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FINANCING THE CARBON TRANSITION: HOW THE WB, IFC, AND ADB INVEST IN ENERGY SUPPLY

G7 Environment Meeting
28 March 2017

OBJECTIVES OF THE PRESENTATION

- Share preliminary findings from draft working paper
- Exchange views, clarify issues
- Initiate a dialogue around implications

OUTLINE OF THE PAPER/PRESENTATION

- Introduction/context
- Methodology and limitations
- Preliminary findings
 - WB
 - IFC
 - ADB
- Cross-cutting considerations
- Overall findings and implications

CHALLENGE

- Problem: Climate change threatens development gains
 - SDGs, Paris Agreement attempt to address this
 - Urgent need to shift capital towards low-carbon activities in order to stay within our carbon budget
 - **Energy supply investments particularly critical** given that the sector is the largest contributor to global greenhouse gas emissions (GHGs).

OPPORTUNITY

- Opportunity: MDBs are central players in development and climate finance; mobilize significant amounts of public and private capital for climate mitigation and adaptation
 - Developing economies require large-scale infrastructure investments, which MDBs are well-positioned to support
 - MDBs have committed to scale up their climate finance to help countries develop along low-carbon pathways

LOOKING BEYOND CLIMATE FINANCE: ARE BROADER MDB INVESTMENTS CONSISTENT WITH MITIGATION GOALS?

- Paper's objective:
 - Take stock of several MDBs' recent (2015-16) approvals and pipeline development in the energy supply sector
- Research question:
 - Are recent and planned energy supply investments generally consistent with the Paris Agreement goal to limit global temperature rise?

DESIRED OUTCOME

- Foster a grounded dialogue on how to support MDBs' efforts to shift their portfolios and mainstream climate change

OUR APPROACH: WE EXAMINED ENERGY SUPPLY INVESTMENTS OF A SUB-SET OF MDBs...

- Energy supply: *all energy extraction, conversion, storage, transmission, and distribution processes that deliver final energy to the end-use sectors (IPCC)*
- MDBs
 - World Bank
 - IFC (investments, not advisory)
 - ADB
- Timeframe: projects approved by the board in 2015 and 2016; and Pipeline

...ACROSS A RANGE OF ENERGY SUPPLY INVESTMENT ACTIVITIES

- Direct investments in physical assets and infrastructure
- Indirect investments (for example, through a fund or on-lending arrangement)
- Technical assistance and capacity building

WE APPLIED A THIRD-PARTY METHODOLOGY TO CLASSIFY DIFFERENT TYPES OF PROJECTS

2°C-COMPATIBLE POSITIVE LIST	CONDITIONAL	AMBIGUOUS	MISALIGNED NEGATIVE LIST
Wind	Gas fired power plants	Biofuels	New coal fired power plants with unabated emissions (no Carbon Capture and Storage (CCS)) over their lifetime
Solar PV	Energy transmission and distribution infrastructure	Fossil fuel production	
Small hydro		Large hydropower	
Energy storage		Bio energy carbon capture and storage	
		Nuclear	

WE ASSUMED ADDITIONAL TECHNOLOGIES AND FUEL SOURCES FELL IN THE “AMBIGUOUS” CATEGORY

- Bioenergy: including biofuels, biomass, biogas
- Carbon Capture and Storage (CCS) (with fuel source, when specified)
- Concentrated Solar Power (CSP)
- Diesel-fired power
- District heating (with fuel source, when specified): including efficiency, T&D, and generation
- Energy mix: an investment involving a mix of renewable and fossil-fuel components
- Fuel-switching, e.g., from coal to natural gas
- Geothermal
- Heavy fuel oil/light fuel oil/hybrid
- Hybrid: project with a combination of technologies, e.g., solar generation with diesel backup
- Minigrids: general tag used for minigrid systems when energy source was not specified
- Municipal solid waste

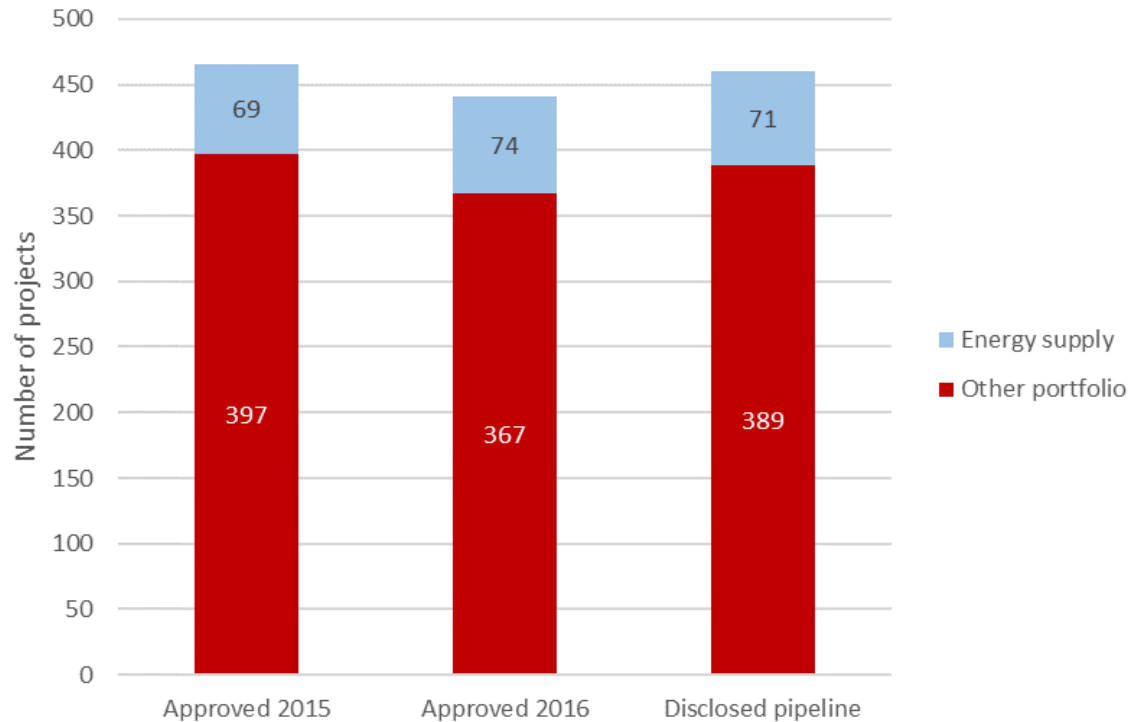
CAVEATS AND LIMITATIONS

- Public databases
- Focus on approvals, not commitments
- Likely underestimation of energy supply projects
- Narrow lens
- Tentative nature of pipeline projects
- Based on number of projects
- 2 degree Celsius pathways, not 1.5

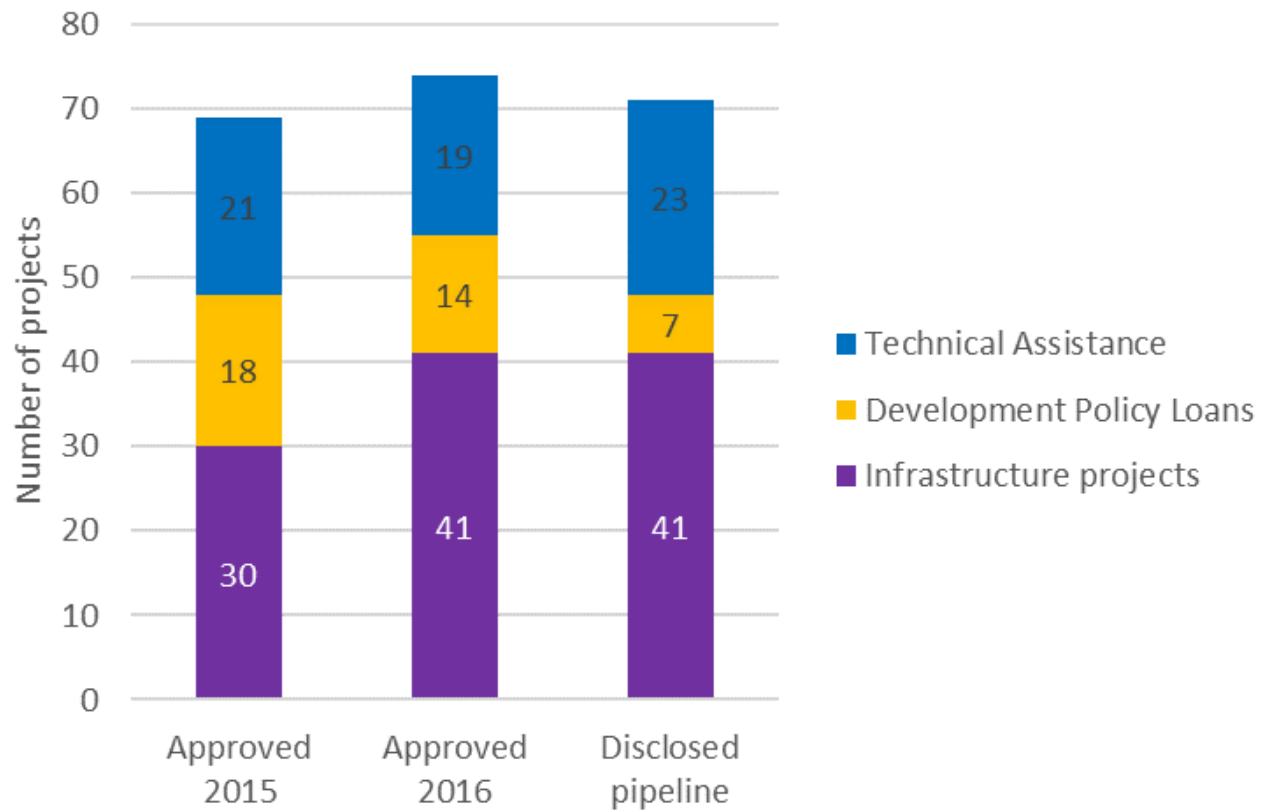


PRELIMINARY FINDINGS: WORLD BANK

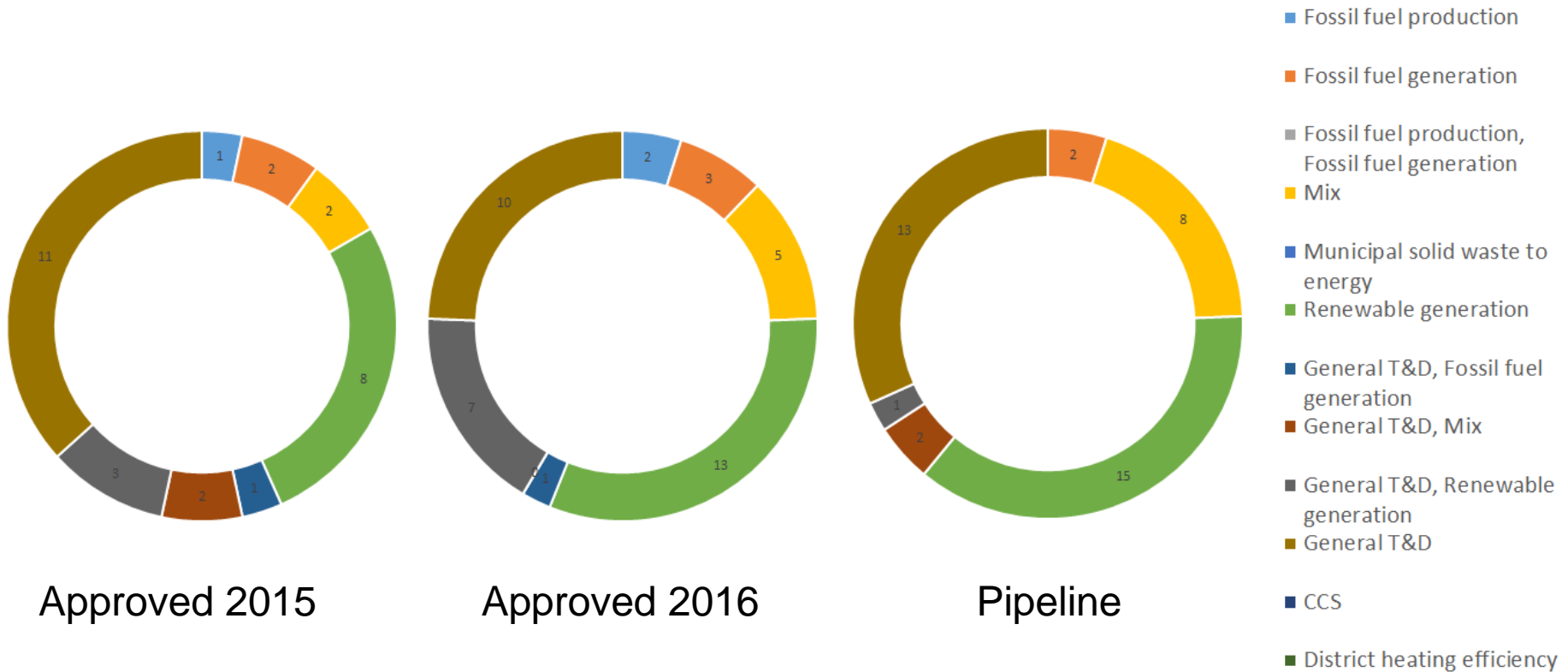
WORLD BANK: ENERGY SUPPLY PROJECTS



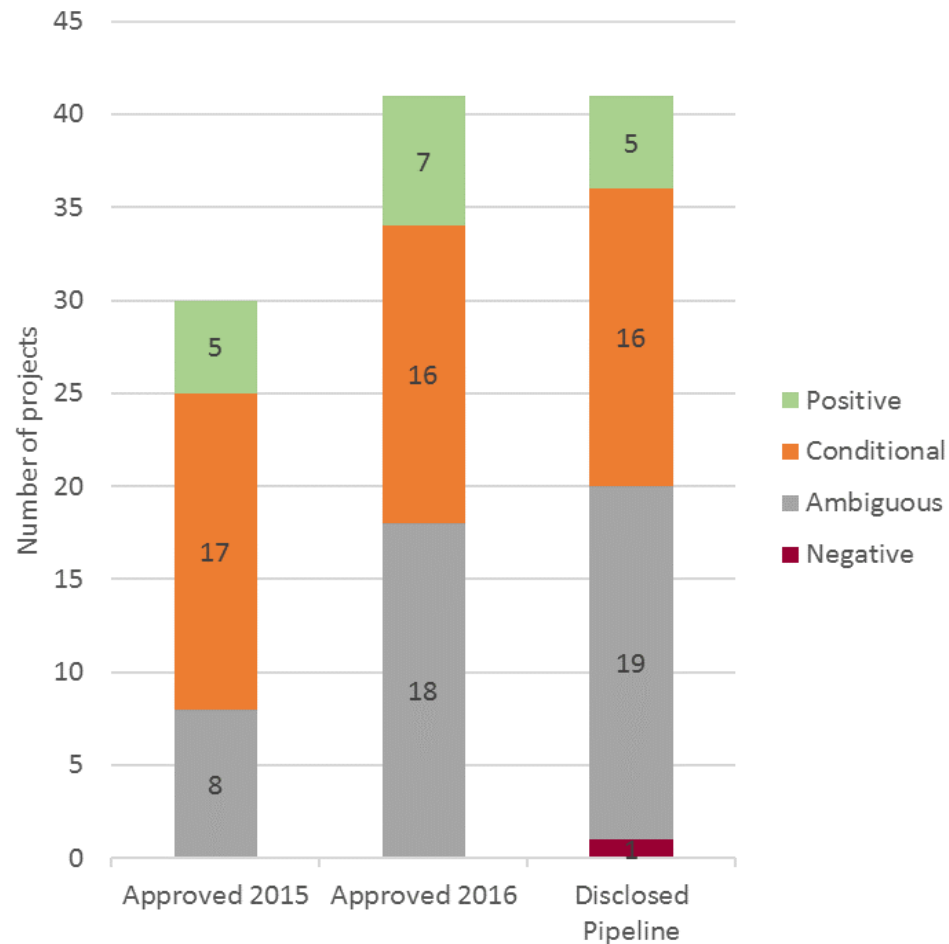
WORLD BANK: TYPES OF ENERGY SUPPLY PROJECTS



WORLD BANK: BREAKDOWN BY BROAD ENERGY SUPPLY CATEGORIES



WORLD BANK: ALIGNMENT ANALYSIS



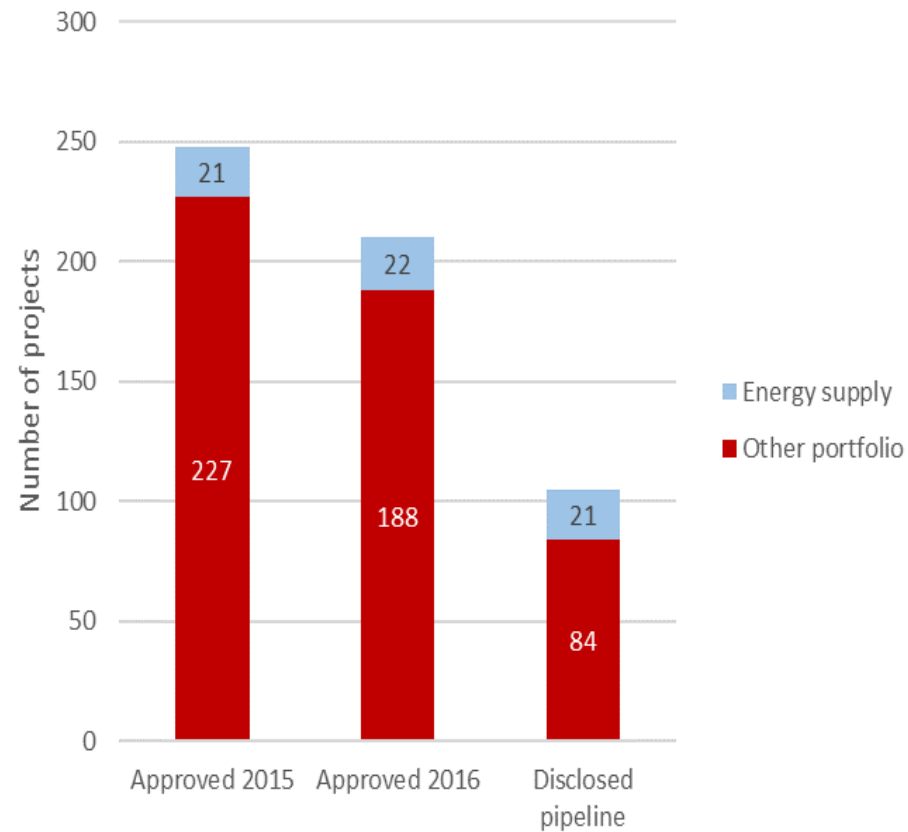
WORLD BANK: CONDITIONAL/AMBIGUOUS PROJECTS

- General electricity transmission and distribution (T&D) infrastructure or projects with a T&D component accounted for about half of conditional/ambiguous projects
- About half of the conditional and ambiguous projects involved renewable sources
- About one third of the conditional and ambiguous projects contained components of fossil fuel investments, mostly in natural gas or fuel-switching
- There were two projects with heavy fuel-oil (which has an emission factor that is higher than natural gas, but lower than coal)
- Three fossil fuel production projects in the dataset: natural gas field development project, purchasing of natural gas, and a regional natural gas pipeline.
- There are two finance facilities for infrastructure (including energy) in the pipeline.

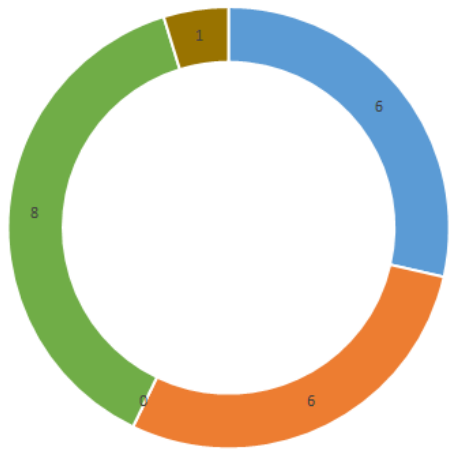


PRELIMINARY FINDINGS: IFC

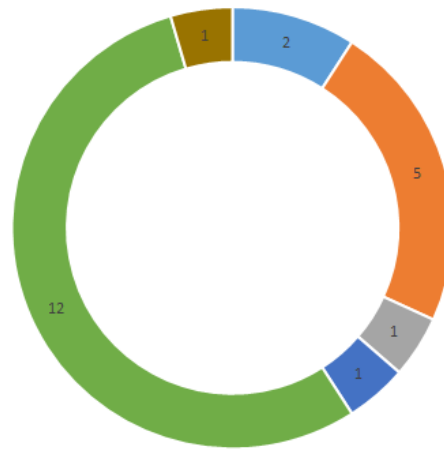
IFC: ENERGY SUPPLY INVESTMENT PROJECTS



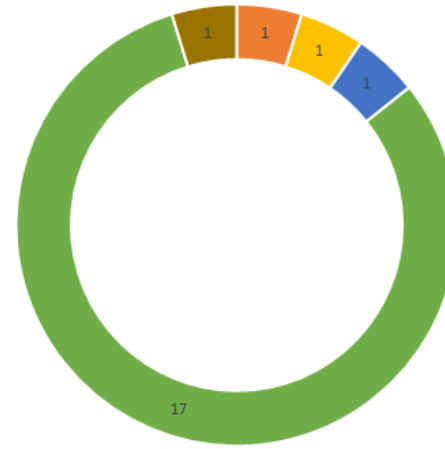
IFC: BREAKDOWN BY BROAD ENERGY SUPPLY CATEGORIES



Approved 2015



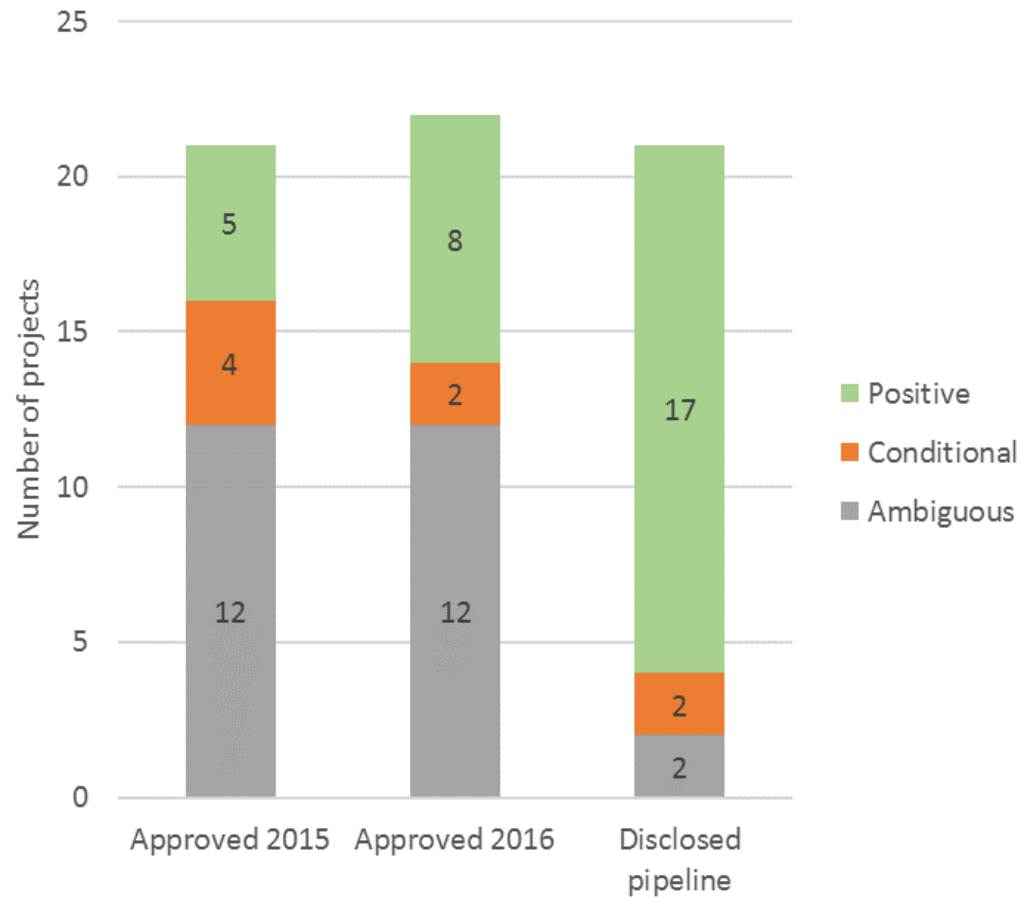
Approved 2016



Pipeline

- Fossil fuel production
- Fossil fuel generation
- Fossil fuel production, Fossil fuel generation
- Mix
- Municipal solid waste to energy
- Renewable generation
- General T&D, Fossil fuel generation
- General T&D, Mix
- General T&D, Renewable generation
- General T&D
- CCS
- District heating efficiency

IFC: ALIGNMENT ANALYSIS



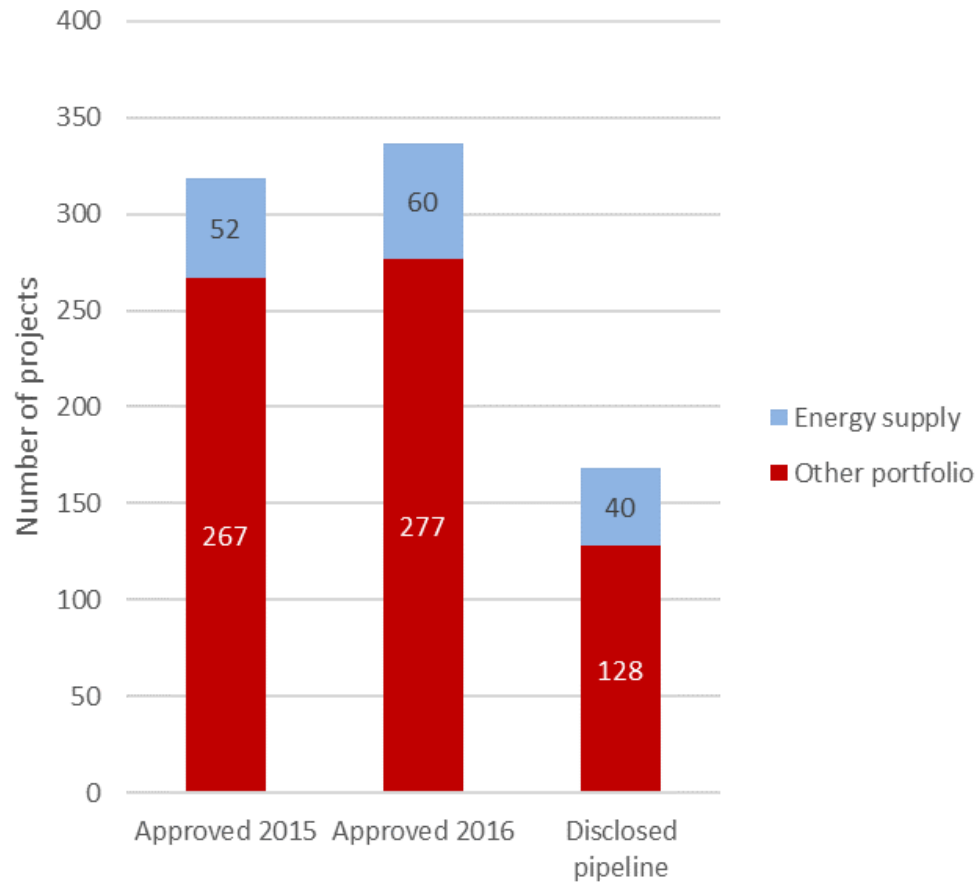
IFC: CONDITIONAL/AMBIGUOUS PROJECTS

- General electricity transmission and distribution (T&D) infrastructure or projects with a T&D component account for less than 10 percent
- About one quarter of the projects involve renewable sources
- About two thirds of the projects contain components of fossil fuel investments
- Fossil fuel generation projects involve natural gas, gas-hybrid, or HFO sources. The two purely HFO power plants (approved in 2015 and 2016) are in low-income countries.
- Fossil fuel production projects span the supply chain, from exploration, development/extraction, processing, and transport (pipeline).
- There is one infrastructure debt fund project in the pipeline focused on the electric power sector.

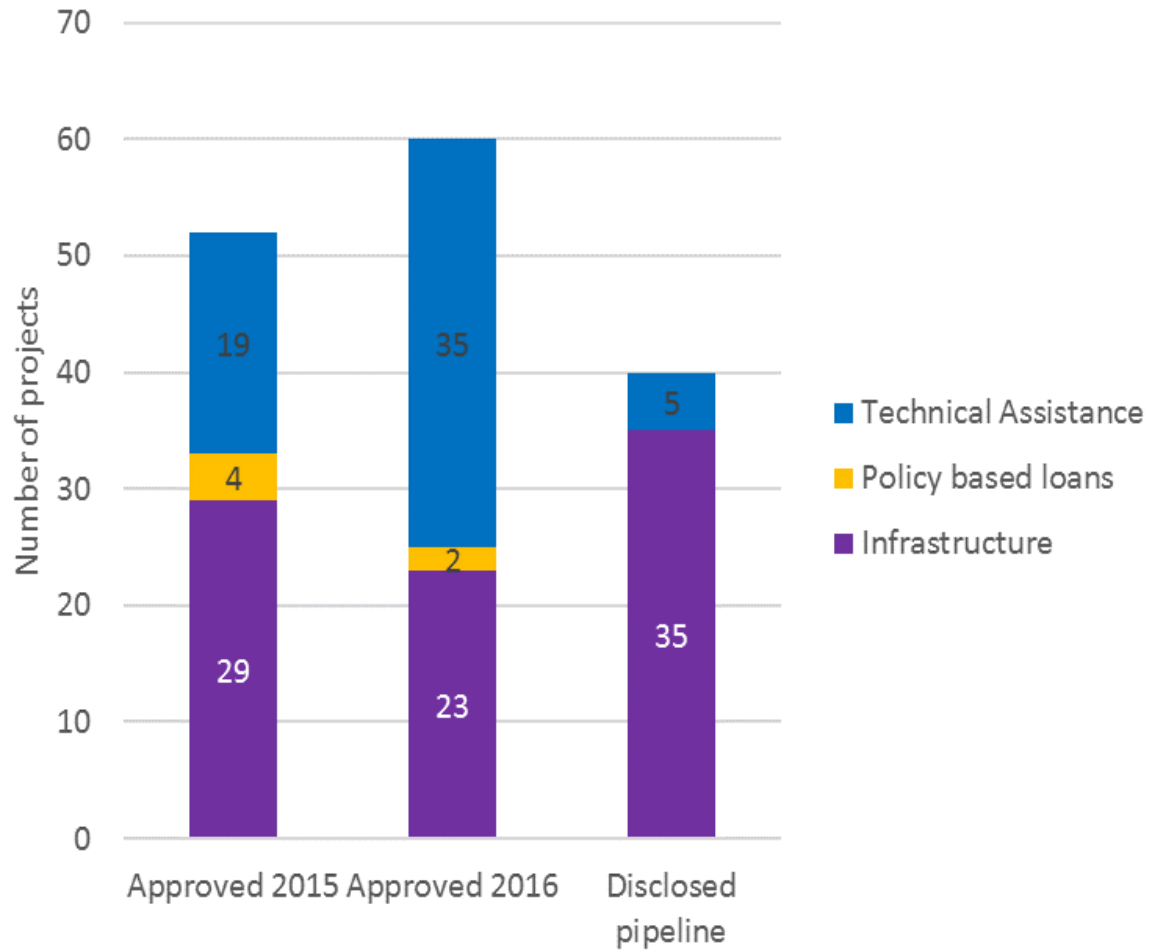
A group of men are gathered in a rural, grassy field under a clear blue sky. In the foreground, a solar-powered fan system is set up on a metal stand. The system includes a solar panel, a control box with electrical outlets, and a large white fan with a blue grille. One man in a white shirt is adjusting the fan, while another man in a dark striped sweater stands nearby. A group of men, some wearing traditional Indian clothing like turbans and shawls, are sitting on the ground or standing around the equipment, observing the setup. A large, leafy tree is in the background. The text "PRELIMINARY FINDINGS: ADB" is overlaid in yellow on a semi-transparent blue background across the middle of the image.

PRELIMINARY FINDINGS: ADB

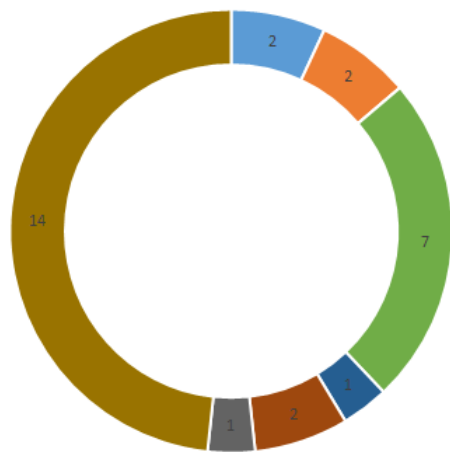
ADB: ENERGY SUPPLY PROJECTS



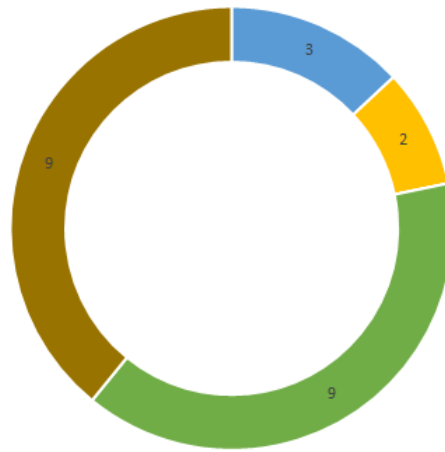
ADB: TYPES OF ENERGY SUPPLY PROJECTS



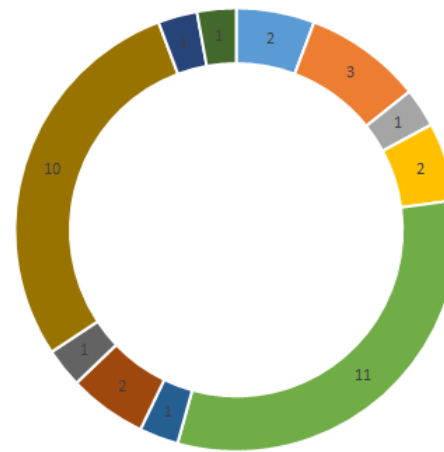
ADB: BREAKDOWN BY BROAD ENERGY SUPPLY CATEGORIES



Approved 2015



Approved 2016



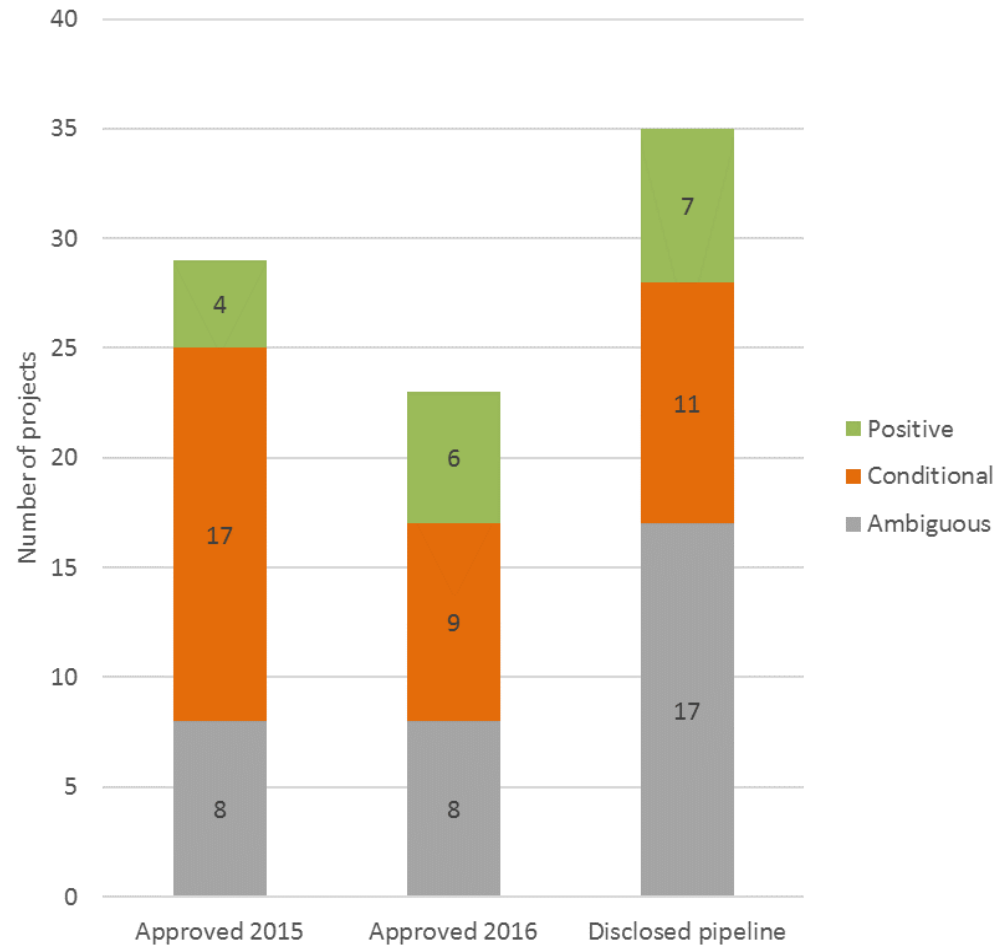
Pipeline

- Fossil fuel production
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- Mix
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- General T&D, Mix
- General T&D, Renewable generation
- General T&D
- CCS
- District heating efficiency

Source: Asian Development Bank project database (January 2017), modified by WRI

Notes: Mix consists of projects with both a fossil fuel and a renewable energy component. Years are calendar years.

ADB: ALIGNMENT ANALYSIS



ADB: CONDITIONAL/AMBIGUOUS PROJECTS

- General electricity transmission and distribution (T&D) infrastructure or projects with a T&D component accounted for 60 percent of the conditional and ambiguous projects in our sample
- Slightly over one quarter of the conditional and ambiguous projects contained a renewable energy component, including geothermal, hydropower, bioenergy, positive renewable energy, minigrids, energy storage, and CSP
- About one third of the conditional and ambiguous projects contained components of fossil fuel investments, including fossil fuel production, minigrids, fuel switching from coal to natural gas, and investments in fossil-fueled district heating systems.
- The fossil fuel production projects (eight total) are all for natural gas and none of them assist with exploration.
- ADB has three projects in the pipeline related to coal-fired district heating in the same city.

CROSS-CUTTING CONSIDERATIONS: CONDITIONAL AND AMBIGUOUS INVESTMENTS

- Transmission and distribution
- Natural gas: production and generation
- Ambiguous?
 - Other fossil-fuel generation: HFO, diesel
 - Natural gas and oil exploration
 - Coal-fired district heating
- Policy loans and technical assistance



CONCLUSIONS

OVERALL FINDINGS

- This study provides a preliminary snapshot; additional research could:
 - Extend the analysis to other MDBs and sectors
 - Refine the methodology
 - Clarify amount of financing per component, transaction sizes
- Nevertheless, we found:
 - Near-absence of “negative” projects
 - The share of projects in the “positive” category across the banks was significant: 45 percent at the IFC, 20 percent at the ADB, and 16 percent at the World Bank
 - The ratio of positive to conditional/ambiguous projects varied across institutions

IMPLICATIONS

- Build momentum and increase positive project pipeline
- Important policy questions to consider for conditional/ambiguous projects
- Improve the clarity, completeness, and accuracy of climate change considerations in project documents
- Explore whether the policy reform and technical assistance provided by MDBs helping build environments that enable “conditional” or “ambiguous” projects to be consistent with 2-degree paths

DISCUSSION

- Reactions?
- Clarifying questions?
- Key considerations as we finalize the paper in the next month?

Please send written comments on the paper to:
Giulia Christianson, gchristianson@wri.org

Thank you!



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APPENDIX

JOINT MDB CLIMATE FINANCE REPORTING

Category	Sub-category
Renewable Energy	Electricity generation
	Heat production or other renewable energy application
	Transmission systems, greenfield
Lower carbon and energy efficient generation	Transmission and distribution systems
	Power Plants
Low-carbon technologies	Products or equipment
	R&D
Cross-cutting issues	Support to national, regional or local policy, through technical assistance or policy lending, fully or partially dedicated to climate change policy or action
	Financing instruments

2015 COMMITMENTS

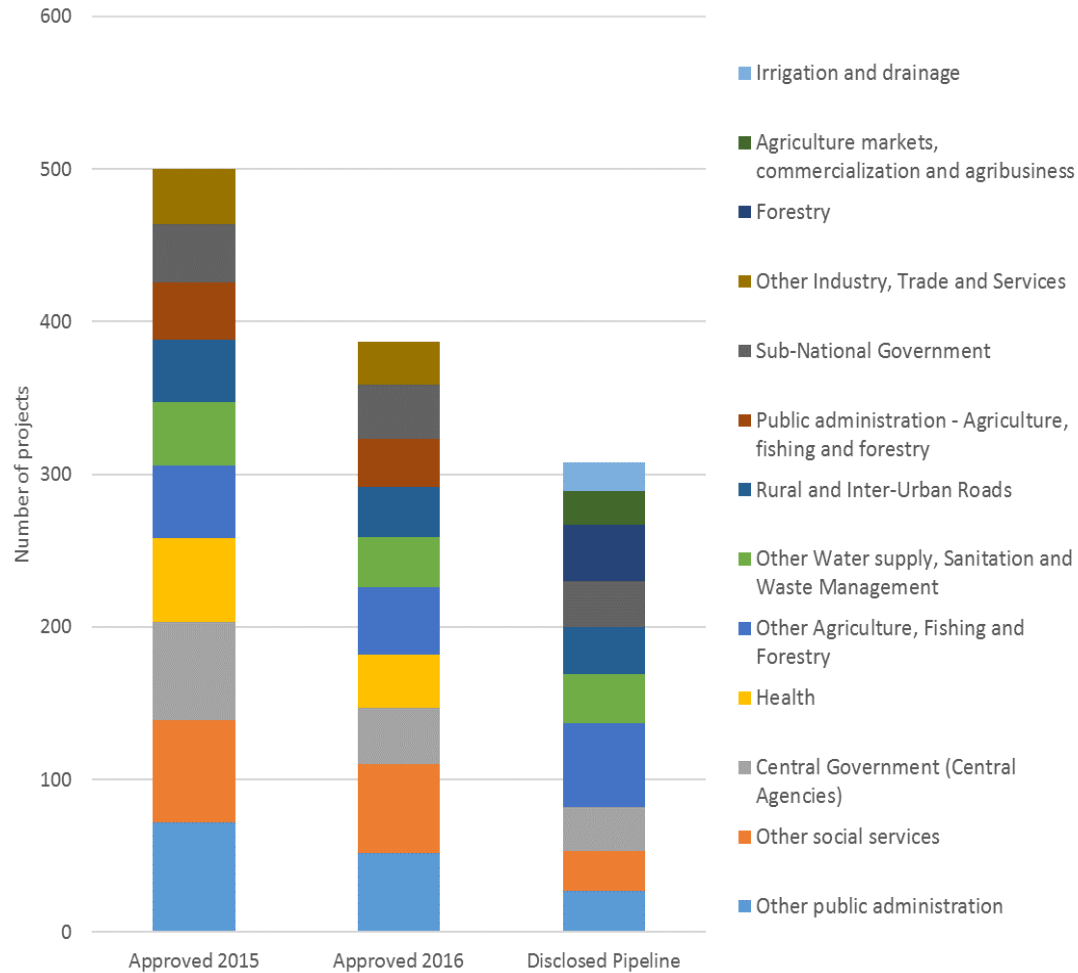
Table 1. Multilateral Development Banks' Commitments in 2015 (billions of US\$)

Bank	Total (billions US\$)	Climate	Other
ADB	16.4	17.7%	82.3%
AfDB	8.8	15.9%	84.1%
EBRD	9.4	34.0%	66.0%
EIB	84.7	26.7%	73.3%
IDBG	11.3	15.0%	85.0%
WBG	59.8	17.9%	82.1%
Total	190.4	22.3%	77.7%

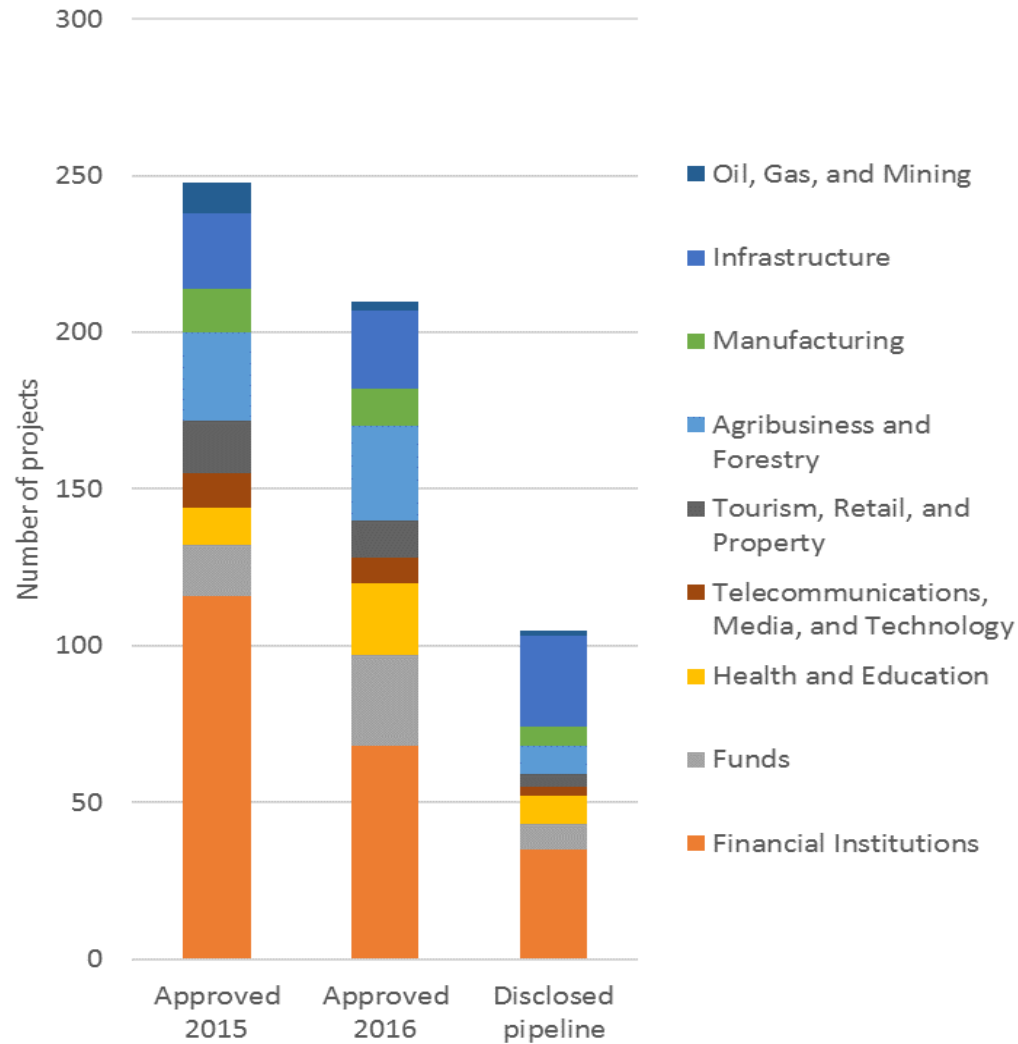
Institutions' 2015 annual reports and the 2015 Joint Report on Multilateral Development Banks' Climate Finance.

Note: The EIB figures were converted from EUR according to 12/31/2015 exchange rates (OANDA). The EIB figure for climate is taken from its 2015 Annual Activity Report since the Joint Report only included finance committed in developing and emerging economies in transition. The EIB's own figure includes its commitments in other countries where it is active: the EU-15, Czech

WORLD BANK: PORTFOLIO COMPOSITION



IFC: PORTFOLIO COMPOSITION



ADB: PORTFOLIO COMPOSITION

