



**GLOBAL
CARBON
COUNCIL**

Driving Climate Actions

Information Note: Default Cost of Equity for Annex I Countries

V1.0 - 2023

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1. Introduction

1. The GCC Program Framework¹ section 15 provides information on ‘GCC Documentation Framework’, which defines various types of GCC documents including the ‘Information Documents’. This document provides non-binding default cost of equity for Annex-I countries to demonstrate investment analysis and additionality of project activities and is therefore categorized as an ‘Information Document’.
2. The CDM Tool 27² provides specific requirements and guidance on investment analysis for demonstration of the additionality of project activities. Appendix to CDM Tool 27 provides default values for cost of equity (expected return on equity) for Non-Annex I Countries³.
3. To address queries of stakeholders regarding cost of equity benchmark for Annex I Countries, the GCC Regulatory Committee decide to publish the default cost of equity for Annex I Countries for projects using investment analysis to demonstrate additionality.

2. Scope and Applicability

4. This information note is applicable to project activities that apply the CDM methodological tools “Tool for the demonstration and assessment of additionality” (CDM Tool 01), “Combined tool to identify the baseline scenario and demonstrate additionality” (CDM Tool 02), “Demonstration of additionality of small-scale project activities”(CDM Tool 21), “Demonstration of additionality of microscale project activities”(CDM Tool 19) and or tools and guidelines required in applied baseline and monitoring methodologies that use investment analysis for the demonstration of additionality and/or the identification of the baseline scenario.
5. This document provides information/guidance, supplemental to CDM Tool 27 (version 11.0 and 12.0), to project owners and verifiers for projects located in Annex I Countries and using investment analysis for demonstration of additionality. The Project Owners/Verifiers shall always apply this document together with the CDM Tool 27 (version 11.0 or 12.0). This information note will be revised to comply with any future revisions of CDM Tool 27.
6. It is not mandatory to use the default cost of equity values provided in this document and the project owners can calculate the cost of equity as per applicable versions of CDM Tool 27.

3. Context

7. The GCC Program allows project activities to apply the CDM methodological tool “Investment Analysis” (CDM Tool 27) for the demonstration of additionality and/or the identification of the baseline scenario.
8. The CDM Tool 27 provides specific requirements and guidance on investment analysis for the demonstration of the additionality of project activities. However, CDM Tool 27 provides default values for the cost of equity (expected return on equity) for Non-Annex I Countries only.

¹ https://www.globalcarboncouncil.com/wp-content/uploads/2023/09/GCC-Program-Framework_V3.0_-1.pdf

² https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v1.pdf/history_view

³ https://unfccc.int/process/parties-non-party-stakeholders/parties-convention-and-observer-states?field_national_communications_target_id%5B514%5D=514

9. The GCC Program allows GHG mitigation projects from all countries globally with no differentiation between Annex-I and non-Annex I Countries. This necessitates that the GCC Program provides sufficient information and data for enabling stakeholders, from all countries, to assess, develop, and implement GHG mitigation projects as per the GCC Program Standards, including the assessment of investment analysis for additionality demonstration.
10. This document calculates and provides the default cost of equity (expected returns on equity) for Annex I Countries following the guidance and calculation methodology described in CDM Tool 27 (version 11.0 and 12.0). The projects located in Annex I Countries and applying investment analysis for demonstration of additionality can voluntarily use the default cost of equity values provided in this document. Please refer to the applicable version of CDM Tool 27 for default cost of equity on Non-Annex I Countries.

4. Default Cost of Equity for Annex I Countries

11. The expected return on equity, as also defined in CDM Tool 27 (version 11.0 and 12.0), is composed of four elements: (a) risk-free rate of return; (b) equity risk premium; (c) country risk premium; and (d) an adjustment factor to reflect the risk of projects in different sectoral scopes. A simple summation of these four elements (a to d) gives the cost of equity or expected return on equity.
12. The risk-free rate of return is calculated based on the inflation adjusted geometric average of return on the long-term US government bonds⁴.
 - a) CDM Tool 27 (version 11): 1971 – 2020 period is considered to calculate long-term risk-free returns, and a value of 4.1 percent is used⁵.
 - b) CDM Tool 27 (version 12): 1972 – 2021 period is considered to calculate long-term risk-free returns and a value of 3.9 percent is used⁶.
13. The equity risk premium is derived from the inflation adjusted geometric average return on equity in the US market relative to the return on long-term US government bonds.
 - a) CDM Tool 27 (version 11): 1900-2020 period is considered to calculate equity risk premium, and A value of 4.4 percent is used⁷.
 - b) CDM Tool 27 (version 12): 1972-2021 period is considered to calculate equity risk premium, and A value of 2.8 percent is used⁸.
14. The country risk premium is taken from “Risk Premium for Other Markets” as also used in CDM Tool 27 (version 11.0 and 12.0) for country risk premium of Non-Annex I Countries.
 - a) CDM Tool 27 (version 11): Country risk premium values are taken from “Risk Premium for Other Markets” (Damodaran, July 2021)⁹.
 - b) CDM Tool 27 (version 12): Country risk premium values are taken from “Risk Premium

⁴ USA dollar values are used as it has the longest recorded historical data for both government bonds and stock markets.

⁵ Refer Appendix to CDM Tool 27 (version 11.0)

⁶ Refer Appendix to CDM Tool 27 (version 12.0)

⁷ Refer Appendix to CDM Tool 27 (version 11.0)

⁸ Refer Appendix to CDM Tool 27 (version 12.0)

⁹ Risk Premium for Other Markets (July 2021), sourced from

<https://pages.stern.nyu.edu/~adamodar/pc/datasets/ctrypremJuly21.xlsx>

for Other Markets” (Damodaran, July 2022)¹⁰.

15. For the purpose of determining the adjustment factor to reflect the risk of projects in different sectoral scopes, three different project categories are distinguished according to the sectoral scopes used under the CDM and GCC:
 - a) **Group 1** (Adjustment factor: no adjustment is made for this Group): 1) Energy Industries; 2) Energy Distribution; 3) Energy Demand; 13) Waste handling and disposal.
 - b) **Group 2** (Adjustment factor: the cost of equity is increased by 1 percentage point for this Group): 4) Manufacturing industries; 5) Chemical Industries; 6) Construction; 7) Transport; 8) Mining/Mineral production; 9) Metal production; 10) Fugitive Emissions from fuels; 11) Fugitive Emissions from the production and consumption of halocarbon, and Sulphur hexafluoride; 12) Solvent use; 16) Carbon capture and storage of CO₂ in geological formations.
 - c) **Group 3** (Adjustment factor: the cost of equity is reduced by 0.5 percentage point for this Group): 14) Afforestation and reforestation; 15) Agriculture.
16. Depending on the country and sector, project owners can select the relevant cost of equity benchmark value corresponding to the applicable version of CDM Tool 27 for their proposed GCC project activity from **Table 1** or **Table 2**
17. The default cost of equity values in **Table 1** and **Table 2** are based on long-term historical returns and therefore the cost of equity value from the applicable CDM Tool 27 version may also be used by projects with an investment date prior to the publication of this information note.
18. The default cost of equity values in **Table 1** and **Table 2** are calculated after taxes and are expressed in percentages in real terms. In situations where an investment analysis is carried out in nominal terms, project owners shall convert the real-term values to nominal values by adding the inflation rate as per the inflation requirements in the applicable version of CDM Tool 27.

Table 1: Default values for the cost of equity (expected return on equity) for Annex-I countries as per CDM Tool 27 (version 11.0)

Country	Risk free returns	Equity risk premium	Country risk premium	Cost of Equity		
				Group 1	Group 2	Group 3
Australia	4.10%	4.40%	0.00%	8.50%	9.50%	8.00%
Austria	4.10%	4.40%	0.33%	8.83%	9.83%	8.33%
Belarus	4.10%	4.40%	5.46%	13.96%	14.96%	13.46%
Belgium	4.10%	4.40%	0.51%	9.01%	10.01%	8.51%
Bulgaria	4.10%	4.40%	1.34%	9.84%	10.84%	9.34%
Canada	4.10%	4.40%	0.00%	8.50%	9.50%	8.00%
Croatia	4.10%	4.40%	2.10%	10.60%	11.60%	10.10%
Cyprus	4.10%	4.40%	2.52%	11.02%	12.02%	10.52%
Czech Republic	4.10%	4.40%	0.51%	9.01%	10.01%	8.51%
Denmark	4.10%	4.40%	0.00%	8.50%	9.50%	8.00%

¹⁰ Risk Premium for Other Markets (July 2022), sourced from <https://pages.stern.nyu.edu/~adamodar/pc/datasets/ctrypremJuly22.xlsx>

Default Cost of Equity for Annex I Countries

Estonia	4.10%	4.40%	0.59%	9.09%	10.09%	8.59%
Finland	4.10%	4.40%	0.33%	8.83%	9.83%	8.33%
France	4.10%	4.40%	0.42%	8.92%	9.92%	8.42%
Germany	4.10%	4.40%	0.00%	8.50%	9.50%	8.00%
Greece	4.10%	4.40%	3.02%	11.52%	12.52%	11.02%
Hungary	4.10%	4.40%	1.85%	10.35%	11.35%	9.85%
Iceland	4.10%	4.40%	0.71%	9.21%	10.21%	8.71%
Ireland	4.10%	4.40%	0.71%	9.21%	10.21%	8.71%
Italy	4.10%	4.40%	1.85%	10.35%	11.35%	9.85%
Japan	4.10%	4.40%	0.59%	9.09%	10.09%	8.59%
Latvia	4.10%	4.40%	1.01%	9.51%	10.51%	9.01%
Liechtenstein	4.10%	4.40%	0.00%	8.50%	9.50%	8.00%
Lithuania	4.10%	4.40%	0.71%	9.21%	10.21%	8.71%
Luxembourg	4.10%	4.40%	0.00%	8.50%	9.50%	8.00%
Malta	4.10%	4.40%	0.71%	9.21%	10.21%	8.71%
Netherlands	4.10%	4.40%	0.00%	8.50%	9.50%	8.00%
New Zealand	4.10%	4.40%	0.00%	8.50%	9.50%	8.00%
Norway	4.10%	4.40%	0.00%	8.50%	9.50%	8.00%
Poland	4.10%	4.40%	0.71%	9.21%	10.21%	8.71%
Portugal	4.10%	4.40%	1.85%	10.35%	11.35%	9.85%
Romania	4.10%	4.40%	1.85%	10.35%	11.35%	9.85%
Russia	4.10%	4.40%	1.85%	10.35%	11.35%	9.85%
Slovakia	4.10%	4.40%	0.71%	9.21%	10.21%	8.71%
Slovenia	4.10%	4.40%	1.01%	9.51%	10.51%	9.01%
Spain	4.10%	4.40%	1.34%	9.84%	10.84%	9.34%
Sweden	4.10%	4.40%	0.00%	8.50%	9.50%	8.00%
Switzerland	4.10%	4.40%	0.00%	8.50%	9.50%	8.00%
Türkiye	4.10%	4.40%	4.62%	13.12%	14.12%	12.62%
Ukraine	4.10%	4.40%	5.46%	13.96%	14.96%	13.46%
United Kingdom	4.10%	4.40%	0.51%	9.01%	10.01%	8.51%
United States	4.10%	4.40%	0.00%	8.50%	9.50%	8.00%

Note: The default cost of equity value for Monaco is not included due to the absence of data on the country risk premium in Risk Premium for Other Markets (July 2021).

Table 2: Default values for the cost of equity (expected return on equity) for Annex-I countries as per CDM Tool 27 (version 12.0)

Country	Risk-free returns	Equity risk premium	Country risk premium	Cost of Equity		
				Group 1	Group 2	Group 3
Australia	3.90%	2.80%	0.00%	6.70%	7.70%	6.20%
Austria	3.90%	2.80%	0.56%	7.26%	8.26%	6.76%
Belarus	3.90%	2.80%	16.78%	23.48%	24.48%	22.98%
Belgium	3.90%	2.80%	0.84%	7.54%	8.54%	7.04%
Bulgaria	3.90%	2.80%	2.23%	8.93%	9.93%	8.43%
Canada	3.90%	2.80%	0.00%	6.70%	7.70%	6.20%

Default Cost of Equity for Annex I Countries

Croatia	3.90%	2.80%	3.50%	10.20%	11.20%	9.70%
Cyprus	3.90%	2.80%	3.50%	10.20%	11.20%	9.70%
Czech Republic	3.90%	2.80%	0.84%	7.54%	8.54%	7.04%
Denmark	3.90%	2.80%	0.00%	6.70%	7.70%	6.20%
Estonia	3.90%	2.80%	0.99%	7.69%	8.69%	7.19%
Finland	3.90%	2.80%	0.56%	7.26%	8.26%	6.76%
France	3.90%	2.80%	0.69%	7.39%	8.39%	6.89%
Germany	3.90%	2.80%	0.00%	6.70%	7.70%	6.20%
Greece	3.90%	2.80%	5.03%	11.73%	12.73%	11.23%
Hungary	3.90%	2.80%	2.66%	9.36%	10.36%	8.86%
Iceland	3.90%	2.80%	1.18%	7.88%	8.88%	7.38%
Ireland	3.90%	2.80%	0.99%	7.69%	8.69%	7.19%
Italy	3.90%	2.80%	3.07%	9.77%	10.77%	9.27%
Japan	3.90%	2.80%	0.99%	7.69%	8.69%	7.19%
Latvia	3.90%	2.80%	1.68%	8.38%	9.38%	7.88%
Liechtenstein	3.90%	2.80%	0.00%	6.70%	7.70%	6.20%
Lithuania	3.90%	2.80%	1.18%	7.88%	8.88%	7.38%
Luxembourg	3.90%	2.80%	0.00%	6.70%	7.70%	6.20%
Malta	3.90%	2.80%	1.18%	7.88%	8.88%	7.38%
Netherlands	3.90%	2.80%	0.00%	6.70%	7.70%	6.20%
New Zealand	3.90%	2.80%	0.00%	6.70%	7.70%	6.20%
Norway	3.90%	2.80%	0.00%	6.70%	7.70%	6.20%
Poland	3.90%	2.80%	1.18%	7.88%	8.88%	7.38%
Portugal	3.90%	2.80%	2.66%	9.36%	10.36%	8.86%
Romania	3.90%	2.80%	3.07%	9.77%	10.77%	9.27%
Russia	3.90%	2.80%	16.78%	23.48%	24.48%	22.98%
Slovakia	3.90%	2.80%	1.18%	7.88%	8.88%	7.38%
Slovenia	3.90%	2.80%	1.68%	8.38%	9.38%	7.88%
Spain	3.90%	2.80%	2.23%	8.93%	9.93%	8.43%
Sweden	3.90%	2.80%	0.00%	6.70%	7.70%	6.20%
Switzerland	3.90%	2.80%	0.00%	6.70%	7.70%	6.20%
Türkiye	3.90%	2.80%	7.69%	14.39%	15.39%	13.89%
Ukraine	3.90%	2.80%	13.98%	20.68%	21.68%	20.18%
United Kingdom	3.90%	2.80%	0.84%	7.54%	8.54%	7.04%
United States	3.90%	2.80%	0.00%	6.70%	7.70%	6.20%

Note: The default cost of equity value for Monaco is not included due to the absence of data on the country risk premium in Risk Premium for Other Markets (July 2022).

DOCUMENT HISTORY		
Version	Date	Comment
V 1.0	16/11/2023	<ul style="list-style-type: none">Initial version approved by the Regulatory Committee Members on 15/11/2023 as per the GCC Program Processes.



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