**Climate Ledger Challenge Statement – MIT AI & Climate Hackathon**

**Background**

Our planet's climate crisis is not just a snapshot in time but a cumulative consequence of emissions past and present. Historical emissions have a cumulative effect, continually contributing to global warming. A profound gap exists in our carbon accounting systems, which fail to capture the impact of past emissions, the urgency of emission reductions, and the liability of delayed action.

**Context**

Climate Ledger seeks to introduce a paradigm shift in carbon accounting by evaluating and tracking the actual warming impact of emissions over time, translating this impact into a tangible energy-based figure—Joules or kilowatt-hours (kWh). This approach will provide a real-time 'thermal snapshot' of the climate liability each emitting entity carries. By acknowledging that the longer emissions remain unaddressed, the larger the liability grows, Climate Ledger underscores the criticality of immediate action. As a forward-thinking open-source initiative, with potential DAO structuring, Climate Ledger will serve as a nexus for transparent, communal engagement in climate accountability.

**Challenge**

We challenge you to devise an AI-enabled tool that articulates the current state of an entity’s global warming impact and the growing liability of delayed emissions reductions in stark, unequivocal terms.

Your tool should:

1. Calculate the current and ongoing warming impact of an entity's emissions, presenting a clear energy-based account of their current climate liability. This entity could be a country, an organization, and even a person.
2. Highlight the compounding effect of time on emissions, where the liability expands with inaction, making a compelling case for urgent mitigation and offset efforts.
3. Use predictive analytics to simulate the future trajectory of an entity's climate liability, contrasting rapid action scenarios with the cost of postponement.
4. Create an open-source framework which pulls from public databases and can remain up to date with minimal human effort.

**Your Mission**

Your AI solution should not just quantify but also qualify the urgency of emissions reduction, turning abstract data into a resonant narrative of risk and responsibility. By framing emissions in terms of an accruing climate liability, your tool will empower organizations to prioritize rapid emissions reductions and offsets. The success of your innovation will be measured by its ability to drive home the message that when it comes to emissions, time is not an ally—it's a creditor, and the debts are coming due.