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A Global Incentive Scheme to Reduce Carbon Emissions

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Abstract

This paper proposes an objective way of estimating and allocating "differentiated" responsibilities for carbon emissions across countries. These responsibilities translate into specific obligations and incentives for future emission reductions and support for adaptation, mitigation, and development. The proposals in this paper should be seen as a starting point for an informed and productive debate. Under the Global Carbon Reduction Incentive, every country that emits more than the per capita global average pays into a global incentive fund. This annual payment will be calculated based on the "excess" emissions per capita, the country's population, and a dollar amount called the Global Carbon Incentive. Countries below the global per capita average would receive a payout commensurate with their "under-emission." The United States and China are the two biggest emitters and, assuming a Global Carbon Incentive of $10, they jointly would contribute more than $70 billion to the fund, from which nations such as India, Nigeria, Pakistan, Bangladesh, and Indonesia would be the major recipients. An important adjustment to the Global Carbon Reduction Incentive is to focus on consumption rather than production—a country should not avoid responsibility for the carbon it consumes by outsourcing production to another country. The proposal considers that countries that have used more of the collective carbon budget have benefited from the associated development and should pay for it. The proposal also considers methane emissions as well as crediting countries for their efforts toward preventing deforestation.

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Motivation

The 1992 UN Rio Summit concluded that countries had a *common* but *differentiated* responsibility to tackle greenhouse gas (GHG) emissions – *common* in that climate change affects everyone, and *differentiated* because countries have different responsibilities for creating the problem, as well as differing abilities to resolve it. Thirty years on, in its report released in April 2022 (IPCC 2022), the Intergovernmental Panel on Climate Change highlights the urgency of steep emissions reductions to keep global warming from reaching 1.5°C above pre-industrial levels.[2] Ideally, the allocation of responsibilities would be within a framework that provides sufficient incentives to achieve this target.

Unfortunately, there is no agreement on how to allocate responsibilities. Clearly, Uganda, which emits 0.1 ton per capita of carbon per year (in 2018), has much less responsibility both for the carbon that is already in the atmosphere and for what continues to be pumped out than the US, which emits 16 tons per capita per year.[3] And the US has more responsibility than the EU, which emits 6.4 tons per capita. Yet the EU has committed to cut its 1990 emission levels by at least 55 percent by 2030, while the Biden administration wants only to halve its 2005 emissions by 2030. And of course, there are no penalties if a country fails to adhere to commitments.

Without international agreements that set out clear rewards and penalties, policy commitments are not credible. This impedes the low-carbon transition, which is largely driven by private sector expectations about future carbon prices and technological change. Forward guidance and expectations management can be effective instruments to promote the low-carbon transition. By making "excess emissions" costly, the Global Carbon Reduction Incentive GCRI could serve as a

[2] The report finds that limiting future emissions to 300 Gt CO2 will be required to ensure the 1.5° ceiling with high probability.

[3] Hallegatte et al (2023) find that the global emissions increase associated with eradicating extreme poverty is small -- global energy emissions would need to be reduced by 2.08 GtCO2e per year, instead of 2.0 GtCO2e per year in the absence of any progress towards extreme poverty eradication.

simple institutional arrangement to improve the credibility of policy commitments. In fact, it can help mobilize the private sector in hastening mitigation of GHG emissions.

Emission rights are a form of property right held against the planet. The weaker a country's commitment to reduce emissions, the more rights it claims. Collectively, countries have claimed significantly more emission rights than is consistent with the 1.5°C ceiling, and there is no agreement on how to limit these self-claimed rights.

Relatedly, in 2009 in Copenhagen, high-income countries promised to channel US$100 billion a year to less wealthy nations by 2020, to help them adapt to climate change and mitigate further rises in temperature. The promise was vague in that it was not clear whether these would be grants and subsidies, or simply financing at market rates. It was made vaguer still because it did not specify who would put up the money.

In sum, an objective way of estimating and allocating "differentiated" responsibility is needed, which can then translate into specific obligations (as well as specific support for adaptation and mitigation) and policy incentives. Absent such an objective measure, action plans will tend to be based on domestic political compulsions and fiscal space rather than the planet's needs, with substantial amounts of free-riding. Worse, it is likely that the principle of "common but differentiated" goes by the wayside as the imperative to avoid climatic catastrophe looms larger.

This paper outlines the desirable characteristics of any scheme that allocates responsibility and provides incentives for future climate action. It continues by describing a few schemes that satisfy these characteristics and highlighting the key parameters about which international negotiations should be most concerned. These include the issue of consumption- versus production-based emissions, the balance between considering past and future emissions, and what type of emissions are included. Finally, the paper offers some preliminary calculations on how these schemes would affect different countries.

1. Desirable Characteristics of a Responsibility Allocation and Incentive Scheme

Desirable characteristics of a responsibility allocation and incentive scheme include fairness, forward-looking orientation, efficiency, ease of operation and flexibility, and ease of decentralization.

Fairness

High-income countries have put much of the carbon that already exists into the air. And they are still emitting more per capita than many low-income countries. To the extent that the right to emit is a property right held by each individual on the planet,[4] high-income countries have a greater responsibility to curtail emissions, both because they have used up more of their property right (assuming an overall budget of emissions rights that would take the world to 1.5°C), and they continue to emit more. Having become rich partly based on past emissions, they also have the wealth to pay for adaptation and mitigation. In sum, any scheme to allocate responsibility should do so based on emissions, past and present. It should also help raise the $100 billion annually that has been promised.

Ahluwalia and Patel (2021) make a case to allocate the available carbon budget in a demonstrably fair manner into individual country budgets, with each country defining its own emission trajectory to stay within its carbon budget. Dasgupta, Lall, and Wheeler (2022) consider equity considerations from a historical perspective going back to 1900; they show that 60 percent of high-income countries have already exceeded their carbon budgets (based on population shares). The United States crossed its per capita allocation in 1945, the United Kingdom in 1947, and Germany in 1956.

[4] Our focus on fairness based on individuals rather than nations is consistent with the treatment of climate equity by Stern (2007), Mattoo and Subramaniam (2013) and many others.

Forward-Looking Orientation

Making the payment scheme dependent only on past or present emissions addresses the objective of fairness, but penalizing past behavior may not provide strong incentives for future decarbonization. Hence, the payment scheme should have a forward-looking element which includes future emissions in the payment scheme. This would imply that the scheme is rolled out over time with periodic payments which depend on historic emissions and the recent performance. Balancing the historical-responsibility and incentive aspects of the scheme would be an important parameter subject to international negotiations.

Efficiency

It is important that the world economizes on costs. One way to get efficient outcomes is for all countries to be faced with the same price of emissions. So, Europe scrapes coal plants because the price of carbon emissions is high there, while Uganda builds them because the price of carbon emissions is low there.

Unequal incentives can also breed resentment. Workers in coal-fired utilities in high-income countries that are being closed will not be happy if they see such utilities being opened in low-income countries. Unfortunately, emissions are still not priced in a consistent manner across as well as within countries (Agnolucci et al, forthcoming).

Ease of Operation and Flexibility

Any scheme has to be easy to operationalize and monitor. Overly complicated schemes can be hard to communicate to the public, whose buy-in is essential. Difficulties in measuring inputs and outputs can lead to gaming and evasion, reducing fairness and efficiency. It will also increase operational costs for the scheme, reducing the funds that can be devoted to adaptation and mitigation.

The scheme should also be flexible. If the world is emitting much more than consistent with the 1.5℃ ceiling, it should be easy to ramp up the incentive by increasing the price of "excess" emissions without detailed global renegotiation. Conversely, if technological change significantly reduces the costs of emissions, it should be possible to dial down incentives equally easily. Ideally, the scheme should be self-adjusting based on objective measures.

Ease of Decentralization

Countries are not ready for a one-size-fits-all scheme. Some may want to impose a carbon tax, while a carbon tax may be politically impossible in other countries. Conversely, emissions regulation or a ban on coal use may be more easily implemented in those countries. At any rate, countries should have the flexibility, within the umbrella of the scheme, to experiment with what works best in their countries. Experimentation and innovation could result in better practices for mitigation that could spread across countries.

2. Possible Schemes

A variety of schemes that satisfy these desired criteria are possible. These could be thought of as variations on a common theme, with extensions or alternatives addressing different concerns.

Global Carbon Reduction Incentive

The starting point is that every individual has the implicit right to emit at the world per capita emission level. Of course, "under-emitting" countries should not be incentivized to increase their emissions, while "excess emission" countries should reduce them. Hence, embedding incentives is key.

Every country that emits more than the per capita world average (currently around 5 tons) would pay into a global incentive fund. This annual payment would be calculated by multiplying the excess emissions per capita by the country's population and a dollar amount called the Global Carbon Incentive. So if the country's population is 30 million, its per capita emission is 17 tons, and the Global Carbon Incentive (GCI) is set at $10, it would pay $30 million*(17-5)*10= $3.6 billion. Countries below the global per capita average would receive a payout commensurate with their "under-emission". A country of 40 million emitting 2 tons per capita would receive $40 million*(5-2)*10= $1.2 billion. The fund is completely self-financing by design – what is paid in exactly equals what is paid out (assuming administrative costs are negligible). Note that the $10 GCI is set for illustrative purposes and future research should compute an optimal rate balancing political feasibility and sufficient incentives.

Importantly, every country would face a loss of $10 per capita for every ton by which they increase per capita emissions, whether they are at a high, low, or average level today. So Uganda has the same incentives to economize on emissions as the United States because the payment Uganda receives from the fund would fall commensurately if it increased per capita emissions.

Moreover, this scheme addresses the equity problem. Low emitters, which are often the poorest countries and most endangered by climatic changes they did not cause, get a payment, which they can use to help their people adapt. The Global Carbon Reduction Incentive (GCRI) scheme also assigns responsibility for payments in a feasible way: the big emitters typically have the ability to pay. This approach is consistent with the broader principle of common but differentiated responsibilities (see also Mattoo and Subramaniam 2013).

Of course, what a country does domestically is entirely its own business. Instead of levying a politically unpopular carbon tax, one country may impose prohibitive regulations on coal, while another may levy taxes on energy inputs and a third may incentivize renewables. Each one does it their own way, with the GCRI supplementing any moral incentives they already have to act at the country level. The GCRI does not snuff out domestic experimentation.

Incentives can be enhanced, or softened, simply by changing the amount of the GCI. It could be increased if the urgency for action increases. It can be reduced if some miraculous technological breakthrough occurs on emission reduction. To avoid creating uncertainty, after an initial period of calibration, any change in the GCI could be contemplated only every 3 years or so. The process of adjustment can also be automated by allowing the GCI to depend on the available carbon budget in a transparent way.

The annual payments/receipts by each country for a GCI of $10 are listed in Annex Table A. Table 1 presents the GCI payments and receipts for the top 10 countries. The biggest net payers are the United States and China, while the biggest net receivers are India, Nigeria, Pakistan, Bangladesh, and Indonesia. For a GCI of $10 per ton, the total payments are $133 billion (and, obviously, the receipts by carbon under-emitters are the same). Countries such as France and the UK, with per capita emissions close to the global average pay small amounts --- $0.29 billion and $0.84 billion, respectively. Countries such as Sweden, with per capita emissions below the global average, would in fact be a net recipient. To get a payment of $100 billion by the excess emitters, the GCI could be reduced to $7.5 per ton.

COUNTRY	PRODUCTION CO2 (MIL TONS)	POP 2019 (millions)	Per Capita CO2 (production)	Deviation from global average (per capita CO2 - 4.61 tons/person)	Tax or incentive US Billions (valuing 'excess' emissions at USD 10 per ton)
United States	5,291.77	325.03	16.28	11.67	37.92
China	10,053.86	1,420.67	7.08	2.46	34.96
Russian Federation	1,651.85	145.48	11.35	6.74	9.80
Japan	1,172.92	127.46	9.20	4.59	5.85
Saudi Arabia	639.54	33.05	19.35	14.74	4.87
Korea, Rep.	649.98	51.06	12.73	8.11	4.14
Canada	572.77	36.73	15.60	10.98	4.03
Germany	769.54	82.66	9.31	4.69	3.88
Iran, Islamic Rep.	683.75	80.69	8.47	3.86	3.11
Australia	412.90	24.58	16.80	12.19	2.99
Kazakhstan	299.67	18.07	16.58	11.97	2.16
Tanzania	11.35	54.70	0.21	-4.41	-2.41
Philippines	131.31	105.14	1.25	-3.37	-3.54
Congo, Dem. Rep.	2.55	81.46	0.03	-4.58	-3.73
Brazil	498.47	207.80	2.40	-2.22	-4.61
Ethiopia	14.96	106.43	0.14	-4.48	-4.76
Indonesia	592.60	264.58	2.24	-2.38	-6.29
Bangladesh	81.50	159.67	0.51	-4.11	-6.55
Pakistan	216.57	207.95	1.04	-3.57	-7.43
Nigeria	120.27	190.96	0.63	-3.99	-7.61
India	2,462.08	1,338.48	1.84	-2.78	-37.16

Table 1: The Global Carbon Reduction Incentive – payments and receipts for the top 10 countries

Source: Author calculations based on 'Our World in Data' (https://ourworldindata.org/).

Modification 1: Consumption versus Production

An important adjustment to the GCRI is to focus on consumption rather than production – a country should not avoid responsibility for the carbon it consumes by outsourcing production to another country. So, the proposal adds the carbon embedded in imported goods and subtracts the

carbon embedded in exported goods from the carbon produced by a country. For a country like China, CO2 emissions based on production are 10 billion tons and fall to 9 billion tons when a consumption-based measure is used. In the United States, 5.2 billion tons of CO2 are "produced" and 5.6 billion tons are "consumed". This exercise is carried out for all countries where these data are available through Our World in Data (https://ourworldindata.org/). The results are presented in Annex Table A. With the consumption-based emissions, China's payments decline significantly – from USD 35 billion to USD 20 billion. This adjustment does not materially impact other countries.

Modification 2: Stock of Carbon Emitted

The proposal has ignored the stock of emissions thus far. Some countries would argue that they should not be held responsible for emissions when there was little knowledge that emissions were damaging. Others would argue that regardless of foreknowledge, countries that have used more of the collective carbon budget have benefited from the associated development and should pay for it. A middle ground may be sensible here, backing out the stock of carbon emitted thus far, with 1990 as the start year. This is well into a timeframe where high- and low-income countries alike were aware of climate change; the Rio Earth Summit was held in 1992.

One could follow the same principle as above and argue that every individual today has the right to have emitted the average stock of carbon between 1990 and today (again, the fund can consider either carbon production emissions or carbon consumption emissions). So excess emission countries will be those whose per capita average is more than the global per capita average stock emitted between 1990 and today.[5]

The last question is what rate the excess stock of emissions should attract. Given that this one-off payment will not change any incentive to act (since the emissions have already occurred), its value can be debated. Arguably, the cost of additional emissions should grow as the carbon budget shrinks, so emissions in the past ought to be costed at a lower rate than current emissions. What payments are required with a "moderate" rate of $0.3 /ton and how does this compare to a GCI of $10/ton? Once again, this would be a one-off payment rather than a recurring payment, though it

[5] An alternative would be to calculate country payments each year if the GCRI scheme were in operation since 1990 and cumulate the payments. This more detailed calculation takes into account the variation in population over time, as well as allows for possible variation in the GCI.

is also possible to consider amortizing the payment over say 20 years and adding it to the annual GCRI payments. Table 2 presents the payments and receipts for the top 10 countries; Annex Table

COUNTRY	CO2 Stock (MIL TONS)	Population 2019 (millions)	Per Capita CO2 stock	Deviation from global average (per capita CO2 Stock)	Tax or incentive (valued at 0.3 USD per ton) US Billions
United States	167,927.36	329.06	510.32	400.17	39.50
Russian Federation	49,909.67	145.87	342.15	232.00	10.15
China	184,376.75	1,433.78	128.59	18.45	7.94
Japan	36,938.62	126.86	291.18	181.03	6.89
Germany	26,251.71	83.52	314.33	204.18	5.12
Canada	16,332.75	37.41	436.58	326.43	3.66
Korea, Rep.	14,869.02	51.23	290.27	180.12	2.77
Saudi Arabia	12,329.56	34.27	359.79	249.65	2.57
United Kingdom	15,728.91	67.53	232.92	122.77	2.49
Australia	10,982.38	25.20	435.75	325.61	2.46
Viet Nam	3,004.90	96.46	31.15	-78.99	-2.29
Congo, Dem. Rep.	64.39	86.79	0.74	-109.40	-2.85
Philippines	2,392.64	108.12	22.13	-88.01	-2.85
Brazil	11,339.75	211.05	53.73	-56.41	-3.57
Ethiopia	198.21	112.08	1.77	-108.38	-3.64
Bangladesh	1,273.65	163.05	7.81	-102.33	-5.01
Indonesia	11,061.53	270.63	40.87	-69.27	-5.62
Nigeria	2,530.88	200.96	12.59	-97.55	-5.88
Pakistan	4,005.61	216.57	18.50	-91.65	-5.95
India	41,536.37	1,366.42	30.40	-79.75	-32.69

B provides the full list.

Table 2: The Global Carbon Reduction Incentive, modifying for carbon stocks– payments and receipts for the top 10 countries valued at 0.3 USD per ton

Source: Author calculations based on 'Our World in Data' (https://ourworldindata.org/).

The key finding of the GCRI based on production-related carbon stocks is that the rankings for both payers and recipients do not change much compared to the GCRI based on annual emissions. The United States and the Russian Federation are the top contributors based on stock values. China is the third largest contributor. Yet, the net contributions of China decrease drastically from $35 billion to $8 billion. The cumulative emissions since the 1990s have been low in China compared to the US and Russia. These numbers are computed using a production-based approach. With the consumption-based approach (reported in the Annex), however, China moves from paying into the fund to becoming a recipient.

Modification 3: Accounting for Methane

Methane is a major greenhouse gas. Following the same logic as with CO2, the deviation of the country (per capita) emissions and stocks from the global average can be calculated for each country. Excess emissions or deviations were multiplied by the country's population and the GCI. The results are reported in Annex Table C**.** To the extent that methane is more problematic than carbon for climate change, the GCI could be set higher. Per capita methane emissions are over four times the global average in Australia, Canada, New Zealand, and Russia. Countries such as France, Germany, and the UK have per capita emissions lower than the global average. In addition, the price of the excess stock emitted since 1990 can be calculated. Annex Table D reports the results.

In terms of methane emissions, Russia takes the lead as the main emitter. With a stock-based approach, emissions of Brazil and Australia become more significant. China is the second largest recipient following India if only methane emissions are considered.

Modification 4: Forestry

One large carbon sink is a country's forests. Bastin et al. (2019) use spatially granular data to estimate forest restoration potential across the globe and find room for an additional 0.9 billion hectares of forest cover, which could store about 750 Gt of CO2 at maturity.

To the extent that a country has protected its forests, given its stage of development and its population density, it should get some credit for it.[6] To objectively compute a measure for 'excess' forest cover, the proposed framework predicts a baseline forest cover in a country given its natural environment and initial forest endowment (in 1990) as well as hard-to-control factors like its stage of development (e.g., more agriculture means less forest cover), and its population (larger population for a given terrain means less forest cover). The actual forest cover less the predicted forest cover is the 'excess' forest cover that the country should get credit for. Using a conversion rate for how much carbon is stored per square km of forest, the total tons of carbon stored in the

[6] The point here is that countries with a natural propensity for forest cover should not receive credit for their natural endowments.

'excess' forest can be obtained. It is important to note that the carbon absorption quality of forests varies across countries; the proposal accounts for these differences using the Global Forest Resources Assessment data of the FAO. [7] For example, a sq km of forest in India stores 4,100 tons of CO2. In Brazil, that figure is 12,100 tons; in Indonesia it is 13,800 tons.

The CO2 equivalent of excess forest can be priced at the GCI to get an excess forestry benefit for a country. Of course, the specific model used to determine the predicted area of forests needs to be worked out. A potential first pass is in Annex 1 which computes the CO2 stored by the 'excess' forest in 2019 controlling for a country's income level, population density, temperature and precipitation, land area, agricultural land, and forest endowment in 1990. Table 3 highlights the top 10 countries that could be credited for forestry based on our first approximation estimates.[8]

China leads the way. Its initial forest coverage was around 1.6 million sq km in 1990. Given its zChina to have around 1.8 million sq km of forest in 2019. Its actual forest cover in 2019, however, is around 2.2 million sq km. Hence it overperformed compared to the global average, making it eligible for USD 0.36 billion as credit using a GCI of USD 0.3 per ton.

The key finding is that measures that protect forest cover, over and beyond a country's development, natural endowment and demography, have only a limited impact in offsetting carbon emissions. The change in the stock of emissions since 1990 is mostly the result of rapidly increasing production and consumption of carbon.

[7] http://countrystat.org/home.aspx?c=FOR.

[8] Countries could also be credited at the GIC rate on a flow basis for the carbon absorbed annually by their "excess" forests. This would create an additional incentive to maintain, or even expand, forest cover. These calculations can be done using the methods already outlined.

Table 3: Forestry Credits for top 10 countries valued at 0.3 USD per ton

Country	Forest coverage 1990 (000's of sq km)	Forest coverage 2019 (000's of sq km)	Predicted forest (000s Of sq km)	Forest performance (deviations from regression predictions - 000's of sq km)	CO2 equivalents (mil tons)	Credit ($ Billions) Valuing excess stock at $0.3 per ton
China	1,571.41	2,180.99	1,779.76	401.23	1,203.68	0.36
India	639.38	718.94	595.92	123.01	504.36	0.15
Viet Nam	93.76	145.67	92.53	53.14	382.64	0.11
Mexico	705.92	658.20	605.16	53.04	169.73	0.05
Congo, Rep.	223.15	219.61	172.90	46.71	714.72	0.21
Gabon	237.62	235.42	189.51	45.91	564.71	0.17
Spain	139.05	185.68	141.08	44.60	102.57	0.03
Guyana	186.02	184.25	147.88	36.36	389.10	0.12
Thailand	193.61	199.09	164.29	34.80	160.08	0.05
Colombia	649.58	593.41	563.36	30.06	336.63	0.10

Implementation

Once the broad contours of the framework are decided, some structures will have to be put in place.

1) The process of measuring actual carbon emissions by a country will have to be standardized. As with the calculation of any aggregates like GDP, there will have to be some assumptions as well as the use of rules of thumb. Since these decisions will imply actual money gained or lost by a country, it is best that these be set by a small independent technical group or secretariat. Further, advances in satellite image processing have made it possible to accurately measure carbon and methane in near real time. NASA's OCO-2 and OCO-3 instruments, the European Space Agency's METOP-A and TROPOMI (Sentinel-5P) platforms, China's TANSAT, and the Japan Space Exploration Agency's GOSAT and GOSAT-2 can be tapped for accurate and independent measurement (Dasgupta et al 2021).

2) There will be a debate about whether countries that are poorly governed should receive payments. In general, so long as there is a functioning government that is not kleptocratic, payments should not be withheld. If there is no government that meets these minimum conditions, payment could be held in trust by the World Bank for when such a government emerges. Furthermore, there should be no presumption that payments would be used for

climate adaptation or mitigation – some countries may decide to invest more in schooling or in poverty relief.

3) Parameters like the value of the GCI for carbon or methane could be decided periodically (say every 3-5 years). Better still, they could be tied to the remaining emission budget in a transparent way.

3. Political Feasibility

Clearly, large emitters have a disincentive to bind themselves to make payments. They may also have little ability to bind successor governments. Yet, if the world is to make some collective headway on climate change, governments have to make costly commitments that may be unappealing to successor governments – this problem is not specific to the proposed schemes. While the political infeasibility of any climatic action is clear, the existential cost of inaction is equally clear.

Furthermore, the issue of differentiated responsibility cannot be avoided. Fuzzy unenforceable long-term commitments need to be transformed into short-term specific obligations. The more these short-term obligations are obtained through simple transparent calculations, the more legitimacy the global community will have in requiring they be adhered to. The proposals in this paper should be seen as a starting point for an informed, and hopefully productive, debate.

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Annex: Forestry

In considering country-specific efforts to protect, one needs to control for a country's natural forest propensity, as well as account for forest 'consumption' as part of a country's development trajectory. One also needs to consider economic geography in terms of the density of settlements.

The regression model outlined here seeks to identify a measure of "*excess* forestation" for every country *i*. Excess forestation is the difference between the observed forest cover in 2019 ($forest19_i$) (sq kms) and a hypothetical share in 2019 predicted by the regression model. Hence, excess forestation for country *i* is simply the residual, u_i, of the regression model:

$$forest19_i = \alpha + X_i\beta + u_i \quad (1)$$

where α is the intercept and β is a vector of coefficients for controls of interest.

The key question is on the choice of control variables that should be included in X_i. What are the main drivers of (de)forestation?

- Log of per-capita GDP ($income_i$): Richer countries are expected to have smaller forest shares if they exploited forests during earlier stages of development. Yet this relationship is non-linear with faster deforestation in low-income countries (which may rely on forest resources) than in high-income countries. Hence, the specification also includes this variable with a squared term. The variables are averages over the last 5 years to flatten out business cycle fluctuations.
- Population density ($population\_density_i$): Countries with higher population densities may need to expand into the forest frontier to accommodate its residents – the evidence from the urban literature suggests that cities around the world expand at the extensive margin as incomes and populations increase (Lall et al 2021).
- Precipitation ($Annual\_precip_i$) and temperature ($Annual\_temp_i$): They both capture climatic properties. While it may be preferred to use measures reflecting agroclimatic zones, considerable heterogeneity within large countries makes it difficult to assign specific zones to a country.
- Share of agricultural land ($agricultural\_land_i$): Agriculture is a main driver of deforestation.

Variants of the specification have also considered urban density, education, real effective exchange rates, and the share of services as a proxy for structural change. Yet, these variables were statistically insignificant and did not change R^2 considerably. Hence, they are excluded from the final specifications. All data have been obtained from the World Bank's World Development Indicators.

The regression model above seeks to explain the forest coverage by various explanatory variables. Yet, if countries are rich today, have a high population density, or have a high share of agriculture, they could have reduced their forest shares many decades, even centuries ago. While it may be useful to consider natural propensity for a country to have forest cover, such historic data are challenging to collect for a large sample of countries. Further, since much of the work in the paper

takes 1990 as a starting point and the interest lies in forestation ambitions in recent decades, 1990 is taken as the cut-off year.

Hence, the specification includes an additional regressor:

- Forest cover in 1990 ($forest90_i$): This variable controls for both the country's natural inclination to forests (jointly with precipitation and temperature) and the deforestation before 1990.

In this case, the residuals can be interpreted as the change in forest over since 1990 above or below what the economic and climatic regression model would predict. Countries with a positive (negative) residual have increased (reduced) forest cover since 1990 relative to the model's prediction, and *excess forestation* is positive (negative).

After estimating countries' excess forestation and deforestation, these values expressed in sq km of land area are converted to CO2 equivalents. The carbon stock in living forest biomass data of the FAO provides the conversion rates. These data express carbon stock per hectare of forest for each country. The reference year to convert forest area in square km to CO2 equivalent is 2010. Countries with forest cover less than 5 percent of land area are dropped from the analysis as their residuals were noisy.

Table 1: Forest area coverage in 2019

	Dependent variable:	
	Forest area (sq. km) in 2019	
	(1)	(2)
income	−0.203	−0.152**
	(0.172)	(0.059)
I(income^2)	0.007	0.006**
	(0.007)	(0.002)
population_density	−0.042	0.027*
	(0.056)	(0.016)
Annual_precip	0.0005***	0.00003
	(0.0001)	(0.00003)
Annual_temp	−0.012*	−0.011***
	(0.007)	(0.002)
land_area	1.339***	0.134***
	(0.066)	(0.037)
agricultural_land	−0.284***	−0.056***
	(0.082)	(0.021)
forest90		0.896***
		(0.025)
Constant	0.907	1.051***
	(1.093)	(0.369)
Observations	130	130
R^2	0.940	0.993
Adjusted R^2	0.937	0.992
Residual Std. Error	0.489 (df = 122)	0.170 (df = 121)

Note: Standard errors are robust (White) *p<0.1; **p<0.05; ***p<0.01

Annex Table A: Annual payments/receipts by each country for a GCI of $10 and $7.5.

							Valuing 'excess' emissions at $10 per ton		Valuing 'excess' emissions at $7.5 per ton -- compatible with a $100 B fund	
ECONOMY	**CO2 production (mil tons)**	**CO2 consumption (mil tons)**	**Per Capita CO2 (production)**	**Per Capita CO2 (consumption)**	**Deviation from global average (per capita CO2 production - 4.61 tons/person)**	**Deviation from global average (per capita CO2 consumption 4.9 tons/person)**	**Payments or Receipts (production based) USD Billions**	**Payments or Receipts (consumption based) USD Billions**	**Payments or Receipts (production based)**	**Payments or Receipts (consumption based)**
United States	5,291.77	5,635.92	16.28	17.34	11.67	12.44	37.92	40.42	28.44	30.31
China	10,053.86	8,999.52	7.08	6.33	2.46	1.43	34.96	20.32	26.22	15.24
Russian Federation	1,651.85	1,419.53	11.35	9.76	6.74	4.85	9.80	7.06	7.35	5.30
Japan	1,172.92	1,341.14	9.20	10.52	4.59	5.62	5.85	7.16	4.38	5.37
Saudi Arabia	639.54	663.66	19.35	20.08	14.74	15.18	4.87	5.02	3.65	3.76
Korea, Rep.	649.98	691.55	12.73	13.54	8.11	8.64	4.14	4.41	3.11	3.31
Canada	572.77	572.67	15.60	15.59	10.98	10.69	4.03	3.93	3.02	2.94
Germany	769.54	861.69	9.31	10.42	4.69	5.52	3.88	4.56	2.91	3.42
Iran, Islamic Rep.	683.75	638.57	8.47	7.91	3.86	3.01	3.11	2.43	2.33	1.82
Australia	412.90	385.69	16.80	15.69	12.19	10.79	2.99	2.65	2.25	1.99
Kazakhstan	299.67	238.79	16.58	13.21	11.97	8.31	2.16	1.50	1.62	1.13
South Africa	463.93	328.49	8.14	5.76	3.52	0.86	2.01	0.49	1.51	0.37
Taiwan, China	279.71	272.16	11.82	11.50	7.20	6.59	1.70	1.56	1.28	1.17
Poland	326.39	292.55	8.60	7.71	3.98	2.80	1.51	1.06	1.13	0.80
United Arab Emirates	181.69	212.70	19.12	22.38	14.50	17.48	1.38	1.66	1.03	1.25
Malaysia	256.77	249.98	8.25	8.04	3.64	3.13	1.13	0.97	0.85	0.73
Qatar	100.15	67.32	36.93	24.82	32.32	19.92	0.88	0.54	0.66	0.41
United Kingdom	392.03	542.39	5.88	8.13	1.26	3.23	0.84	2.15	0.63	1.61
Netherlands	160.87	151.39	9.45	8.90	4.84	3.99	0.82	0.68	0.62	0.51
Kuwait	95.92	89.91	23.75	22.26	19.13	17.36	0.77	0.70	0.58	0.53
Italy	352.20	458.56	5.81	7.56	1.19	2.66	0.72	1.61	0.54	1.21
Czechia	105.22	104.80	9.89	9.85	5.27	4.94	0.56	0.53	0.42	0.39
Spain	265.66	281.18	5.69	6.02	1.08	1.12	0.50	0.52	0.38	0.39
Belgium	100.07	173.10	8.77	15.16	4.15	10.26	0.47	1.17	0.36	0.88
Turkmenistan	71.48		12.42		7.80		0.45		0.34	
Oman	61.89	64.91	13.33	13.98	8.71	9.07	0.40	0.42	0.30	0.32
Trinidad and Tobago	41.20	29.18	29.78	21.10	25.16	16.19	0.35	0.22	0.26	0.17
Türkiye	405.34	422.21	5.00	5.21	0.39	0.31	0.31	0.25	0.23	0.19
Mongolia	43.81	38.98	14.08	12.52	9.46	7.62	0.29	0.24	0.22	0.18
France	327.76	432.67	5.06	6.68	0.44	1.77	0.29	1.15	0.21	0.86
Iraq	201.21		5.37		0.75		0.28		0.21	

Austria	67.54	92.84	7.66	10.53	3.04	5.62	0.27	0.50	0.20	0.37
Bahrain	32.70	18.17	21.79	12.11	17.18	7.20	0.26	0.11	0.19	0.08
Libya	54.79		8.31		3.70		0.24		0.18	
Israel	61.20	78.36	7.42	9.50	2.81	4.60	0.23	0.38	0.17	0.28
Greece	71.75	59.61	6.79	5.64	2.17	0.74	0.23	0.08	0.17	0.06
Ukraine	227.11	207.78	5.11	4.67	0.49	-0.23	0.22	-0.10	0.16	-0.08
Singapore	46.64	110.84	8.18	19.43	3.56	14.53	0.20	0.83	0.15	0.62
Norway	44.42	48.92	8.39	9.24	3.78	4.34	0.20	0.23	0.15	0.17
Finland	44.88	64.96	8.15	11.79	3.53	6.89	0.19	0.38	0.15	0.28
Ireland	38.89	41.94	8.17	8.81	3.55	3.91	0.17	0.19	0.13	0.14
Belarus	60.00	62.67	6.35	6.63	1.73	1.73	0.16	0.16	0.12	0.12
New Zealand	35.90	38.91	7.64	8.28	3.02	3.37	0.14	0.16	0.11	0.12
Bulgaria	45.44	39.55	6.40	5.57	1.78	0.66	0.13	0.05	0.10	0.04
Venezuela, RB	146.10	162.84	4.98	5.55	0.36	0.64	0.11	0.19	0.08	0.14
Estonia	16.51	17.10	12.51	12.95	7.89	8.05	0.10	0.11	0.08	0.08
Slovak Republic	35.02	46.78	6.43	8.59	1.81	3.68	0.10	0.20	0.07	0.15
Hong Kong SAR, China	42.57	107.72	5.82	14.74	1.21	9.83	0.09	0.72	0.07	0.54
Denmark	34.51	50.41	6.02	8.80	1.40	3.89	0.08	0.22	0.06	0.17
Brunei Darussalam	8.72	9.33	20.55	21.99	15.94	17.09	0.07	0.07	0.05	0.05
Luxembourg	9.40	23.06	15.90	38.97	11.28	34.07	0.07	0.20	0.05	0.15
Bosnia and Herzegovina	21.79		6.49		1.87		0.06		0.05	
Equatorial Guinea	11.20		8.87		4.26		0.05		0.04	
Serbia	45.58		5.16		0.55		0.05		0.04	
New Caledonia	5.98		21.58		16.96		0.05		0.04	
Slovenia	14.23	18.50	6.85	8.91	2.24	4.01	0.05	0.08	0.03	0.06
Curacao	4.95		30.58		25.96		0.04		0.03	
Portugal	51.42	55.86	5.00	5.43	0.38	0.52	0.04	0.05	0.03	0.04
Hungary	48.33	64.87	4.97	6.67	0.35	1.76	0.03	0.17	0.03	0.13
Iceland	3.57		10.67		6.05		0.02	0.00	0.02	
Cyprus	7.31	7.66	6.20	6.50	1.58	1.59	0.02	0.02	0.01	0.01
Guadeloupe	2.50		6.25		1.63		0.01		0.00	
Martinique	2.29		6.08		1.47		0.01		0.00	
Bahamas, The	2.31		6.05		1.43		0.01		0.00	
Sint Maarten (Dutch part)	0.74		17.89		13.27		0.01		0.00	
Faeroe Islands	0.68		14.09		9.47		0.00		0.00	
Lithuania	13.57	21.77	4.77	7.65	0.15	2.75	0.00	0.08	0.00	0.06
Aruba	0.88		8.34		3.73		0.00		0.00	
Bermuda	0.64		10.14		5.52		0.00		0.00	
Greenland	0.54		9.53		4.92		0.00		0.00	
Bonaire Sint Eustatius and Saba	0.34		13.41		8.80		0.00		0.00	
Palau	0.21		11.96		7.35		0.00		0.00	
Andorra	0.48		6.20		1.58		0.00		0.00	
Seychelles	0.54		5.62		1.01		0.00		0.00	

Anguilla	0.15		10.05		5.44		0.00		0.00	
Turks and Caicos Islands	0.22		6.01		1.39		0.00		0.00	
Antigua and Barbuda	0.49		5.13		0.51		0.00		0.00	
British Virgin Islands	0.18		6.17		1.56		0.00		0.00	
Saint Pierre and Miquelon	0.06		10.65		6.04		0.00		0.00	
Montserrat	0.04		7.02		2.41		0.00		0.00	
Nauru	0.05		5.16		0.55		0.00		0.00	
Niue	0.01		5.34		0.72		0.00		0.00	
Saint Kitts and Nevis	0.24		4.61		-0.01		0.00		0.00	
Cook Islands	0.07		4.25		-0.36		0.00		0.00	
Saint Helena	0.01		1.97		-2.64		0.00		0.00	
Liechtenstein	0.15		4.00		-0.62		0.00		0.00	
Tuvalu	0.01		0.63		-3.98		0.00		0.00	
Barbados	1.23		4.31		-0.31		0.00		0.00	
Marshall Islands	0.15		2.52		-2.10		0.00		0.00	
Suriname	2.50		4.38		-0.24		0.00		0.00	
Dominica	0.17		2.34		-2.28		0.00		0.00	
Grenada	0.29		2.61		-2.01		0.00		0.00	
Saint Vincent and the Grenadines	0.23		2.13		-2.49		0.00		0.00	
Tonga	0.14		1.35		-3.27		0.00		0.00	
Saint Lucia	0.50		2.74		-1.88		0.00		0.00	
Malta	1.58	5.16	3.62	11.79	-1.00	6.88	0.00	0.03	0.00	0.02
Kiribati	0.06		0.54		-4.07		0.00		0.00	
French Polynesia	0.79		2.85		-1.76		0.00		0.00	
French Guiana	0.71		2.58		-2.04		-0.01		0.00	
Montenegro	2.28		3.63		-0.98		-0.01		0.00	
Samoa	0.24		1.22		-3.39		-0.01		0.00	
Maldives	1.56		3.15		-1.46		-0.01		-0.01	
São Tomé and Príncipe	0.13		0.61		-4.01		-0.01		-0.01	
Mayotte	0.30		1.18		-3.44		-0.01	0.00	-0.01	
Switzerland	37.94	118.28	4.49	14.00	-0.13	9.09	-0.01	0.77	-0.01	0.58
Chile	84.16	91.87	4.56	4.97	-0.06	0.07	-0.01	0.01	-0.01	0.01
Belize	0.63		1.67		-2.94		-0.01		-0.01	
Vanuatu	0.16		0.54		-4.07		-0.01		-0.01	
Guyana	2.33		3.00		-1.61		-0.01		-0.01	
Croatia	18.02	21.30	4.31	5.09	-0.31	0.19	-0.01	0.01	-0.01	0.01
Mauritius	4.40	5.51	3.48	4.36	-1.14	-0.55	-0.01	-0.01	-0.01	-0.01
Latvia	7.44	12.52	3.81	6.41	-0.80	1.51	-0.02	0.03	-0.01	0.02
Cabo Verde	0.56		1.05		-3.57		-0.02		-0.01	
Bhutan	1.34		1.80		-2.81		-0.02		-0.02	
North Macedonia	7.30		3.51		-1.11		-0.02		-0.02	
Solomon Islands	0.29		0.46		-4.16		-0.03		-0.02	

Fiji	1.33		1.52		-3.10		-0.03		-0.02	
Sweden	42.50	70.03	4.29	7.07	-0.32	2.17	-0.03	0.21	-0.02	0.16
Comoros	0.25		0.31		-4.31		-0.04	0.00	-0.03	
Botswana	6.66	17.46	3.02	7.91	-1.60	3.00	-0.04	0.07	-0.03	0.05
Djibouti	0.41		0.43		-4.18		-0.04		-0.03	
Eswatini	0.99		0.88		-3.74		-0.04		-0.03	
Lebanon	26.68		3.95		-0.67		-0.05		-0.03	
Gabon	4.91		2.38		-2.23		-0.05		-0.03	
Timor-Leste	0.53		0.42		-4.19		-0.05		-0.04	
Jamaica	8.01	8.83	2.74	3.02	-1.87	-1.88	-0.05	-0.05	-0.04	-0.04
Namibia	4.06	8.99	1.69	3.74	-2.93	-1.16	-0.07	-0.03	-0.05	-0.02
Lesotho	2.36		1.13		-3.49		-0.07		-0.05	
Panama	11.13	23.94	2.71	5.83	-1.90	0.92	-0.08	0.04	-0.06	0.03
Armenia	5.51	5.76	1.87	1.96	-2.74	-2.95	-0.08	-0.09	-0.06	-0.07
Guinea-Bissau	0.30		0.17		-4.45		-0.08		-0.06	
Azerbaijan	37.27	39.72	3.79	4.04	-0.83	-0.87	-0.08	-0.09	-0.06	-0.06
Georgia	10.12	11.27	2.52	2.81	-2.09	-2.09	-0.08	-0.08	-0.06	-0.06
Albania	4.78	5.79	1.66	2.01	-2.96	-2.90	-0.09	-0.08	-0.06	-0.06
Uruguay	6.51	11.41	1.89	3.32	-2.72	-1.59	-0.09	-0.05	-0.07	-0.04
Gambia, The	0.54		0.24		-4.37		-0.10		-0.07	
Lao PDR	19.23	18.95	2.77	2.73	-1.85	-2.18	-0.13	-0.15	-0.10	-0.11
Moldova	5.10		1.26		-3.36		-0.14		-0.10	
Romania	76.03	76.83	3.87	3.91	-0.75	-0.99	-0.15	-0.20	-0.11	-0.15
Costa Rica	8.14	12.83	1.64	2.59	-2.97	-2.31	-0.15	-0.11	-0.11	-0.09
Eritrea	0.72		0.21		-4.40		-0.15		-0.11	
Mauritania	3.28		0.77		-3.85		-0.16		-0.12	
Kyrgyzstan	10.40	16.23	1.68	2.62	-2.94	-2.28	-0.18	-0.14	-0.14	-0.11
Argentina	183.97	188.83	4.19	4.30	-0.43	-0.61	-0.19	-0.27	-0.14	-0.20
West Bank and Gaza	3.09		0.65		-3.97		-0.19		-0.14	
Jordan	25.29	33.84	2.60	3.48	-2.02	-1.43	-0.20	-0.14	-0.15	-0.10
Congo, Rep.	3.53		0.69		-3.93		-0.20		-0.15	
Liberia	1.19		0.25		-4.36		-0.21		-0.15	
Central African Republic	0.20		0.04		-4.57		-0.21		-0.16	
El Salvador	6.51	8.41	1.02	1.32	-3.60	-3.59	-0.23	-0.23	-0.17	-0.17
Tunisia	29.38	27.81	2.57	2.43	-2.05	-2.47	-0.23	-0.28	-0.18	-0.21
Dominican Republic	25.08	26.61	2.39	2.53	-2.23	-2.37	-0.23	-0.25	-0.18	-0.19
Nicaragua	5.45	6.44	0.85	1.01	-3.76	-3.90	-0.24	-0.25	-0.18	-0.19
Paraguay	7.67	11.06	1.12	1.61	-3.50	-3.29	-0.24	-0.23	-0.18	-0.17
Cuba	25.57		2.26		-2.36		-0.27		-0.20	
Bolivia	23.07	22.46	2.06	2.01	-2.55	-2.90	-0.29	-0.32	-0.21	-0.24
Papua New Guinea	6.48		0.77		-3.85		-0.32		-0.24	
Togo	2.20	7.09	0.29	0.92	-4.33	-3.98	-0.33	-0.31	-0.25	-0.23
Tajikistan	7.47		0.84		-3.77		-0.34		-0.25	

Sierra Leone	0.92		0.12		-4.49		-0.34		-0.25	
Honduras	9.76	11.91	1.03	1.26	-3.58	-3.64	-0.34	-0.34	-0.25	-0.26
Algeria	156.34		3.78		-0.84		-0.35		-0.26	
Uzbekistan	109.13		3.41		-1.20		-0.38		-0.29	
Ecuador	38.84	46.60	2.31	2.78	-2.30	-2.13	-0.39	-0.36	-0.29	-0.27
Thailand	280.58	277.88	4.06	4.02	-0.56	-0.89	-0.39	-0.61	-0.29	-0.46
Benin	6.69	8.70	0.60	0.78	-4.02	-4.13	-0.45	-0.46	-0.34	-0.35
Haiti	3.08		0.28		-4.34		-0.48		-0.36	
South Sudan	1.56		0.14		-4.47		-0.49		-0.37	
Burundi	0.55		0.05		-4.56		-0.49		-0.37	
Syrian Arab Republic	30.13		1.74		-2.88		-0.50		-0.37	
Guinea	3.17	3.17	0.26	0.26	-4.35	-4.64	-0.53	-0.56	-0.39	-0.42
Rwanda	1.07	1.07	0.09	0.09	-4.53	-4.82	-0.54	-0.58	-0.41	-0.43
Zimbabwe	11.07	12.47	0.78	0.88	-3.84	-4.03	-0.55	-0.57	-0.41	-0.43
Guatemala	18.12	22.84	1.07	1.35	-3.54	-3.55	-0.60	-0.60	-0.45	-0.45
Senegal	10.64	11.05	0.69	0.72	-3.93	-4.19	-0.61	-0.65	-0.45	-0.48
Cambodia	12.03	17.34	0.75	1.08	-3.86	-3.82	-0.62	-0.61	-0.46	-0.46
Somalia	0.64		0.04		-4.57		-0.67		-0.50	
Chad	0.96		0.06		-4.55		-0.68		-0.51	
Zambia	6.33	9.58	0.38	0.57	-4.24	-4.34	-0.72	-0.73	-0.54	-0.55
Sri Lanka	21.94	31.58	1.04	1.50	-3.58	-3.41	-0.76	-0.72	-0.57	-0.54
Malawi	1.39	3.12	0.08	0.18	-4.54	-4.73	-0.80	-0.84	-0.60	-0.63
Mali	3.50		0.19		-4.43		-0.82		-0.62	
Burkina Faso	3.85	4.94	0.20	0.26	-4.42	-4.65	-0.85	-0.89	-0.64	-0.67
Peru	53.03	61.78	1.69	1.96	-2.93	-2.94	-0.92	-0.93	-0.69	-0.69
Korea, Dem. People's Rep.	24.57		0.97		-3.65		-0.93		-0.70	
Niger	1.96		0.09		-4.52		-0.98		-0.73	
Côte d'Ivoire	10.76	15.55	0.44	0.64	-4.18	-4.27	-1.02	-1.04	-0.77	-0.78
Morocco	61.83	64.33	1.74	1.81	-2.88	-3.10	-1.02	-1.10	-0.77	-0.83
Cameroon	7.72	10.51	0.31	0.43	-4.30	-4.48	-1.06	-1.10	-0.79	-0.83
Angola	28.26		0.95		-3.67		-1.09		-0.82	
Mexico	463.09	484.10	3.71	3.88	-0.90	-1.02	-1.13	-1.28	-0.85	-0.96
Madagascar	3.76	5.02	0.15	0.20	-4.47	-4.71	-1.14	-1.20	-0.86	-0.90
Nepal	11.78	17.30	0.42	0.62	-4.19	-4.28	-1.16	-1.19	-0.87	-0.89
Yemen, Rep.	10.64		0.38		-4.23		-1.18		-0.88	
Ghana	16.00	20.18	0.55	0.69	-4.07	-4.21	-1.18	-1.23	-0.89	-0.92
Mozambique	7.39	16.86	0.26	0.59	-4.36	-4.32	-1.25	-1.24	-0.94	-0.93
Colombia	89.36	100.48	1.83	2.05	-2.79	-2.85	-1.36	-1.39	-1.02	-1.05
Afghanistan	8.40		0.23		-4.38		-1.59		-1.19	
Sudan	20.88		0.51		-4.10		-1.68		-1.26	
Uganda	5.18	7.57	0.13	0.18	-4.49	-4.72	-1.85	-1.95	-1.39	-1.46
Egypt, Arab Rep.	231.50	236.27	2.40	2.45	-2.22	-2.45	-2.14	-2.37	-1.60	-1.77
Kenya	17.23	26.69	0.34	0.53	-4.27	-4.37	-2.15	-2.20	-1.61	-1.65
Myanmar	28.21		0.53		-4.09		-2.18	0.00	-1.64	

Viet Nam	213.01	210.08	2.25	2.22	-2.36	-2.68	-2.24	-2.54	-1.68	-1.90
Tanzania	11.35	20.07	0.21	0.37	-4.41	-4.54	-2.41	-2.48	-1.81	-1.86
Philippines	131.31	151.47	1.25	1.44	-3.37	-3.46	-3.54	-3.64	-2.66	-2.73
Congo, Dem. Rep.	2.55		0.03		-4.58		-3.73		-2.80	
Brazil	498.47	518.93	2.40	2.50	-2.22	-2.41	-4.61	-5.00	-3.46	-3.75
Ethiopia	14.96	20.24	0.14	0.19	-4.48	-4.71	-4.76	-5.02	-3.57	-3.76
Indonesia	592.60	607.82	2.24	2.30	-2.38	-2.61	-6.29	-6.90	-4.71	-5.17
Bangladesh	81.50	102.88	0.51	0.64	-4.11	-4.26	-6.55	-6.80	-4.92	-5.10
Pakistan	216.57	224.50	1.04	1.08	-3.57	-3.82	-7.43	-7.95	-5.57	-5.97
Nigeria	120.27	125.56	0.63	0.66	-3.99	-4.25	-7.61	-8.11	-5.71	-6.08
India	2,462.08	2,254.74	1.84	1.68	-2.78	-3.22	-37.16	-43.09	-27.87	-32.32

Annex Table B: Annual payments/receipts by each country for the stock of historical emissions.

Note: stock values take 1990 as initial year					Global average 110.14 tons/person	Global average 117.33 tons/person	Valuing 'excess' stock at $0.3 per ton		Valuing 'excess' stock at $10 per ton	
ECONOMY	CO2 STOCK prod. (MIL TONS)	CO2 STOCK cons. (MIL TONS)	Per Capita CO2 STOCK (prod.)	Per Capita CO2 STOCK (cons.)	Deviation from global average (per capita CO2 STOCK prod.)	Deviation from global average (per capita CO2 STOCK cons.)	Payments or Receipts (prod. STOCK based) USD Billions	Payments or Receipts (cons. STOCK based) USD Billions	Payments or Receipts (prod. STOCK based)	Payments or Receipts (cons. STOCK based)
United States	167,927.36	174,897.27	510.32	531.50	400.17	414.16	39.50	40.89	1,316.83	1,362.86
Russian Federation	49,909.67	39,171.85	342.15	268.54	232.00	151.20	10.15	6.62	338.43	220.56
China	184,376.75	159,742.45	128.59	111.41	18.45	-5.92	7.94	-2.55	264.55	-84.91
Japan	36,938.62	43,373.05	291.18	341.90	181.03	224.56	6.89	8.55	229.66	284.88
Germany	26,251.71	30,768.19	314.33	368.41	204.18	251.07	5.12	6.29	170.53	209.69
Canada	16,332.75	16,581.75	436.58	443.23	326.43	325.90	3.66	3.66	122.12	121.92
Korea, Rep.	14,869.02	16,500.10	290.27	322.11	180.12	204.77	2.77	3.15	92.27	104.90
Saudi Arabia	12,329.56	11,839.89	359.79	345.50	249.65	228.17	2.57	2.35	85.55	78.19
United Kingdom	15,728.91	19,731.77	232.92	292.19	122.77	174.86	2.49	3.54	82.91	118.08
Australia	10,982.38	9,996.75	435.75	396.65	325.61	279.31	2.46	2.11	82.06	70.40
Italy	13,001.65	16,469.68	214.73	272.00	104.58	154.67	1.90	2.81	63.32	93.65
South Africa	12,404.14	8,800.90	211.83	150.29	101.68	32.96	1.79	0.58	59.54	19.30
Poland	10,105.69	9,230.14	266.73	243.62	156.58	126.28	1.78	1.44	59.33	47.85
Ukraine	10,248.41	8,047.84	232.95	182.93	122.81	65.60	1.62	0.87	54.03	28.86
Kazakhstan	6,667.81	5,144.53	359.42	277.31	249.28	159.98	1.39	0.89	46.24	29.68
Iran, Islamic Rep.	13,670.99	12,775.33	164.88	154.08	54.74	36.74	1.36	0.91	45.39	30.47
Taiwan, China	6,969.11	7,380.76	293.14	310.46	183.00	193.12	1.31	1.38	43.51	45.91
France	11,424.20	14,915.20	175.41	229.01	65.26	111.67	1.28	2.18	42.51	72.73
Spain	8,649.46	9,600.33	185.07	205.41	74.92	88.08	1.05	1.23	35.02	41.16
Netherlands	5,105.98	5,441.35	298.65	318.26	188.50	200.93	0.97	1.03	32.23	34.35
United Arab Emirates	3,771.82	4,479.95	386.04	458.52	275.90	341.18	0.81	1.00	26.96	33.34
Czechia	3,701.09	3,538.02	346.25	330.99	236.10	213.65	0.76	0.69	25.24	22.84
Belgium	3,503.16	5,515.31	303.58	477.96	193.44	360.62	0.67	1.25	22.32	41.61
Greece	2,780.07	2,734.50	265.44	261.09	155.30	143.75	0.49	0.45	16.26	15.06
Kuwait	2,043.93	1,801.20	485.83	428.14	375.69	310.80	0.47	0.39	15.81	13.08
Venezuela, RB	4,662.38	3,993.38	163.50	140.04	53.36	22.71	0.46	0.19	15.22	6.47
Malaysia	5,029.87	4,659.72	157.43	145.85	47.29	28.51	0.45	0.27	15.11	9.11
Qatar	1,706.13	1,070.36	602.43	377.94	492.29	260.61	0.42	0.22	13.94	7.38
Finland	1,716.50	2,314.04	310.28	418.29	200.13	300.95	0.33	0.50	11.07	16.65
Austria	2,053.78	2,878.38	229.34	321.42	119.20	204.09	0.32	0.55	10.67	18.28
Denmark	1,555.30	1,891.43	269.46	327.70	159.32	210.36	0.28	0.36	9.20	12.14
Belarus	1,923.29	1,761.68	203.47	186.37	93.33	69.04	0.26	0.20	8.82	6.53

Romania	2,998.02	2,842.04	154.82	146.76	44.68	29.43	0.26	0.17	8.65	5.70
Singapore	1,480.34	3,244.81	255.04	559.03	144.90	441.70	0.25	0.77	8.41	25.64
Trinidad and Tobago	982.33	591.04	704.19	423.70	594.05	306.36	0.25	0.13	8.29	4.27
Turkmenistan	1,464.05		246.39		136.24		0.24		8.10	
Israel	1,730.61	2,161.42	203.14	253.71	92.99	136.37	0.24	0.35	7.92	11.62
Bulgaria	1,545.68	1,344.07	220.81	192.01	110.66	74.67	0.23	0.16	7.75	5.23
Libya	1,485.15		219.13		108.99		0.22		7.39	
Ireland	1,214.48	1,513.28	248.74	309.94	138.60	192.61	0.20	0.28	6.77	9.40
Norway	1,268.00	828.61	235.74	154.05	125.59	36.71	0.20	0.06	6.76	1.97
Slovak Republic	1,246.41	1,450.34	228.41	265.78	118.26	148.44	0.19	0.24	6.45	8.10
Hungary	1,703.34	2,199.36	175.88	227.10	65.74	109.76	0.19	0.32	6.37	10.63
Portugal	1,685.86	1,966.24	164.86	192.28	54.71	74.94	0.17	0.23	5.60	7.66
Oman	1,058.20	1,040.26	212.70	209.10	102.56	91.76	0.15	0.14	5.10	4.57
Bahrain	665.55	429.93	405.54	261.97	295.39	144.63	0.15	0.07	4.85	2.37
New Zealand	1,000.58	1,070.98	209.19	223.91	99.05	106.58	0.14	0.15	4.74	5.10
Sweden	1,575.29	2,446.66	156.96	243.78	46.81	126.44	0.14	0.38	4.70	12.69
Serbia	1,404.73		160.13		49.99		0.13		4.39	
Estonia	568.53	570.89	428.87	430.65	318.73	313.32	0.13	0.12	4.23	4.15
Hong Kong SAR, China	1,171.08	3,172.13	157.48	426.58	47.34	309.25	0.11	0.69	3.52	23.00
Switzerland	1,287.44	3,240.89	149.85	377.23	39.71	259.89	0.10	0.67	3.41	22.33
Luxembourg	310.77	471.58	504.72	765.88	394.58	648.55	0.07	0.12	2.43	3.99
Slovenia	465.95	568.46	224.16	273.48	114.02	156.14	0.07	0.10	2.37	3.25
Mongolia	546.86	505.56	169.56	156.75	59.42	39.42	0.06	0.04	1.92	1.27
Lithuania	475.26	731.53	172.22	265.08	62.07	147.75	0.05	0.12	1.71	4.08
Brunei Darussalam	194.26	178.29	448.34	411.47	338.19	294.13	0.04	0.04	1.47	1.27
Croatia	593.53	694.85	143.70	168.23	33.56	50.90	0.04	0.06	1.39	2.10
Curacao	137.76		842.94		732.79		0.04		1.20	0.00
Bosnia and Herzegovina	480.10		145.44		35.30		0.03		1.17	0.00
Cyprus	210.68	273.80	175.77	228.44	65.63	111.11	0.02	0.04	0.79	1.33
North Macedonia	297.58		142.83		32.69		0.02		0.68	0.00
New Caledonia	93.94		332.22		222.08		0.02		0.63	0.00
Latvia	270.70	420.19	141.97	220.37	31.83	103.04	0.02	0.06	0.61	1.96
Iceland	91.90		271.07		160.93		0.02		0.55	0.00
Aruba	45.09		424.13		313.98		0.01		0.33	0.00
Malta	73.14	140.46	166.08	318.95	55.94	201.62	0.01	0.03	0.25	0.89
Martinique	63.21		168.31		58.17		0.01		0.22	
Guadeloupe	65.70		164.22		54.07		0.01		0.22	
Bahamas	61.32		157.44		47.30		0.01		0.18	
Equatorial Guinea	167.26		123.35		13.21		0.01		0.18	
Faeroe Islands	19.57		402.08		291.94		0.00		0.14	
Sint Maarten (Dutch part)	17.20		405.84		295.69		0.00		0.13	
Greenland	17.96		316.91		206.76		0.00		0.12	

Bermuda	16.84		269.47		159.33		0.00		0.10	
Andorra	14.61		189.33		79.19		0.00		0.06	
Bonaire Sint Eustatius and Saba	7.74		297.81		187.67		0.00		0.05	
Barbados	36.45		127.01		16.86		0.00		0.05	
Palau	6.38		354.65		244.50		0.00		0.04	
Liechtenstein	5.97		156.97		46.83		0.00		0.02	
Anguilla	3.30		221.76		111.62		0.00		0.02	
Saint Pierre and Miquelon	1.99		342.04		231.89		0.00		0.01	
British Virgin Islands	4.56		151.67		41.52		0.00		0.01	
Nauru	2.21		204.94		94.80		0.00		0.01	
Montserrat	1.14		227.41		117.27		0.00		0.01	
Antigua and Barbuda	10.74		110.54		0.40		0.00		0.00	
Niue	0.20		124.54		14.39		0.00		0.00	
Seychelles	10.78		110.30		0.16		0.00		0.00	
Saint Kitts and Nevis	5.61		106.16		-3.98		0.00		0.00	
Suriname	63.82		109.77		-0.37		0.00		0.00	
Cook Islands	1.61		91.75		-18.39		0.00		0.00	
Saint Helena	0.32		53.13		-57.02		0.00		0.00	
Turks and Caicos Islands	3.73		97.63		-12.51		0.00		0.00	
Tuvalu	0.27		22.99		-87.15		0.00		-0.01	
Marshall Islands	3.27		55.59		-54.56		0.00		-0.03	
Dominica	3.74		52.08		-58.06		0.00		-0.04	
Grenada	6.41		57.22		-52.92		0.00		-0.06	
Saint Vincent and the Grenadines	5.60		50.65		-59.50		0.00		-0.07	
Tonga	3.25		31.13		-79.01		0.00		-0.08	
Saint Lucia	11.42		62.50		-47.65		0.00		-0.09	
French Polynesia	19.62		70.25		-39.89		0.00		-0.11	
Kiribati	1.36		11.54		-98.61		0.00		-0.12	
French Guiana	19.90		68.44		-41.70		0.00		-0.12	
Montenegro	56.57		90.08		-20.07		0.00		-0.13	
Samoa	4.91		24.89		-85.26		-0.01		-0.17	
São Tomé and Príncipe	2.38		11.08		-99.06		-0.01		-0.21	
Mayotte	6.21		23.34		-86.80		-0.01		-0.23	
Azerbaijan	1,081.52	939.72	107.64	93.53	-2.51	-23.81	-0.01	-0.07	-0.25	-2.39
Belize	13.60		34.85		-75.30		-0.01		-0.29	
Vanuatu	2.94		9.80		-100.34		-0.01		-0.30	
Guyana	53.30		68.09		-42.05		-0.01		-0.33	
Maldives	22.32		42.04		-68.11		-0.01		-0.36	
Mauritius	93.17	134.68	73.38	106.08	-36.76	-11.26	-0.01	0.00	-0.47	-0.14
Cabo Verde	10.51		19.11		-91.03		-0.02		-0.50	

Jamaica	271.62	289.37	92.13	98.15	-18.01	-19.19	-0.02	-0.02	-0.53	-0.57
Solomon Islands	7.76		11.59		-98.56		-0.02		-0.66	
Bhutan	16.65		21.81		-88.33		-0.02		-0.67	
Fiji	30.11		33.84		-76.31		-0.02		-0.68	
Comoros	4.10		4.82		-105.33		-0.03		-0.90	
Djibouti	11.82		12.14		-98.00		-0.03		-0.95	
Eswatini	30.69		26.73		-83.42		-0.03		-0.96	
Gabon	141.79		65.26		-44.88		-0.03		-0.98	
Botswana	129.03	249.47	56.01	108.29	-54.14	-9.05	-0.04	-0.01	-1.25	-0.21
Timor-Leste	6.02		4.65		-105.49		-0.04		-1.36	
Lesotho	61.80		29.08		-81.07		-0.05		-1.72	
Armenia	137.88	146.46	46.62	49.52	-63.53	-67.82	-0.06	-0.06	-1.88	-2.01
Moldova	251.84		62.29		-47.86		-0.06		-1.93	
Namibia	72.16	137.99	28.93	55.32	-81.22	-62.02	-0.06	-0.05	-2.03	-1.55
Uruguay	178.56	269.73	51.58	77.92	-58.56	-39.42	-0.06	-0.04	-2.03	-1.36
Albania	114.00	143.57	39.57	49.84	-70.57	-67.50	-0.06	-0.06	-2.03	-1.94
Guinea-Bissau	6.54		3.40		-106.74		-0.06		-2.05	
Argentina	4,714.87	4,551.44	105.29	101.64	-4.86	-15.70	-0.07	-0.21	-2.17	-7.03
Georgia	221.40	252.81	55.40	63.25	-54.75	-54.08	-0.07	-0.06	-2.19	-2.16
Lebanon	529.59		77.25		-32.90		-0.07		-2.26	
Chile	1,849.60	1,949.11	97.59	102.84	-12.55	-14.49	-0.07	-0.08	-2.38	-2.75
Uzbekistan	3,393.62		102.89		-7.25		-0.07		-2.39	
Gambia, The	10.42		4.44		-105.71		-0.07		-2.48	
Panama	215.84	317.66	50.83	74.81	-59.32	-42.53	-0.08	-0.05	-2.52	-1.81
Costa Rica	190.39	320.36	37.72	63.47	-72.42	-53.87	-0.11	-0.08	-3.66	-2.72
Eritrea	17.10		4.89		-105.25		-0.11		-3.68	
Mauritania	51.61		11.40		-98.74		-0.13		-4.47	
Kyrgyzstan	239.33	343.47	37.30	53.53	-72.84	-63.80	-0.14	-0.12	-4.67	-4.09
Cuba	772.58		68.17		-41.98		-0.14		-4.76	
West Bank and Gaza	56.54		11.35		-98.79		-0.15		-4.92	
Central African Republic	6.04		1.27		-108.87		-0.15		-5.17	
Syrian Arab Republic	1,363.03		79.85		-30.29		-0.16		-5.17	
Liberia	20.16		4.08		-106.06		-0.16		-5.24	
Congo, Rep.	52.72		9.80		-100.34		-0.16		-5.40	
El Salvador	170.55	235.97	26.43	36.56	-83.72	-80.77	-0.16	-0.16	-5.40	-5.21
Jordan	556.20	728.91	55.06	72.16	-55.08	-45.18	-0.17	-0.14	-5.56	-4.56
Nicaragua	119.77	150.04	18.30	22.92	-91.85	-94.41	-0.18	-0.19	-6.01	-6.18
Dominican Republic	562.86	624.22	52.41	58.13	-57.73	-59.21	-0.19	-0.19	-6.20	-6.36
Tunisia	661.73	673.41	56.58	57.58	-53.56	-59.75	-0.19	-0.21	-6.26	-6.99
Paraguay	137.84	210.92	19.57	29.94	-90.58	-87.39	-0.19	-0.18	-6.38	-6.16
Lao PDR	136.63	160.19	19.06	22.34	-91.09	-94.99	-0.20	-0.20	-6.53	-6.81
Togo	49.44	112.77	6.12	13.95	-104.03	-103.38	-0.25	-0.25	-8.41	-8.36
Papua New Guinea	124.12		14.14		-96.00		-0.25		-8.43	0.00

Sierra Leone	16.92		2.17		-107.98		-0.25		-8.44	0.00
Bolivia	401.82	379.91	34.90	33.00	-75.24	-84.34	-0.26	-0.29	-8.66	-9.71
Honduras	196.77	254.78	20.19	26.14	-89.95	-91.19	-0.26	-0.27	-8.77	-8.89
Tajikistan	126.48		13.57		-96.57		-0.27		-9.00	0.00
Korea, Dem. People's Rep.	1,859.09		72.43		-37.71		-0.29		-9.68	0.00
Türkiye	8,193.71	9,180.14	98.21	110.03	-11.93	-7.30	-0.30	-0.18	-9.96	-6.09
Iraq	3,289.27		83.68		-26.47		-0.31		-10.40	0.00
Ecuador	865.38	983.55	49.81	56.61	-60.33	-60.72	-0.31	-0.32	-10.48	-10.55
Haiti	54.11		4.80		-105.34		-0.36		-11.86	0.00
South Sudan	27.46		2.48		-107.66		-0.36		-11.91	0.00
Benin	94.78	144.32	8.03	12.23	-102.11	-105.11	-0.36	-0.37	-12.05	-12.40
Zimbabwe	361.87	385.58	24.71	26.33	-85.44	-91.01	-0.38	-0.40	-12.51	-13.33
Burundi	8.89		0.77		-109.37		-0.38		-12.61	0.00
Mexico	12,709.96	13,446.17	99.63	105.40	-10.52	-11.94	-0.40	-0.46	-13.42	-15.23
Guinea	57.33	57.33	4.49	4.49	-105.65	-112.85	-0.40	-0.43	-13.49	-14.41
Rwanda	18.93	18.93	1.50	1.50	-108.64	-115.84	-0.41	-0.44	-13.72	-14.63
Thailand	6,235.59	6,229.33	89.56	89.47	-20.58	-27.87	-0.43	-0.58	-14.33	-19.40
Algeria	3,281.56		76.22		-33.92		-0.44		-14.60	0.00
Guatemala	328.95	446.77	18.71	25.41	-91.43	-91.92	-0.48	-0.48	-16.08	-16.16
Senegal	173.94	205.00	10.67	12.58	-99.47	-104.76	-0.49	-0.51	-16.21	-17.07
Somalia	18.14		1.17		-108.97		-0.50		-16.83	0.00
Cambodia	131.87	221.80	8.00	13.45	-102.15	-103.88	-0.51	-0.51	-16.84	-17.13
Chad	20.66		1.30		-108.85		-0.52		-17.36	0.00
Zambia	96.12	164.37	5.38	9.20	-104.76	-108.13	-0.56	-0.58	-18.71	-19.31
Sri Lanka	361.18	559.22	16.94	26.23	-93.21	-91.11	-0.60	-0.58	-19.87	-19.43
Malawi	30.42	67.17	1.63	3.61	-108.51	-113.73	-0.61	-0.64	-20.21	-21.19
Mali	51.07		2.60		-107.55		-0.63		-21.14	0.00
Burkina Faso	51.66	72.29	2.54	3.56	-107.60	-113.78	-0.66	-0.69	-21.87	-23.12
Peru	1,095.70	1,251.44	33.70	38.49	-76.44	-78.84	-0.75	-0.77	-24.85	-25.63
Niger	31.63		1.36		-108.79		-0.76		-25.36	0.00
Côte d'Ivoire	215.19	270.57	8.37	10.52	-101.78	-106.81	-0.79	-0.82	-26.17	-27.47
Cameroon	142.24	186.33	5.50	7.20	-104.65	-110.13	-0.81	-0.85	-27.08	-28.50
Morocco	1,294.02	1,475.08	35.48	40.44	-74.66	-76.89	-0.82	-0.84	-27.23	-28.04
Yemen, Rep.	457.75		15.70		-94.45		-0.83		-27.54	0.00
Madagascar	62.07	92.04	2.30	3.41	-107.84	-113.92	-0.87	-0.92	-29.08	-30.72
Angola	549.49		17.27		-92.88		-0.89		-29.56	0.00
Nepal	136.67	217.84	4.78	7.61	-105.37	-109.72	-0.90	-0.94	-30.14	-31.39
Ghana	271.36	385.78	8.92	12.68	-101.22	-104.65	-0.92	-0.95	-30.79	-31.83
Mozambique	86.69	236.24	2.85	7.78	-107.29	-109.56	-0.98	-1.00	-32.58	-33.27
Colombia	2,063.90	2,300.09	41.00	45.69	-69.14	-71.64	-1.04	-1.08	-34.81	-36.06
Afghanistan	124.11		3.26		-106.88		-1.22		-40.66	
Sudan	320.52		7.49		-102.66		-1.32		-43.95	
Uganda	74.32	124.35	1.68	2.81	-108.46	-114.53	-1.44	-1.52	-48.02	-50.70
Kenya	312.95	454.59	5.95	8.65	-104.19	-108.69	-1.64	-1.71	-54.78	-57.14

Myanmar	380.44		7.04		-103.10		-1.67		-55.72	
Tanzania	169.72	298.68	2.93	5.15	-107.22	-112.19	-1.87	-1.95	-62.19	-65.07
Egypt, Arab Rep.	4,770.86	4,778.06	47.52	47.60	-62.62	-69.74	-1.89	-2.10	-62.86	-70.01
Viet Nam	3,004.90	3,201.71	31.15	33.19	-78.99	-84.14	-2.29	-2.44	-76.20	-81.17
Congo, Dem. Rep.	64.39		0.74		-109.40		-2.85		-94.95	
Philippines	2,392.64	3,007.47	22.13	27.82	-88.01	-89.52	-2.85	-2.90	-95.16	-96.78
Brazil	11,339.75	11,895.08	53.73	56.36	-56.41	-60.97	-3.57	-3.86	-119.06	-128.68
Ethiopia	198.21	286.84	1.77	2.56	-108.38	-114.78	-3.64	-3.86	-121.47	-128.64
Bangladesh	1,273.65	1,635.21	7.81	10.03	-102.33	-107.31	-5.01	-5.25	-166.85	-174.96
Indonesia	11,061.53	10,723.20	40.87	39.62	-69.27	-77.71	-5.62	-6.31	-187.46	-210.31
Nigeria	2,530.88	2,307.89	12.59	11.48	-97.55	-105.85	-5.88	-6.38	-196.04	-212.72
Pakistan	4,005.61	4,220.89	18.50	19.49	-91.65	-97.84	-5.95	-6.36	-198.48	-211.90
India	41,536.37	38,611.39	30.40	28.26	-79.75	-89.08	-32.69	-36.52	-1,089.66	-1,217.17

Annex Table C: Annual payments/receipts by each country for a GCI on methane flows of $10 and $7.5.

Economy	Methane (mil tons)	Population	Methane per person	Deviation from Global Average	Payments or Receipts USD Billions ($7.5 per ton)	Payments or Receipts USD Billions ($10per ton)
Russian Federation	881.39	145.48	6.06	4.92	5.37	7.16
United States	638.97	325.03	1.97	0.83	2.02	2.69
Brazil	445.97	207.80	2.15	1.01	1.57	2.09
Australia	129.59	24.58	5.27	4.13	0.76	1.02
Zambia	116.95	16.86	6.94	5.80	0.73	0.98
Canada	118.86	36.73	3.24	2.10	0.58	0.77
Argentina	119.46	43.93	2.72	1.58	0.52	0.69
Uzbekistan	105.42	31.96	3.30	2.16	0.52	0.69
Indonesia	357.96	264.58	1.35	0.21	0.43	0.57
Iran, Islamic Rep.	141.16	80.69	1.75	0.61	0.37	0.49
Venezuela, RB	81.85	29.35	2.79	1.65	0.36	0.48
Turkmenistan	50.49	5.76	8.77	7.63	0.33	0.44
United Arab Emirates	50.11	9.50	5.27	4.14	0.29	0.39
Afghanistan	77.40	36.26	2.13	1.00	0.27	0.36
Azerbaijan	45.13	9.84	4.59	3.45	0.25	0.34
Chad	49.98	15.02	3.33	2.19	0.25	0.33
New Zealand	32.81	4.70	6.98	5.84	0.21	0.27
Paraguay	33.23	6.87	4.84	3.70	0.19	0.25
Angola	54.79	29.84	1.84	0.70	0.16	0.21
Central African Republic	25.66	4.61	5.57	4.43	0.15	0.20
Libya	27.88	6.59	4.23	3.09	0.15	0.20
Colombia	75.88	48.92	1.55	0.41	0.15	0.20
Kazakhstan	40.40	18.07	2.24	1.10	0.15	0.20
Botswana	22.27	2.21	10.08	8.94	0.15	0.20
Myanmar	79.64	53.37	1.49	0.35	0.14	0.19
Uruguay	21.65	3.44	6.30	5.16	0.13	0.18
Bolivia	30.37	11.19	2.71	1.58	0.13	0.18
Ukraine	66.18	44.47	1.49	0.35	0.12	0.16
Tanzania	75.99	54.70	1.39	0.25	0.10	0.14
Papua New Guinea	23.28	8.44	2.76	1.62	0.10	0.14
Mongolia	17.09	3.11	5.49	4.35	0.10	0.14
Malaysia	48.43	31.11	1.56	0.42	0.10	0.13
Bahrain	14.09	1.50	9.39	8.25	0.09	0.12
Equatorial Guinea	13.50	1.26	10.69	9.55	0.09	0.12
Ireland	16.20	4.76	3.40	2.26	0.08	0.11
Sudan	55.73	40.84	1.36	0.23	0.07	0.09
Brunei	9.40	0.42	22.14	21.00	0.07	0.09
Congo, Rep.	12.44	5.11	2.43	1.29	0.05	0.07

Cambodia	24.66	16.01	1.54	0.40	0.05	0.06
Belarus	17.17	9.45	1.82	0.68	0.05	0.06
Guyana	6.86	0.78	8.85	7.71	0.04	0.06
Lao PDR	13.78	6.95	1.98	0.84	0.04	0.06
Thailand	83.89	69.19	1.21	0.07	0.04	0.05
Qatar	7.69	2.71	2.83	1.70	0.03	0.05
Saudi Arabia	42.17	33.05	1.28	0.14	0.03	0.05
Guinea	18.23	12.08	1.51	0.37	0.03	0.04
Poland	47.15	37.96	1.24	0.10	0.03	0.04
Nicaragua	10.35	6.38	1.62	0.48	0.02	0.03
Somalia	19.46	14.60	1.33	0.19	0.02	0.03
Liberia	7.96	4.70	1.69	0.55	0.02	0.03
Romania	24.85	19.65	1.26	0.13	0.02	0.02
Niger	27.05	21.63	1.25	0.11	0.02	0.02
Serbia	12.45	8.83	1.41	0.27	0.02	0.02
Israel	11.66	8.25	1.41	0.28	0.02	0.02
Algeria	49.38	41.39	1.19	0.05	0.02	0.02
Namibia	4.81	2.40	2.00	0.86	0.02	0.02
Barbados	2.33	0.29	8.14	7.00	0.02	0.02
Mauritania	6.83	4.28	1.59	0.45	0.01	0.02
Grenada	2.01	0.11	18.09	16.95	0.01	0.02
Mexico	143.81	124.75	1.15	0.01	0.01	0.02
Ecuador	20.51	16.79	1.22	0.08	0.01	0.01
Suriname	1.87	0.57	3.28	2.14	0.01	0.01
Kuwait	5.82	4.04	1.44	0.30	0.01	0.01
Nepal	32.70	27.72	1.18	0.04	0.01	0.01
Georgia	5.42	4.01	1.35	0.21	0.01	0.01
Panama	5.36	4.11	1.30	0.17	0.01	0.01
Denmark	7.18	5.73	1.25	0.11	0.00	0.01
Belize	1.06	0.38	2.81	1.67	0.00	0.01
Czechia	12.59	10.64	1.18	0.04	0.00	0.00
Mauritius	1.87	1.26	1.48	0.34	0.00	0.00
Mali	21.35	18.53	1.15	0.01	0.00	0.00
Eswatini	1.49	1.13	1.32	0.18	0.00	0.00
Iceland	0.56	0.33	1.66	0.52	0.00	0.00
Vanuatu	0.50	0.29	1.73	0.60	0.00	0.00
Lithuania	3.37	2.85	1.18	0.05	0.00	0.00
Montenegro	0.84	0.63	1.34	0.20	0.00	0.00
Fiji	1.11	0.88	1.26	0.13	0.00	0.00
North Macedonia	2.48	2.08	1.19	0.05	0.00	0.00
Cuba	13.00	11.33	1.15	0.01	0.00	0.00
Antigua and Barbuda	0.20	0.10	2.10	0.96	0.00	0.00
Samoa	0.31	0.20	1.56	0.42	0.00	0.00
Saint Lucia	0.27	0.18	1.49	0.35	0.00	0.00
Bhutan	0.91	0.75	1.22	0.08	0.00	0.00

Oman	5.31	4.64	1.14	0.01	0.00	0.00
Saint Kitts and Nevis	0.08	0.05	1.54	0.40	0.00	0.00
Palau	0.02	0.02	1.12	-0.02	0.00	0.00
Tuvalu	0.01	0.01	0.88	-0.26	0.00	0.00
Cook Islands	0.01	0.02	0.57	-0.57	0.00	0.00
Tonga	0.10	0.10	0.98	-0.16	0.00	0.00
Seychelles	0.09	0.10	0.93	-0.20	0.00	0.00
Liechtenstein	0.02	0.04	0.53	-0.61	0.00	0.00
Albania	3.26	2.88	1.13	-0.01	0.00	0.00
Marshall Islands	0.03	0.06	0.52	-0.62	0.00	0.00
Dominica	0.05	0.07	0.63	-0.51	0.00	0.00
Andorra	0.05	0.08	0.65	-0.49	0.00	0.00
Saint Vincent and the Grenadines	0.07	0.11	0.64	-0.50	0.00	0.00
Kiribati	0.02	0.11	0.18	-0.96	0.00	0.00
Bahamas	0.32	0.38	0.83	-0.31	0.00	0.00
Luxembourg	0.55	0.59	0.93	-0.21	0.00	0.00
Lesotho	2.25	2.09	1.08	-0.06	0.00	0.00
Portugal	11.58	10.29	1.13	-0.01	0.00	0.00
São Tomé and Príncipe	0.03	0.21	0.14	-0.99	0.00	0.00
Eritrea	3.66	3.42	1.07	-0.07	0.00	0.00
Latvia	1.99	1.95	1.02	-0.12	0.00	0.00
Malta	0.22	0.44	0.49	-0.65	0.00	0.00
Trinidad and Tobago	1.26	1.38	0.91	-0.23	0.00	0.00
Solomon Islands	0.40	0.64	0.62	-0.52	0.00	0.00
Bosnia and Herzegovina	3.49	3.36	1.04	-0.10	0.00	0.00
Slovenia	1.99	2.08	0.96	-0.18	0.00	0.00
Estonia	1.11	1.32	0.84	-0.30	0.00	0.00
Djibouti	0.68	0.94	0.72	-0.42	0.00	0.00
Maldives	0.12	0.49	0.24	-0.90	0.00	0.00
Netherlands	18.92	17.02	1.11	-0.03	0.00	0.00
Cabo Verde	0.13	0.54	0.24	-0.90	0.00	0.00
Guinea-Bissau	1.46	1.83	0.80	-0.34	0.00	-0.01
Cyprus	0.71	1.18	0.60	-0.54	0.00	-0.01
Comoros	0.28	0.81	0.34	-0.79	0.00	-0.01
Costa Rica	4.88	4.95	0.99	-0.15	-0.01	-0.01
Armenia	2.57	2.94	0.87	-0.27	-0.01	-0.01
Bulgaria	7.25	7.10	1.02	-0.12	-0.01	-0.01
Gambia, The	1.65	2.22	0.74	-0.39	-0.01	-0.01
Gabon	1.46	2.06	0.71	-0.43	-0.01	-0.01
Norway	5.03	5.29	0.95	-0.19	-0.01	-0.01
Croatia	3.74	4.18	0.89	-0.25	-0.01	-0.01
Moldova	3.39	4.06	0.84	-0.30	-0.01	-0.01
Finland	4.55	5.51	0.83	-0.31	-0.01	-0.02
Honduras	8.90	9.43	0.94	-0.19	-0.01	-0.02

Slovak Republic	4.35	5.45	0.80	-0.34	-0.01	-0.02
Kyrgyzstan	4.76	6.19	0.77	-0.37	-0.02	-0.02
Greece	9.61	10.57	0.91	-0.23	-0.02	-0.02
Jamaica	0.83	2.92	0.28	-0.85	-0.02	-0.02
Sierra Leone	6.02	7.49	0.80	-0.33	-0.02	-0.03
Singapore	3.89	5.70	0.68	-0.46	-0.02	-0.03
Dominican Republic	9.06	10.51	0.86	-0.28	-0.02	-0.03
El Salvador	4.11	6.39	0.64	-0.49	-0.02	-0.03
Austria	6.84	8.82	0.78	-0.36	-0.02	-0.03
Hungary	7.21	9.73	0.74	-0.40	-0.03	-0.04
Zimbabwe	11.90	14.23	0.84	-0.30	-0.03	-0.04
Belgium	8.50	11.42	0.74	-0.39	-0.03	-0.04
Peru	31.21	31.47	0.99	-0.15	-0.03	-0.05
Lebanon	3.07	6.76	0.45	-0.68	-0.03	-0.05
Switzerland	4.88	8.45	0.58	-0.56	-0.04	-0.05
Tajikistan	5.32	8.88	0.60	-0.54	-0.04	-0.05
Jordan	5.92	9.73	0.61	-0.53	-0.04	-0.05
Togo	3.49	7.70	0.45	-0.69	-0.04	-0.05
Sweden	4.81	9.90	0.49	-0.65	-0.05	-0.06
Tunisia	6.30	11.44	0.55	-0.59	-0.05	-0.07
Guatemala	12.53	16.92	0.74	-0.40	-0.05	-0.07
Syrian Arab Republic	12.98	17.31	0.75	-0.39	-0.05	-0.07
Burkina Faso	15.09	19.20	0.79	-0.35	-0.05	-0.07
Senegal	10.74	15.43	0.70	-0.44	-0.05	-0.07
Benin	5.63	11.18	0.50	-0.64	-0.05	-0.07
Chile	13.44	18.47	0.73	-0.41	-0.06	-0.08
Haiti	4.63	10.98	0.42	-0.72	-0.06	-0.08
Madagascar	20.51	25.59	0.80	-0.34	-0.06	-0.09
Malawi	10.91	17.68	0.62	-0.52	-0.07	-0.09
Cameroon	17.97	24.58	0.73	-0.41	-0.08	-0.10
Rwanda	3.32	11.99	0.28	-0.86	-0.08	-0.10
Burundi	1.97	10.84	0.18	-0.96	-0.08	-0.10
Korea, Dem. People’s Rep.	18.55	25.43	0.73	-0.41	-0.08	-0.10
Ghana	20.81	29.13	0.71	-0.42	-0.09	-0.12
France	60.47	64.82	0.93	-0.21	-0.10	-0.13
Mozambique	18.92	28.68	0.66	-0.48	-0.10	-0.14
Spain	39.33	46.68	0.84	-0.30	-0.10	-0.14
Uganda	32.87	41.21	0.80	-0.34	-0.11	-0.14
Sri Lanka	9.42	21.12	0.45	-0.69	-0.11	-0.15
Viet Nam	91.31	94.59	0.97	-0.17	-0.12	-0.16
Ethiopia	103.97	106.43	0.98	-0.16	-0.13	-0.17
Kenya	39.39	50.22	0.78	-0.35	-0.13	-0.18
South Africa	45.14	56.99	0.79	-0.35	-0.15	-0.20
Côte d'Ivoire	7.05	24.45	0.29	-0.85	-0.16	-0.21
Morocco	17.09	35.57	0.48	-0.66	-0.18	-0.23

Yemen, Rep.	8.18	27.83	0.29	-0.84	-0.18	-0.24
United Kingdom	52.18	66.71	0.78	-0.36	-0.18	-0.24
Italy	44.88	60.62	0.74	-0.40	-0.18	-0.24
Iraq	15.69	37.50	0.42	-0.72	-0.20	-0.27
Korea, Rep.	25.87	51.06	0.51	-0.63	-0.24	-0.32
Germany	56.17	82.66	0.68	-0.46	-0.28	-0.38
Congo, Dem. Rep.	51.20	81.46	0.63	-0.51	-0.31	-0.42
Türkiye	43.53	81.05	0.54	-0.60	-0.37	-0.49
Egypt, Arab Rep.	55.94	96.43	0.58	-0.56	-0.40	-0.54
Philippines	65.61	105.14	0.62	-0.51	-0.41	-0.54
Nigeria	128.95	190.96	0.68	-0.46	-0.66	-0.88
Pakistan	141.53	207.95	0.68	-0.46	-0.71	-0.95
Bangladesh	80.77	159.67	0.51	-0.63	-0.76	-1.01
Japan	21.69	127.46	0.17	-0.97	-0.93	-1.23
China	1261.56	1420.67	0.89	-0.25	-2.67	-3.55
India	659.96	1338.48	0.49	-0.65	-6.48	-8.64
Taiwan, China		23.67				
Hong Kong SAR, China		7.31				
New Caledonia		0.28				
Curacao		0.16				
Guadeloupe		0.40				
Martinique		0.38				
Sint Maarten (Dutch part)		0.04				
Faeroe Islands		0.05				
Aruba		0.11				
Bermuda		0.06				
Greenland		0.06				
Bonaire Sint Eustatius and Saba		0.03				
Anguilla		0.01				
Turks and Caicos Islands		0.04				
British Virgin Islands		0.03				
Saint Pierre and Miquelon		0.01				
Montserrat		0.00				
Nauru		0.01				
Niue		0.00				
Saint Helena		0.01				
French Polynesia		0.28				
French Guiana		0.28				
Mayotte		0.25				
Timor-Leste		1.24				
West Bank and Gaza		4.75				
South Sudan		10.90				

Annex Table D: Annual payments/receipts by each country for a GCI on historical methane stocks of $10 and $7.5.

Economy	Cumulative Methane (mil ton)	Population 2019 (millions)	Cumulative methane per capita	Deviation from Global Average	Payments or Receipts ($ Billions) Valuing excess stock at $0.3 per ton	Payments or Receipts ($ Billions) Valuing excess stock at $10 per ton
Russian Federation	21,225.52	145.87	145.51	118.54	5.19	172.92
United States	19,142.54	329.06	58.17	31.21	3.08	102.70
Brazil	10,191.58	211.05	48.29	21.33	1.35	45.01
Australia	4,106.56	25.20	162.94	135.97	1.03	34.27
Indonesia	9,858.37	270.63	36.43	9.46	0.77	25.61
Zambia	2,815.89	17.86	157.66	130.69	0.70	23.34
Canada	3,116.75	37.41	83.31	56.35	0.63	21.08
Argentina	3,240.60	44.78	72.37	45.40	0.61	20.33
Ukraine	3,099.93	43.99	70.46	43.50	0.57	19.14
Uzbekistan	2,605.15	32.98	78.99	52.02	0.51	17.16
Libya	1,834.70	6.78	270.71	243.74	0.50	16.52
Venezuela, RB	2,066.12	28.52	72.46	45.49	0.39	12.97
United Kingdom	2,626.73	67.53	38.90	11.93	0.24	8.06
New Zealand	893.99	4.78	186.91	159.94	0.23	7.65
Turkmenistan	913.45	5.94	153.73	126.76	0.23	7.53
Iran, Islamic Rep.	2,923.52	82.91	35.26	8.30	0.21	6.88
United Arab Emirates	789.08	9.77	80.76	53.80	0.16	5.26
Kazakhstan	1,020.55	18.55	55.01	28.05	0.16	5.20
Paraguay	700.57	7.04	99.45	72.48	0.15	5.11
Azerbaijan	765.45	10.05	76.18	49.22	0.15	4.95
Uruguay	570.20	3.46	164.72	137.75	0.14	4.77
Angola	1,320.63	31.83	41.50	14.53	0.14	4.62
Colombia	1,804.98	50.34	35.86	8.89	0.13	4.48
Central African Republic	565.69	4.75	119.21	92.25	0.13	4.38
Poland	1,427.63	37.89	37.68	10.72	0.12	4.06
Botswana	443.41	2.30	192.48	165.51	0.11	3.81
Bolivia	684.64	11.51	59.47	32.50	0.11	3.74
Romania	886.36	19.36	45.77	18.81	0.11	3.64
Myanmar	1,799.27	54.05	33.29	6.33	0.10	3.42
Syrian Arab Republic	776.02	17.07	45.46	18.50	0.09	3.16
Ireland	429.66	4.88	88.00	61.04	0.09	2.98
Brunei	295.49	0.43	681.96	654.99	0.09	2.84
Equatorial Guinea	263.32	1.36	194.19	167.23	0.07	2.27
Malaysia	1,085.38	31.95	33.97	7.01	0.07	2.24
Mongolia	303.13	3.23	93.99	67.03	0.06	2.16
Thailand	2,082.47	69.63	29.91	2.95	0.06	2.05

Netherlands	641.94	17.10	37.55	10.58	0.05	1.81
Bahrain	224.45	1.64	136.76	109.80	0.05	1.80
Belarus	429.64	9.45	45.45	18.49	0.05	1.75
France	1,905.37	65.13	29.26	2.29	0.04	1.49
Czechia	425.31	10.69	39.79	12.82	0.04	1.37
Papua New Guinea	367.61	8.78	41.89	14.92	0.04	1.31
Serbia	339.82	8.77	38.74	11.77	0.03	1.03
Chad	527.58	15.95	33.08	6.12	0.03	0.98
Georgia	199.72	4.00	49.97	23.01	0.03	0.92
Lao PDR	280.42	7.17	39.11	12.15	0.03	0.87
Bulgaria	274.23	7.00	39.18	12.21	0.03	0.85
Somalia	496.17	15.44	32.13	5.17	0.02	0.80
Guyana	98.72	0.78	126.12	99.15	0.02	0.78
Congo, Rep.	221.49	5.38	41.17	14.20	0.02	0.76
Cambodia	519.02	16.49	31.48	4.52	0.02	0.74
Namibia	140.87	2.49	56.47	29.51	0.02	0.74
Sudan	1,223.68	42.81	28.58	1.62	0.02	0.69
Denmark	224.01	5.77	38.81	11.85	0.02	0.68
Belize	71.68	0.39	183.63	156.67	0.02	0.61
Barbados	60.95	0.29	212.35	185.39	0.02	0.53
Lithuania	124.80	2.76	45.22	18.26	0.02	0.50
Portugal	326.04	10.23	31.88	4.92	0.02	0.50
Grenada	50.65	0.11	452.22	425.26	0.01	0.48
Ecuador	509.50	17.37	29.33	2.36	0.01	0.41
Germany	2,288.75	83.52	27.40	0.44	0.01	0.37
Cuba	341.94	11.33	30.17	3.21	0.01	0.36
Nicaragua	202.28	6.55	30.90	3.94	0.01	0.26
Mauritania	145.65	4.53	32.18	5.22	0.01	0.24
Suriname	38.93	0.58	66.96	40.00	0.01	0.23
Qatar	98.55	2.83	34.80	7.83	0.01	0.22
Finland	170.54	5.53	30.83	3.86	0.01	0.21
Albania	95.54	2.88	33.16	6.20	0.01	0.18
Israel	246.14	8.52	28.89	1.93	0.00	0.16
Latvia	66.53	1.91	34.89	7.93	0.00	0.15
Panama	123.66	4.25	29.12	2.16	0.00	0.09
Saudi Arabia	933.12	34.27	27.23	0.27	0.00	0.09
North Macedonia	64.43	2.08	30.92	3.96	0.00	0.08
Eswatini	39.22	1.15	34.16	7.20	0.00	0.08
Slovenia	64.16	2.08	30.87	3.90	0.00	0.08
Greece	290.22	10.47	27.71	0.75	0.00	0.08
Norway	152.13	5.38	28.28	1.32	0.00	0.07
Iceland	15.23	0.34	44.92	17.96	0.00	0.06
Bosnia and Herzegovina	94.61	3.30	28.66	1.70	0.00	0.06
Saint Lucia	10.08	0.18	55.14	28.18	0.00	0.05
Montenegro	21.79	0.63	34.70	7.73	0.00	0.05

Estonia	40.34	1.33	30.43	3.47	0.00	0.05
Mauritius	38.24	1.27	30.12	3.15	0.00	0.04
Bhutan	24.21	0.76	31.73	4.76	0.00	0.04
Vanuatu	11.05	0.30	36.85	9.88	0.00	0.03
Antigua and Barbuda	4.77	0.10	49.12	22.15	0.00	0.02
Samoa	6.99	0.20	35.47	8.50	0.00	0.02
Kuwait	114.51	4.21	27.22	0.25	0.00	0.01
Saint Kitts and Nevis	2.02	0.05	38.23	11.27	0.00	0.01
Fiji	23.99	0.89	26.96	-0.01	0.00	0.00
Palau	0.45	0.02	25.00	-1.97	0.00	0.00
Tuvalu	0.27	0.01	23.17	-3.80	0.00	0.00
Tonga	2.71	0.10	25.93	-1.03	0.00	0.00
Slovak Republic	146.99	5.46	26.94	-0.03	0.00	0.00
Cook Islands	0.30	0.02	17.10	-9.87	0.00	0.00
Dominica	1.55	0.07	21.59	-5.38	0.00	0.00
Liechtenstein	0.54	0.04	14.20	-12.76	0.00	0.00
Seychelles	2.04	0.10	20.87	-6.09	0.00	-0.01
Moldova	108.34	4.04	26.80	-0.17	0.00	-0.01
Marshall Islands	0.75	0.06	12.76	-14.21	0.00	-0.01
Andorra	1.03	0.08	13.35	-13.61	0.00	-0.01
Saint Vincent and the Grenadines	1.89	0.11	17.09	-9.87	0.00	-0.01
Luxembourg	15.39	0.62	24.99	-1.97	0.00	-0.01
Kiribati	0.48	0.12	4.08	-22.88	0.00	-0.03
Bahamas	7.29	0.39	18.72	-8.25	0.00	-0.03
Austria	237.05	8.96	26.47	-0.49	0.00	-0.04
São Tomé and Príncipe	0.84	0.22	3.91	-23.06	0.00	-0.05
Malta	5.60	0.44	12.72	-14.25	0.00	-0.06
Gambia, The	55.11	2.35	23.47	-3.49	0.00	-0.08
Djibouti	16.47	0.97	16.92	-10.05	0.00	-0.10
Solomon Islands	8.27	0.67	12.35	-14.62	0.00	-0.10
Trinidad and Tobago	26.09	1.39	18.70	-8.26	0.00	-0.12
Cabo Verde	2.91	0.55	5.29	-21.67	0.00	-0.12
Maldives	2.01	0.53	3.79	-23.18	0.00	-0.12
Lesotho	44.21	2.13	20.80	-6.16	0.00	-0.13
Croatia	98.21	4.13	23.78	-3.19	0.00	-0.13
Armenia	65.39	2.96	22.11	-4.86	0.00	-0.14
Cyprus	17.37	1.20	14.49	-12.47	0.00	-0.15
Belgium	294.70	11.54	25.54	-1.43	0.00	-0.16
Gabon	41.76	2.17	19.22	-7.74	-0.01	-0.17
Comoros	5.62	0.85	6.60	-20.36	-0.01	-0.17
Eritrea	76.76	3.50	21.95	-5.01	-0.01	-0.18
Guinea-Bissau	33.17	1.92	17.27	-9.70	-0.01	-0.19
Costa Rica	115.15	5.05	22.81	-4.15	-0.01	-0.21
Hungary	235.59	9.68	24.33	-2.64	-0.01	-0.26

Oman	104.60	4.97	21.03	-5.94	-0.01	-0.30
Liberia	100.32	4.94	20.32	-6.65	-0.01	-0.33
Guinea	303.48	12.77	23.76	-3.20	-0.01	-0.41
Honduras	214.91	9.75	22.05	-4.91	-0.01	-0.48
Jamaica	27.44	2.95	9.31	-17.66	-0.02	-0.52
Kyrgyzstan	120.72	6.42	18.82	-8.15	-0.02	-0.52
El Salvador	109.85	6.45	17.02	-9.94	-0.02	-0.64
Dominican Republic	208.06	10.74	19.37	-7.59	-0.02	-0.82
Switzerland	148.74	8.59	17.31	-9.65	-0.02	-0.83
Sweden	185.20	10.04	18.45	-8.51	-0.03	-0.85
Algeria	1,071.50	43.05	24.89	-2.08	-0.03	-0.89
Singapore	62.18	5.80	10.71	-16.25	-0.03	-0.94
Zimbabwe	296.52	14.65	20.25	-6.72	-0.03	-0.98
Sierra Leone	108.28	7.81	13.86	-13.11	-0.03	-1.02
Tanzania	1,461.31	58.01	25.19	-1.77	-0.03	-1.03
Jordan	160.20	10.10	15.86	-11.11	-0.03	-1.12
Nepal	654.85	28.61	22.89	-4.07	-0.03	-1.17
Mali	405.93	19.66	20.65	-6.31	-0.04	-1.24
Lebanon	59.97	6.86	8.75	-18.22	-0.04	-1.25
Chile	373.40	18.95	19.70	-7.26	-0.04	-1.38
Togo	73.02	8.08	9.03	-17.93	-0.04	-1.45
Tajikistan	105.89	9.32	11.36	-15.60	-0.04	-1.45
Tunisia	157.79	11.69	13.49	-13.47	-0.05	-1.58
Korea, Dem. People’s Rep.	526.68	25.67	20.52	-6.44	-0.05	-1.65
Madagascar	543.18	26.97	20.14	-6.82	-0.06	-1.84
Peru	690.94	32.51	21.25	-5.71	-0.06	-1.86
Senegal	251.63	16.30	15.44	-11.52	-0.06	-1.88
Niger	440.50	23.31	18.90	-8.07	-0.06	-1.88
Haiti	109.63	11.26	9.73	-17.23	-0.06	-1.94
Benin	114.28	11.80	9.68	-17.28	-0.06	-2.04
Guatemala	263.70	17.58	15.00	-11.97	-0.06	-2.10
Spain	1,038.81	46.74	22.23	-4.74	-0.07	-2.21
Burkina Faso	296.53	20.32	14.59	-12.37	-0.08	-2.51
Sri Lanka	317.01	21.32	14.87	-12.10	-0.08	-2.58
Burundi	52.83	11.53	4.58	-22.38	-0.08	-2.58
Italy	1,366.74	60.55	22.57	-4.39	-0.08	-2.66
Rwanda	70.82	12.63	5.61	-21.36	-0.08	-2.70
Côte d'Ivoire	413.08	25.72	16.06	-10.90	-0.08	-2.80
Malawi	205.00	18.63	11.00	-15.96	-0.09	-2.97
Cameroon	387.18	25.88	14.96	-12.00	-0.09	-3.11
Mexico	3,096.15	127.58	24.27	-2.69	-0.10	-3.44
Afghanistan	643.03	38.04	16.90	-10.06	-0.11	-3.83
Mozambique	425.87	30.37	14.02	-12.94	-0.12	-3.93
South Africa	1,159.01	58.56	19.79	-7.17	-0.13	-4.20
Ghana	317.93	30.42	10.45	-16.51	-0.15	-5.02

Yemen, Rep.	167.18	29.16	5.73	-21.23	-0.19	-6.19
Morocco	353.56	36.47	9.69	-17.27	-0.19	-6.30
Korea, Rep.	729.24	51.23	14.24	-12.73	-0.20	-6.52
Uganda	528.35	44.27	11.93	-15.03	-0.20	-6.65
Kenya	738.98	52.57	14.06	-12.91	-0.20	-6.79
Viet Nam	1,914.41	96.46	19.85	-7.12	-0.21	-6.87
Iraq	325.33	39.31	8.28	-18.69	-0.22	-7.35
Ethiopia	1,871.49	112.08	16.70	-10.27	-0.35	-11.51
Türkiye	1,088.42	83.43	13.05	-13.92	-0.35	-11.61
Congo, Dem. Rep.	1,137.67	86.79	13.11	-13.86	-0.36	-12.03
Philippines	1,559.56	108.12	14.42	-12.54	-0.41	-13.56
Egypt, Arab Rep.	1,254.98	100.39	12.50	-14.46	-0.44	-14.52
Bangladesh	1,949.11	163.05	11.95	-15.01	-0.73	-24.47
Nigeria	2,959.27	200.96	14.73	-12.24	-0.74	-24.59
Japan	783.14	126.86	6.17	-20.79	-0.79	-26.37
Pakistan	2,739.57	216.57	12.65	-14.31	-0.93	-31.00
China	24,919.18	1,433.78	17.38	-9.58	-4.12	-137.41
India	16,380.03	1,366.42	11.99	-14.98	-6.14	-204.64
Taiwan, China		23.77				0.00
Hong Kong SAR, China		7.44				0.00
Curacao		0.16				0.00
New Caledonia		0.28				0.00
Aruba		0.11				0.00
Martinique		0.38				0.00
Guadeloupe		0.40				0.00
Faeroe Islands		0.05				0.00
Sint Maarten (Dutch part)		0.04				0.00
Greenland		0.06				0.00
Bermuda		0.06				0.00
Bonaire Sint Eustatius and Saba		0.03				0.00
Anguilla		0.01				0.00
Saint Pierre and Miquelon		0.01				0.00
British Virgin Islands		0.03				0.00
Nauru		0.01				0.00
Montserrat		0.00				0.00
Niue		0.00				0.00
Saint Helena		0.01				0.00
Turks and Caicos Islands		0.04				0.00
French Polynesia		0.28				0.00
French Guiana		0.29				0.00
Mayotte		0.27				0.00
Timor-Leste		1.29				0.00
West Bank and Gaza		4.98				0.00
South Sudan		11.06				0.00