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# **IFC's GHG Alternatives Analysis Obligations: Implications for Contemplated Financing of Fossil Fuel Projects, Harm Prevention, and Expediting the Shift to Renewable Energy**

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Originally Presented during: World Bank Group 2023 Annual Board Meetings, Marrakech, Morocco, Civil Society Policy Forum panel "Greenhouse Gas Emissions and Climate Change Alternatives Analysis: Ensuring World Bank Group Paris Agreement Alignment" (Oct. 13, 2023)

# IFC's Systematic Failures to Adhere to its Policies Applicable to GHGs Before Project Financing

- **Investigation Scope:** 300 Direct Investments 2012 to 2022
- **Data Verification:** Analysis of Full Env. & Social Impact Assessments  
Verify Trends from GHG Summary Info on IFC Public Data Portal
- **One of IFC's most egregious systematic failures to adhere to its Board Adopted Policies Applicable to Climate Change:** *Lack of or Facially Inadequate GHG Alternatives Analysis*

Categories			Select 2012-2022 IFC Category A & B Projects IFC Approved for Financing with EIA Documents & ESRS Available			Total Select 2012-2022 IFC Category A & B Projects IFC Approved for Financing with EIA Documents and or only ESRS Available		
Applicable IFC Adopted Policy	General Category	<u>Prior to IFC Approval of Financing for a Project</u>	Total Projects	Applicable Projects	% Projects	Total Projects	Applicable Projects	% Projects
IFC Performance Standards	GHG Alternatives Analysis	GHG Emissions Alternatives Analysis Conducted (Total applicable projects are projects for which the Performance Standards require this Alternatives Analysis)	31	62	50%	42	228	18%
		Facially Inadequate GHG Emissions Alternative Analysis (All Alternatives Analysis Provided Considered)	29	31	94%	n.a.	n.a.	n.a.

# IFC Directly Financed Natural Gas Plants 2015-2023: Alternatives Analysis No Assessment of Renewables



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- **SYRDARAYA CCGT in Uzbekistan, Project # 45205, approved 3/16/23:** alternatives analysis only analyzes configurations of single vs. combined cycle natural gas plants with various technology options.
- **FCS RE CIPREL V in Cote D'Ivoire, Project # 39096, approved 10/20/21:** GHG alternatives analysis limited to comparison of various natural gas power plant configurations.
- **SM2PCL in Bangladesh, Project # 40178, approved 1/13/21:** alternatives analysis limited to project v. no project scenario.
- **RIAU PP in Indonesia, Project # 39879, approved 11/13/19:** GHG alternatives analysis limited to comparison of various natural gas power plant configurations and GHG emissions from a coal power plant
- **CELSE in Brazil, Project # 39652, approved 6/21/18:** GHG alternatives analysis limited to comparison of various natural gas power plant configurations and LNG operations options.
- **ACWA POWER ZARQA in Jordan, Project # 38207, approved 1/9/17:** Natural Gas plant configurations alternatives analyzed on basis of cooling arrangements.
- **ACWA KIRIKKALE in Turkiye, Project # 35395, approved 7/22/15:** GHG alternatives analysis limited to comparison of three natural gas power plant configurations with varying emissions.
- **Gama Energy in Turkiye, Project # 32258, approved 6/29/15:** GHG alternatives analysis for natural gas plant just compared a coal power plant to natural gas power plant.

## IFC Directly Financed Natural Gas Plants 2015-2023: Alternatives Analysis Provide cursory Analysis of Renewables Not Supported by Study



- **CENTRAL TERMICA de Temane in Mozambique, Project # 43099, approved 12/7/21:** EIA Alternatives analysis briefly discusses and dismisses different types of renewable energy projects (solar, wind, hydro).
- **YEREVAN CGT in Armenia, Project # 39630, approved 6/3/19:** EIA Alternatives analysis briefly discusses and dismisses different types of renewable energy projects (solar, wind, hydro, geothermal).
- **MYINGYAN in Myanmar, Project # 36627, approved 10/8/16:** EIA Alternatives analysis briefly discusses and dismisses solar, wind, geothermal, and biomass renewable energy sources. The analysis does not provide enough information to demonstrate whether suitable hydro project (s) could be pursued as a renewable energy option in lieu of the natural gas plant.



# Example of IFC's Best (Wholly Inadequate) Alternatives Analysis for Natural Gas Plants Not Supported by Study

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## YEREVAN CGT in Armenia, Project # 39630, approved 6/3/19 (entire alternatives analysis):

### Renewable energy

Special regard is taken on the renewable energy sources, because they are considered as the basis for a sustainable future power system development. Nonetheless, they face several constraints:

In order to produce the same amount of electricity as the YCCPP-2 using hydropower, a large dam would need to be build. The environmental and social impacts of large dams may be difficult to mitigate and manage. Alternatively, a cascade of medium sized dams would need to be build, or the energy production of several independent hydropower plants would need to be combined. This would spread the environmental impacts through several locations, making them more difficult to handle and control. In addition, according to SREP (2014), the identified potential for HPP investment in Armenia is of only up to 90 MW. This is not sufficient to compete with the energy output of the YCCPP-2.

In the dry climate of Armenia, solar energy is quite favorable. The potential for development of the photovoltaic industry in Armenia has been studied in the framework of the project "Assistance for Development of Actual Solar PV Energy in Armenia". Based on this, a Renewable Energy Investment Plan for Armenia was approved, in accordance to which resources are being allocated to develop up to 110 MW utility-scale photovoltaic plants.<sup>3</sup> However, some constrains are imposed: high land consumption, the need for great investments and, based on SREP (2014), the limited capacity for equipment acquisition and installation, together with a lack of experience with the technology in Armenia. Given the above, solar energy is not considered at this stage to be an alternative to thermal generation in Armenia, but instead a complementary energy source which is being planned under parallel programs, and which faces different challenges to be overcome in the right instances.

Wind is an unsteady energy resource. Both its varying direction and intensity do not allow guarantying that energy is always produced, which would be a disadvantage in comparison to thermal production, especially at a time when the pressing need to replace the nuclear power generation emerged in Armenia. Besides, the Ministry of Energy and Natural Resources plans to develop up to 500 MW of its wind energy potential by the year 2025. 500 MW is the amount that can be economically feasible for commercial utility scale presently (US AID, 2010). This implies that further investments in this technology are presently not feasible.

In the field of geothermal energy, big advances were made to spread these technologies. They are generally considered as reliable, cost effective and sustainable. Nonetheless, there are still serious and long-term researches required for the arrangement of geothermal energy production, making it a

<sup>3</sup> <http://www.minenergy.am/en/page/416>

disadvantageous source for the case at hand, where a pressing energy demand requires a solution which is readily and easily implementable.

### Nuclear energy

Nuclear power is electric power generated in a nuclear reactor. Nuclear power stations generally work in a similar way as conventional fossil fuel-burning stations. The main difference is the fuel. Nuclear fuel is typically uranium-based rods, instead of coal or gas. Nuclear Power plants do not create smoke or carbon dioxide and are more reliable compared to above mentioned renewables. Although power generation does not produce much waste, the residual radiation of the waste is very dangerous and requires sophisticated handling for years and centuries to come. Nuclear reactors are discussed controversial, with many people categorizing them as inherently unsafe. Despite laying in a seismically active zone, Armenia has one operating nuclear reactor (Metsamor) and there are plans to build another. There are many controversies and concerns about its security. Given the environmental, health and safety risks derived from an eventual failure of the power plant, as well as the difficulties in the management of the waste, this is considered a disadvantageous alternative.

### Thermal energy

Thermal energy uses organic fossils for energy production, therefore releasing formerly stored greenhouse gases which contribute to climate change. This makes it generally unfavorable from an environmental point of view. It has to be considered that power stations working on the basis of natural gas have far less impact on the environment than stations working on the basis of other fuel types. Besides, they are less capital-intensive. Modern gas turbines allow to significantly increase the efficiency and to reduce the generation of combustion outcome.

### Conclusion

Given these considerations the option of gas and steam combined cycle power plant was chosen. The new YCCPP-2 is part of the strategic plan for energy production of the Government of Armenia<sup>4</sup> in order to improve the total output capacity of its electric energy production with a most modern and efficient power plant. The Government of RA considers this project to be of utmost significance with highest priority for execution (fast-track project), due to the fact that the energy sector development has a critical impact on the economic development of the entire country.

### 4.2.3 Design alternatives

The initial design of the new YCCPP-2 had foreseen a stack height of 35 meters. The results of the air dispersion calculation (Annex 12.6 to this report) show, however, that a stack height of 66 meters is more adequate because this corresponds to the Good Engineering Practice (GEP) stack height.

<sup>4</sup> <http://minenergy.am/en/page/493>

# Example of IFC's Best (Wholly Inadequate) Alternatives Analysis for Natural Gas Plants Not Supported by Study



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## **YEREVAN CGT in Armenia, Project # 39630, approved 6/3/19** **Entire Solar Analysis in Full EIA**

In the dry climate of Armenia, solar energy is quite favorable. The potential for development of the photovoltaic industry in Armenia has been studied in the framework of the project “Assistance for Development of Actual Solar PV Energy in Armenia”. Based on this, a Renewable Energy Investment Plan for Armenia was approved, in accordance to which resources are being allocated to develop up to 110 MW utility-scale photovoltaic plants.<sup>3</sup> However, some constrains are imposed: high land consumption, the need for great investments and, based on SREP (2014), the limited capacity for equipment acquisition and installation, together with a lack of experience with the technology in Armenia. Given the above, solar energy is not considered at this stage to be an alternative to thermal generation in Armenia, but instead a complementary energy source which is being planned under parallel programs, and which faces different challenges to be overcome in the right instances.



## IFC's Obligations for GHG/Climate Change Alternatives Analysis

- **IFC E&S Policy Requires it Ensure Achievement of IFC Performance Standard (PS) 1 Requirements for Environmental and Social Impact Assessments (EIAs) prior to Financing Decisions**
  - When PS Requires: New Developments & Significant Project Expansions
  - PS Standard: “Good International Industry Practice” (GIIP)
    - Analysis Examining & Comparing Alternatives for GHG Emissions Avoidance Supported By Credible Study
    - Public Review Opportunity Required as Essential Part of GIIP for EIAs (Not Backroom Analysis – This is not confidential info that IFC Access to Info Policy Shields from requisite disclosure)





## IFC's Obligations for GHG/Climate Change Alternatives Analysis

- **IFC & Its Member States International Due Diligence Legal Obligations Pertaining to Harm Prevention and Precaution, Environmental Assessments, and Human Rights**
  - **Use of Best Reasonably Available Methods:** Because of the severe risk of climate harm posed by IFC financed projects, the IFC and its Member States must ensure climate change impacts and harm avoidance measures are assessed prior to financing, for IFC's direct and indirect financial intermediary investments, in line with, and using, best reasonably available methods.
  - **Applicability to IFC & Its Directors:** Wealthier countries from the Global North have greater diligence obligations than those in the Global South due to the significant resources at their disposal. These resources are available to the IFC.



# IFC's Due Diligence Obligations for GHG/Climate Change Alternatives Analysis:



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- **Best Reasonably Available Methods to Assess & Avoid Climate Change Harms from a Contemplated Project:** National Environmental Policy Act – USA (NEPA)<sup>1</sup>
- **NEPA Requirements for GHG Emission Alternatives Analysis for Contemplated Fossil Fuel Project (all accompanied by study sufficient to support findings):**
  - Thorough study of whether it is economically and technically feasible for renewables to meet a region's energy demand;
  - Full quantification of scope 1, 2, and 3 GHG emissions over project & alternatives lifecycles;
  - Best Available Social Cost of GHG Estimates monetizing the societal cost from each ton of GHGs emitted (e.g., damages from sea-level rise, infrastructure damage, human health effects, etc.) from project and all alternatives;
  - Full analysis of economic and technical feasibility of mitigation measure to reduce GHG emissions to the greatest extent possible from project and alternatives;
  - Analysis of impact on limiting warming to 1.5°C (beyond meeting NDCs).

<sup>1</sup> See U.S. Council of Environmental Quality, "NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change," (January 8, 2023)



## Implications of IFC's Adherence to its GHG Alternatives Analysis Obligations

- **IFC Coming Into Alignment with Paris Alignment**
  - Financing renewable energy infrastructure instead of contemplated fossil fuel projects
  - Substantially reducing GHGs from all of its investments
- **Expediting Shift to Renewables**
- **Due Diligence = Harm Prevention to Affected Communities for IFC's directly and indirectly financed projects**

## Questions for IFC Panelists

- **Is IFC going to start ensuring its alternatives analysis for proposed fossil fuel and other GHG intensive projects are conducted in line with GIIP and its international due diligence legal responsibilities – which includes securing studies that are supported and released to the public for review prior to financing?**
- **LNG Advisory Project:** Will IFC ensure and publicly release studies documenting whether it is economically and technically feasible for renewables to meet energy demand instead? Will IFC ensure the societal costs of GHG emissions (drought, fires, sea level rise, flooding, ect.) to Morocco's people are monetized and disclosed?

Project Name ▲	Country ▲	Disclosure Date ▲
Morocco Liquefied Natural Gas   607416   Advisory Services		
Document Type	Country	Disclosed Date
Advisory Services Project Information	Morocco	Aug 29, 2023



[www.bankclimateadvocates.org](http://www.bankclimateadvocates.org)

- **Concluding Remarks:** If the World Bank Group ensures an alternatives analysis prior to its financing decisions as its due diligence obligations require, in almost all cases the resulting information could result in abandoning contemplated fossil fuel projects in favor of renewable energy infrastructure that could meet a region's energy demand instead.
- **Questions / Discussion**
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