

CSD/RND Integrated Economic-Environmental Modeling (IEEM) Platform Support Consultant

Background: The Integrated Economic-Environmental Modeling (IEEM) Platform fills an important gap in the economic development literature and practitioner’s toolbox [1]. At the core of IEEM is a future-looking computable general equilibrium framework that enables the analysis of the impact of public policy and investment on indicators such as Gross Domestic Product (GDP), income and employment, but also on wealth and natural capital, all in a quantitative, comprehensive and consistent framework. IEEM generates indicators that enable decision-makers to quantitatively assess strategies to achieving complex policy goals including those embodied by the Sustainable Development Goals, green growth targets and decarbonization plans.

IEEM’s value-added over a conventional computable general equilibrium model include: (i) integration of rich environmental data based on the first international statistical standard for environmental-economic accounting, the System of Environmental-Economic Accounting Central Framework, into an economy-wide model [2]; (ii) IEEM’s environmental modeling modules that capture the specific dynamics of each natural capital asset [3]; and (iii) IEEM indicators that reflect impacts on the three dimensions of sustainable development, namely the economy, society and the environment, which are embodied in the concept of wealth [4-6].

The latest innovation in integrated economic-environmental analysis links IEEM with spatially explicit ecosystem service modeling (IEEM+ESM) to enable analysis of policy impacts on both market and non-market ecosystem services [7]. For example, many regulating ecosystem services such as soil erosion mitigation services provide benefits to people, though they lack a market price [8]. Where these services are not quantified or valued, they are not considered in decision making. As renowned environmental economist David Pearce stated: “Economic valuation is always implicit or explicit; it cannot fail to happen at all” [9] p4.

Efforts are underway to expand the user-base of IEEM through development of OPEN IEEM which is an online platform that will enable open access to all IEEM tools including IEEM models, databases, technical guides and a suite of parameterized ecosystem services models. Since IEEM is a new and highly innovative decision support system, efforts are required to inform and create demand for IEEM, as well as customize tools for the specific conditions and demand of countries in the region. A Technical Cooperation (TC) has been developed to advance the development of IEEM+ESM and its institutionalization in the region. Specifically, it will: (i) customize IEEM and ecosystem services modeling tools for 10 countries; (ii) develop new partnerships with government institutions to customize IEEM+ESM models and co-develop applications; and (iii) disseminate IEEM through advancing the development of the OPEN IEEM Platform and building capacity for its use in the region.

HRD Terms of Reference For PEC consultancies

These terms of reference contribute to the objectives of the TC and specifically in playing an important supporting role in the customization of IEEM tools for 10 countries and the development of IEEM applications and capacity building.

The Team: The Team is dedicated to integrating natural capital in decision-making through the development of practical tools and methods that can be used by the IDB and its partner institutions.

What you'll do:

- Collaborate in the collection and processing of information from national and environmental accounts, household surveys, among data sources. Also, prepare the information in a format that is compatible with the construction of IEEM social accounting matrices and databases. In particular, based on the formats used in OPEN IEEM, this will require keeping the databases of supply and use tables updated to, in turn, keep all IEEM social accounting matrices updated to the most recent data.
- Process selected household surveys to integrate income distribution in IEEM analysis. In particular, disaggregate employment classes, households, and replicate official poverty estimates. In general, this task would involve processing household income and expenditure surveys and workforce surveys.
- Collaborate in preparing data and models for OPEN IEEM.
- Collaborate in the preparation of technical data sheets for OPEN IEEM, for example, describing and documenting all data used and processing steps followed.
- Collaborate in the debugging of IEEM models and analysis. This includes running base cases and various simulations linked to particular applications, analyzing results, and identifying and addressing anomalies.
- Collaborate in the development of IEEM reports in GAMS that are fit for purpose.
- Support development of new IEEM applications and extensions through literature review and research.

Deliverables:

The following deliverables will be produced through this consultancy:

1. Workplan.
2. Data processed for including in OPEN IEEM.
3. Technical Data Sheets prepared for each of the 21 IEEM countries.
4. IEEM reports developed.
5. Report on targeted literature review and research.

Payment timeline:

- 20% on delivery of workplan and timeline.
- 20% on delivery of processed data for OPEN IEEM.

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- 20% on delivery of Technical Data Sheets for the 21 countries.
- 20% on delivery of IEEM reports in GAMS.
- 20% on delivery of literature review report.

Skills you'll need: Expertise in statistics and economics.

- **Education:** Master's in economics or closely related field.
- **Experience:** A minimum of 5 years of experience in economics and statistics. Knowledge of computable general equilibrium modeling advantageous.
- **Languages:** English and Spanish.
- **Core and Technical Competencies:** Economics, statistics and environmental economics.

Opportunity Summary:

- **Type of contract and modality:** PEC, lump sum.
- **Length of contract:** 12 months.
- **Location:** External consultancy with travel.
- **Responsible person:** Onil Banerjee onilb@iadb.org
- **Requirements:** You must be a citizen of one of the IDB's 48 member countries and have no family members currently working at the IDB Group.

Our culture: Working with us you will be surrounded by a diverse group of people who have years of experience in all types of development fields, including transportation, health, gender and diversity, communications and much more.

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References

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CSD/RND Integrated Economic-Environmental Modeling (IEEM) Platform Communications Consultant

Background: The Integrated Economic-Environmental Modeling (IEEM) Platform fills an important gap in the economic development literature and practitioner’s toolbox [1]. At the core of IEEM is a future-looking computable general equilibrium framework that enables the analysis of the impact of public policy and investment on indicators such as Gross Domestic Product (GDP), income and employment, but also on wealth and natural capital, all in a quantitative, comprehensive and consistent framework. IEEM generates indicators that enable decision-makers to quantitatively assess strategies to achieving complex policy goals including those embodied by the Sustainable Development Goals, green growth targets and decarbonization plans.

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HRD Terms of Reference For PEC consultancies

These terms of reference support the three objectives of the TC through the development of a communications strategy, communications products, and very importantly, support the coordination and design of OPEN IEEM>

The team: The IEEM Team is dedicated to development, application and institutionalization of IEEM in decision-making agencies across the Latin American and Caribbean region.

What you'll do:

- In collaboration with the IDB, contribute substantively to setting up the outline for the OPEN IEEM Platform including the front-end architecture interface, functionality and look and feel, and operationality.
- Prepare 5 policy briefs based on IEEM analysis to be supplied to graphic design vendor.
- Prepare 5 infographics based on IEEM analysis to be supplied to graphic design vendor.
- Prepare one monograph based on IEEM research and analysis to be supplied to graphic design vendor.
- Prepare script for a 3-minute video summarizing IEEM applications to be supplied to graphic design vendor.

Deliverables:

The following deliverables will be produced through this consultancy:

- Work plan and timeline.
- One outline for the OPEN IEEM Platform including the front-end architecture interface, functionality and look and feel, and operationality.
- Layout of five policy briefs based on IEEM analysis.
- Layout of five infographics based on IEEM analysis.
- Layout of one monograph based on IEEM research and analysis.
- Layout of one 3-minute video.

Payment timeline:

- 20% on delivery of OPEN IEEM Platform outline.
- 20% on delivery of 2 policy briefs and 3 infographics.
- 20% on delivery of 3 policy briefs and 2 infographics.
- 20% on delivery of monograph.
- 20% on delivery of video.

Skills you'll need: Expertise in communications strategy and product development and promotion.

- **Education:** Master's degree in communications or closely related field.
- **Experience:** A minimum of 5 years of experience in communications.
- **Languages:** English and Spanish.

HRD Terms of Reference
For PEC consultancies

- **Core and Technical Competencies:** Experience in communications and familiarity with the IEEM Platform.

Opportunity Summary:

- **Type of contract and modality:** PEC, lump sum.
- **Length of contract:** 12 monts.
- **Location:** External consultancy without travel.
- **Responsible person:** Onil Banerjee onilb@iadb.org
- **Requirements:** You must be a citizen of one of the IDB's 48 member countries and have no family members currently working at the IDB Group.

Our culture: Working with us you will be surrounded by a diverse group of people who have years of experience in all types of development fields, including transportation, health, gender and diversity, communications and much more.

About us: At the Inter-American Development Bank, we're devoted to improving lives. Since 1959, we've been a leading source of long-term financing for economic, social, and institutional development in Latin America and the Caribbean. We do more than lending though. We partner with our 48-member countries to provide Latin America and the Caribbean with cutting-edge research about relevant development issues, policy advice to inform their decisions, and technical assistance to improve on the planning and execution of projects. For this, we need people who not only have the right skills, but also are passionate about improving lives.

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These terms of reference contribute to the objectives of the TC and specifically in the customization of IEEM tools for 10 countries and the development of IEEM applications and capacity building.

HRD Terms of Reference
For PEC consultancies

The Team: The Team is dedicated to integrating natural capital in decision-making through the development of practical tools and methods that can be used by the IDB and its partner institutions.

What you'll do:

- Develop customized IEEM tools for 10 countries in the region in collaboration with the IDB and Governments in the region.
- Co-develop at least three IEEM applications to address public policy and investment questions of interest to Governments and the IDB.
- Develop training materials for IEEM capacity building and deliver a three-day online training event for Government partners and the IDB.

Deliverables:

The following deliverables will be produced through this consultancy:

6. Workplan, methods and timeline.
7. Customized IEEM tools for 10 countries in the region.
8. Three reports written as scientific journal papers documenting the 3 applications of IEEM.
9. Video of the three-day online training event and documented training materials for the event.

Payment timeline:

- 20% on delivery of workplan and timeline.
- 30% on delivery of customized IEEM tools.
- 30% on delivery of three reports.
- 20% on delivery of training, video and training documentation.

Skills you'll need: Expertise in IEEM Platform development and application.

- **Education:** PhD in Economics or closely related field.
- **Experience:** A minimum of 10 years of experience in computable general equilibrium modeling and minimum of 4 years' experience in development and application of IEEM.
- **Languages:** English and Spanish.
- **Core and Technical Competencies:** Experience in the development and application of IEEM.

Opportunity Summary:

- **Type of contract and modality:** PEC, lump sum.
- **Length of contract:** 12 months.
- **Location:** External consultancy with travel.

HRD Terms of Reference
For PEC consultancies

- **Responsible person:** Onil Banerjee onilb@iadb.org
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CSD/RND Integrated Economic-Environmental Modeling (IEEM) Platform, OPEN IEEM Development Consultant

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The Team: The Team is dedicated to integrating natural capital in decision-making through the development of practical tools and methods that can be used by the IDB and its partner institutions.

What you'll do:

- Develop the front-end of OPEN IEEM which includes the user experience in accessing OPEN IEEM functionality. A key aspect of this functionality is the ability to choose pre-defined scenarios and display customizable results in tabular and map format. OPEN IEEM must also be designed to comply with all IDB policy related to content, branding among other policies. For this reason, close collaboration with the IDB is required throughout the development process.
- Develop the back-end of OPEN IEEM which will make all user functionality operational. This back-end architecture must be designed to be compliant with IDB systems and hosting as well as other technical features.

Deliverables:

The following deliverables will be produced through this consultancy:

10. Workplan and timeline.
11. Proposal for OPEN IEEM design, both front and back-end.
12. OPEN IEEM front-end.
13. OPEN IEEM back-end.

Payment timeline:

- 20% on delivery of workplan and timeline.
- 20% on delivery of OPEN IEEM design proposal.
- 30% on delivery of OPEN IEEM front-end.
- 30% on delivery of OPEN IEEM back-end.

Skills you'll need: Expertise in web design and development.

- **Education:** Computer science or closely related field.
- **Experience:** A minimum of 10 years of experience in web design and computer science.
- **Languages:** English and Spanish.
- **Core and Technical Competencies:** Experience in the development of online platforms.

Opportunity Summary:

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HRD Terms of Reference
For PEC consultancies

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