGY OPPORTUNITIES

As well as its off-grid initiative, the government plans to add 3.1GW of renewable energy capacity by 2021.²⁵ According to IFC, this will be met mainly by grid-scale solar and wind projects, for which the government has already received proposals from companies from North America, China, Korea, Japan, Germany and India.²⁶ IFC estimates that Bangladesh could attract private investments of \$7.1bn for renewables by 2020, rising to \$17bn by 2030.²⁷ The government has applied to the World Bank's NDC Partnership support facility for assistance with implementing its NDC, and specifically its renewable energy targets,²⁸ which suggests that attracting this investment is a priority.

In terms of matching demand with finance, on the one side the Bangladesh government has set goals on clean, pro-poor energy that are aspirational and will depend largely on finance being made available. On the other side, IFIs are committed to aligning their publicly funded operations with the goals to which all governments have agreed. IFIs can unlock and enable Bangladesh's ambitions by directing their financial power (loans, project development grants, guarantees, policy support, etc.) towards achieving this vision. Bilateral finance is being made readily available to Bangladesh for older, outdated coal technology through deals between governments. However, IFIs are not yet stepping up to promote the more attractive, sustainable and pro-poor alternatives that they claim to support.

6 RECOMMENDATIONS

To promote the robust implementation of SDG 7 and the Paris Agreement, Oxfam makes the following recommendations, drawing on the experience of Bangladesh so far.

To IFIs

- **Scale up renewable energy in all countries, and phase out finance for fossil fuels, starting with coal,**²⁹ to enable a world where climate-vulnerable nations like Bangladesh can survive and thrive. **Increase financing for clean cooking, off-grid and mini-grid solutions** that meet the needs of women and poor rural communities, to accelerate progress towards SDG7.
- **Accept responsibility for projects funded via financial intermediaries:** closely supervise and disclose risky investments, and commit to the same standards regarding fossil fuels and renewables that apply to direct lending. There is a worrying trend in which IFIs are increasingly using a hands-off approach to development by financing projects through intermediaries with little transparency and accountability for outcomes.
- **Dedicate concessional finance** to support Bangladesh to implement its NDC (and to upgrade it over time), building on the example of the World Bank's NDC Partnership support facility. Avoid selling commercial loans to climate-vulnerable countries for adaptation and mitigation. Loans that have to be repaid should not be counted as climate finance; it is the grant equivalent of loans that should be reported towards financial commitments under the Paris Agreement.

To the Government of Bangladesh

- **Implementation of the SDGs and NDCs requires a multi-stakeholder approach.** Foster an open and consistent energy planning process with all stakeholders, and identify specific projects and programmes to implement the NDC, the Power System Master Plan, Renewable Energy Policy 2008 and universal access to energy (SDG 7), integrating both grid and off-grid approaches and, above all, including the voices of women and poor communities to ensure that their needs are met.
- Build on the government's good record to date, and **prioritize decentralized solutions, particularly clean cooking,** to put women and poor rural communities first.

To civil society

- **Maintain critical and supportive engagement with government and IFIs** so that they remain consistent in their climate investment policies and practices.

NOTES

Links last accessed January 2018.

Box 1 on Key Statistics for Bangladesh: Government of Bangladesh (2016). *Paradigm Shift in Bangladesh Energy Sector: A Few Insights of Energy Statistics*.

<https://unstats.un.org/unsd/energy/meetings/2016iwc/32bangladesh.pdf>; ADB (Asian Development Bank) (2014). *Bangladesh Could See Climate Change Losses Reach Over 9% of GDP – Report*. <https://www.adb.org/news/bangladesh-could-see-climate-change-losses-reach-over-9-gdp-report>

- 1 Bangladesh's Sustainable and Renewable Energy Development Authority (SREDA) and the Ministry of Power, Energy and Mineral Resources estimate that demand will triple to 72m tonnes of oil equivalent (Mtoe) by 2030. The government is aiming to increase generating capacity from 16GW currently to 40GW by 2031 (and 60GW by 2041). SREDA and Government of Bangladesh (2015). *Energy Efficiency and Conservation Master Plan up to 2030*. http://sreda.gov.bd/files/EEC_Master_Plan_SREDA.pdf, section 1.1.
- 2 The current portfolio of the World Bank's IDA arm in Bangladesh was worth \$10bn as of April 2017 (<http://www.worldbank.org/en/country/bangladesh/overview#2>); IFC had a committed portfolio of \$1bn as of June 2016 (http://www.ifc.org/wps/wcm/connect/REGION_EXT_Content/IFC_External_Corporate_Site/South+Asia/Countries/Bangladesh/); and MIGA (another part of the World Bank Group) had a gross exposure of \$0.5bn as of July 2017. The ADB had active projects totalling \$9bn as of August 2017 (figure calculated from sovereign projects database at <https://www.adb.org/sites/default/files/page/82358/adb-sov-projects-20170821.xlsx>); the Islamic Development Bank (IDB) had active projects totalling \$2.5bn as of Q3 2017 (http://www.isdb.org/irj/go/km/docs/documents/IDBDevelopments/Internet/English/IDB/CM/IDB_Group_Data/LiveDashboard/IsDB_Projects.html); AIIB has a current portfolio of \$0.3bn (<https://www.aiib.org/en/projects/approved/index.html>).
- 3 For a breakdown of Bangladesh's external debt, as of June 2016, see International Monetary Fund (2017). *Bangladesh: Staff Report for the 2017 Article IV Consultation – Debt Sustainability Analysis*, p.2. <https://www.imf.org/external/pubs/ft/dsa/pdf/2017/dsacr17147.pdf>
- 4 Infrastructure Development Company Limited. Projects and Programs. <http://idcol.org/home/solar>
- 5 Asian Development Blog (2016). *4 Ways to Empower Asian Women through Energy Access*. <https://blogs.adb.org/blog/4-ways-empower-asian-women-through-energy-access>
- 6 M. Al-Masum Molla. (2017, 12 June). *Bangladesh leads in solar home systems*. *The Daily Star*. <http://www.thedailystar.net/frontpage/bangladesh-leads-clean-energy-use-1418806>
- 7 JICA and Power Division, Government of Bangladesh (2016). *Power System Master Plan 2016*. http://powerdivision.portal.gov.bd/sites/default/files/files/powerdivision.portal.gov.bd/page/4f81bf4d_1180_4c53_b27c_8fa0eb11e2c1/%28E%29_FR_PSMP2016_Summary_revised.pdf. The Master Plan includes a renewable energy target of 3.8GW by 2041 which is less ambitious than the existing target (p.62); its scenarios cap renewable energy in the overall energy mix by 2041 at a maximum of 10–20% (pp.49–56).
- 8 CoalsWarm, Sierra Club and Greenpeace (2017). *Boom and Bust 2017: Tracking the Global Coal Plant Pipeline*. <https://endcoal.org/wp-content/uploads/2017/03/BoomBust2017-English-Final.pdf>
- 9 JICA is set to make its biggest ever loan (\$4.5bn) to finance the Matarbari coal power plant in Bangladesh, together with a sea port to receive imported coal. The loan is concessional. *Consortium to build coal power plant, sea port at Matarbari*. <http://www.theindependentbd.com/arcprint/details/116042/2017-09-27>
- 10 ADB (2016). *Delivering on the 2030 Agenda*. <https://www.adb.org/news/delivering-2030-agenda>
- 11 World Bank (2017). *World Bank Group Announcements at One Planet Summit*. <http://www.worldbank.org/en/news/press-release/2017/12/12/world-bank-group-announcements-at-one-planet-summit>; and World Bank (2016) *Climate Change Action Plan 2016–2020*. <https://openknowledge.worldbank.org/handle/10986/24451>
- 12 ADB (2017). *Knowledge, Finance, and the Quality of Growth: An Evaluative Perspective on Strategy 2030*. <https://www.adb.org/sites/default/files/evaluation-document/295281/files/tps2030.pdf>
- 13 New Development Bank. Projects. <https://www.ndb.int/projects/>
- 14 Source: original data from WBG, ADB and AIIB websites, collected and categorized with the

- help of Oil Change International. Database available at: <https://oxfam.box.com/s/08wdz45ob43tmofwebrwhz23ufy153r3>. The database includes projects approved between 2010 and February 2018. Projects to upgrade and improve the efficiency of existing fossil fuel installations were classed as fossil fuels, given they extend the lifetime of these installations.
- 15 IFC. (n.d.). *Climate Investment Opportunities in South Asia: Bangladesh*. Factsheet. <http://www.ifc.org/wps/wcm/connect/632a453d-7cf6-4835-88f2-d86bb2705473/17663-IFC-Bangladesh-Factsheet-v3.pdf?MOD=AJPERES>
 - 16 Inclusive Development International (2017). *Report Shines a Light on Hidden Backers of World's Most Destructive Coal Project*. <https://www.inclusivedevelopment.net/report-shines-a-light-on-hidden-backers-of-worlds-most-destructive-coal-project/>
 - 17 The IFC does not give credit lines or loans to financial intermediary (FI) clients to finance coal projects, and has recently committed to track its FI clients' exposure to coal, and require that new FI clients report on their exposure to coal. <https://www.ifc.org/wps/wcm/connect/77c11449-261e-484b-a885-f9d77b087386/Improving-IFCs-+Approach-to-ES-Risk-Management-Updated-April-2017.pdf?MOD=AJPERES>
 - 18 Source: see footnote 14. Only grid projects that claim in their project documentation to lead to new household connections have been classified as energy access.
 - 19 Asian Development Bank (2017). *Country Operations Business Plan 2018–2020*. <https://www.adb.org/sites/default/files/institutional-document/358591/cobp-ban-2018-2020.pdf>
 - 20 Latest official figures from 2014, available from the Global Tracking Framework (IEA and World Bank, 2017). NB there are more recent estimates from the Government of Bangladesh that over 70% of the population has access to electricity, p.62 http://www.se4all.org/sites/default/files/2017_SEforALL_FR3-F_0.pdf
 - 21 IDCOL has a target to finance 4m extra improved cook stoves from 2017–2021, plus 6m solar home systems by 2021 (currently at over 4m). IDCOL (2016). *Annual Report*. http://idcol.org/annual_report/Annual_Report_15-16.pdf
 - 22 Ministry of Environment and Forests, Government of Bangladesh (n.d.). *Climate Change and Agriculture in Bangladesh: Information Brief*. <https://cmsdata.iucn.org/downloads/agriculture.pdf>
 - 23 IDCOL has a target of financing 50,000 solar irrigation pumps by 2025, and has installed over 600 to date. (IDCOL, 2016). See p.5 https://www.climateinvestmentfunds.org/sites/default/files/meeting-documents/ban_srep_cover_sheet_-_23_may_2017_final.pdf
 - 24 For the costs of Matarbari coal project see endnote 9. The estimate for solar irrigation is based on finance required for the SREP/ADB-financed project which is enabling 2,000 solar irrigation pumps (benefiting 10,000 farming households) for just over \$47m (roughly half in the form of grants and half loans). A basic extrapolation would suggest that IDCOL's overall target of 50,000 solar irrigation pumps benefitting 250,000 farming households could be achieved at a cost of about \$1.2bn: https://www.climateinvestmentfunds.org/sites/default/files/meeting-documents/ban_srep_cover_sheet_-_23_may_2017_final.pdf. The \$3.3bn left over would be more than enough to cover the total financing needs of the government's costed plans on clean cooking and mini-grids (\$0.52bn for the installation of a further 20m improved cook-stoves and 65,000 biogas plants; plus \$0.14bn to finance the current pipeline of 20 mini-grid projects). Government of Bangladesh (2015) *SREP Investment Plan* pp.90 and 93. https://www.climateinvestmentfunds.org/sites/default/files/meeting-documents/bangladesh_srep_ip_final.pdf
 - 25 Climatescope (2017). *Bangladesh Renewable Energy Targets*. <http://global-climatescope.org/en/policies/#/policy/5130>
 - 26 IFC (2016). *Climate Investment Opportunities in Emerging Markets*, p.50. https://www.ifc.org/wps/wcm/connect/51183b2d-c82e-443e-bb9b-68d9572dd48d/3503-IFC-Climate_Investment_Opportunity-Report-Dec-FINAL.pdf?MOD=AJPERES
 - 27 Ibid., p.53. NB this is five times more investment than more recent estimates by the IFC (\$3.2bn by 2030) which are based on the lower renewable energy policy targets set out in the government's Power System Master Plan 2016. IFC (2017) *Climate Investment Opportunities in South Asia*, p.30. <http://www.ifc.org/wps/wcm/connect/be4dacbd-18d1-4159-b9e9->

[e6a95e094d7a/Climate+Investment+Opportunities+in+South+Asia+-+An+IFC+Analysis.pdf?MOD=AJPERES](https://www.theifc.org/system/files/documents/Climate+Investment+Opportunities+in+South+Asia+-+An+IFC+Analysis.pdf?MOD=AJPERES)

- 28 S. Hammer, World Bank Group presentation. *The NDC Partnership – working to influence country NDC implementation quality, speed, scale, and ambition*, p.12. <https://www.thepmr.org/system/files/documents/PMR%20mtg%20--%20NDCP%20SF%20and%20the%20PMR%2018Mar17.pdf>
- 29 Oxfam believes that limited lending to fossil fuel projects may be justified over the next decade if they meet stringent criteria: 1) they are subject to robust environmental and social safeguards (i.e. do no harm); 2) they have the Free, Prior and Informed Consent of local communities; 3) they are the best way to support pro-poor economic development, after rigorous assessment of alternatives; and 4) they are consistent with the host country's 2050 Paris-compatible emissions pathway.

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