



Reporting Guidelines

**for the Assessment of Investment and Financial Flows to
Address Climate Change**

Version 1.0

1 July 2009

I. Introduction

This document is one of a set of three documents that constitute the analytical guidance developed to support countries in their assessments of investment and financial flows (I&FF) undertaken as part of the UNDP project “Strengthening National Capacity of Developing Countries to Develop Policy Options for Addressing Climate Change Across Different Sectors and Economic Activities.” This document provides guidance on reporting for national I&FF assessment. The other two documents, the UNDP guidance on *Preparing a Workplan for the Investment & Financial Flows Assessment*, and the *UNDP Methodology Guidebook for the Assessment of Investment and Financial Flows to Address Climate Change*, provide guidance on workplan preparation and on assessment methodologies.

These *Reporting Guidelines* are designed to help countries prepare complete, transparent, and internally consistent reports that are useful to national governments, as well as other stakeholders, investors, researchers, and other national governments. The I&FF reports provide:

- An overview of the methodology and data used in the I&FF assessment,
- Estimates of increases, decreases, and shifts in investment and financial flows needed to implement adaptation or mitigation measures in key sectors of the national economy;
- Information about the investment entities and funding sources that would be responsible for the changes in investments in key sectors, and the domestic policies and/or incentives that would be necessary to redirect or increase investments by these entities;
- A discussion of possible benefits and damages of adaptation and mitigation measures; and
- A summary of significant uncertainties in the results and limitations of the assessment.

This information is meant to help government policy makers with long-term planning to address climate change in the key sectors, and with international negotiations under the UNFCCC. This information may also be used to raise awareness and understanding about mitigation and adaptation investments among in-country stakeholders, help potential investors evaluate investment opportunities, and provide methodological insights to other national governments as they design and implement climate change I&FF assessments.

It is recommended that countries utilize these *Reporting Guidelines* in parallel with the *Methodology Guidebook*. This will facilitate efficient and complete reporting. Reports should be compiled as the work progresses, rather than having to repeat steps later to retrieve information, or possibly losing information.

There are three parts to the remainder of this document:

1. General reporting guidance;
2. Detailed reporting guidance; and
3. Example spreadsheets to illustrate basic reporting of data (contained in a separate Excel file).

II. Reporting Guidance

2.1 General Reporting Guidance

2.1.1 Outline of Reports

Each country should prepare a separate report for each sectoral I&FF assessment that was undertaken, as well as a brief summary report that summarizes all the sectoral assessments. Box 1 contains the outline for the summary report, and Box 2 contains the outline for the sectoral reports. The sectoral reports should be stand-alone, i.e., each should be a complete synthesis and should be independent of other sectoral reports. Information that is too detailed and/or voluminous to go in a sectoral report should be placed in annexes. A glossary is not listed in either outline because they are optional -- countries may choose to include glossaries in their reports if they think that they would be useful to their readers.

Detailed guidance on the contents of the summary report and the sectoral reports is provided below in section 2.2.

2.1.1 Report Audience and Outline

The primary audience of a national I&FF report is domestic government policy makers, so the tone and content of the summary report and sectoral reports should be tailored to them. In other words, the reports should be written for a sophisticated audience, but should also contain definitions of technical terms so that they will be understandable to individuals with varying levels of expertise.

2.1.2 Numerical Units

It is important that countries follow common unit conventions in their reports to facilitate comparisons of reports among countries. Also, unit labels for numerical data must be complete so that reports are clear. The *Methodology Guidebook* recommends that countries use US dollars for the units for cost data, and that cost data be presented in real (i.e., inflation adjusted) values for the year 2005 (i.e., in constant 2005 US dollars). These units, or other units if others are used, must be clearly noted in the report. The *Methodology Guidebook* also recommends that countries discount future costs, so the discount rate, or rates, that a country uses must be clearly noted in their report. Other data (e.g., electrical energy, greenhouse gas emissions, land areas, temperature, water consumption, agricultural yield, sea level rise) should be presented in traditional metric units (e.g., kilowatt hours, tonnes, square kilometers or hectares, degrees Celsius, liters or cubic meters, millimeters or centimeters). Unit labels must be complete to avoid misinterpretation. For example, if forest biomass densities are in dry matter mass units or in mass units of carbon, this should be stated (i.e., tonnes dry matter per hectare or tonnes carbon per hectare, rather than just tonnes per hectare).

Box 1: Outline of I&FF Summary Report

1. Introduction
 - 1.1. Objectives
 - 1.2. Choice of Sectors
 - 1.3. Previous Analyses Utilized
 - 1.4. Institutional Arrangements and Collaborations
 - 1.5. Basic Methodology and Key Terminology
2. Sectoral Assessment Summaries
3. Summary Tables of Incremental Investment Costs
4. References

Box 2: Outline of I&FF Sectoral Reports

1. Introduction
 - 1.1. Objectives
 - 1.2. Background
 - 1.2.1. Previous Analyses Utilized
 - 1.2.2. Institutional Arrangements and Collaborations
 - 1.2.3. Basic Methodology and Key Terminology
 2. Scope, Data Inputs, and Scenarios
 - 2.1. Sectoral Scope
 - 2.2. Data Inputs and Scenarios
 - 2.2.1. Assessment Period and Cost Accounting Parameters
 - 2.2.2. Analytical Approach
 - 2.2.3. Historical IF, FF, and O&M Data, and Subsidies
 - 2.2.4. Baseline Scenario
 - 2.2.5. Mitigation (or Adaptation) Scenario
 3. Results
 - 3.1. Incremental Changes in IF, FF, O&M Costs, and Subsidy Costs
 - 3.2. Policy Implications
 - 3.3. Key Uncertainties and Methodological Limitations
 4. References
- Annexes

2.1.3 Presentation of Numerical Data

At a minimum, countries should use tables to present numerical data in their reports. However, the presentation of numerical data is often more informative, and interesting, to a reader when in graphical form (e.g., stacked column charts, line graphs) rather than tabular form. Therefore, countries are encouraged to consider presenting particularly important data in their report in graphical form as well as in tabular form. When presenting data in graphical form, the data should also be presented in tabular form, either in the body of the report or in an annex, so that the numbers are available to readers who wish to view them.

2.2 Detailed Guidance on Completing the Report

2.2.1 I&FF Summary Report

The I&FF summary report should consist of four parts: 1) an introduction that contains key background information for the entire I&FF assessment, 2) a succinct summary of each sectoral I&FF assessment, 3) summary tables of incremental investment costs for all sectors, and 4) a list of references. The introduction should contain sufficient background information for readers to understand the objectives and methodology without reading any of the sectoral reports or the *Methodology Guidebook*, so that the sectoral summaries and summary tables that follow the introduction are clear. The summary report should be approximately six to ten pages in length (largely depending upon the number of sectoral assessments undertaken, and the complexity of the sectors assessed), and should include minimal technical jargon so it is accessible to a wide audience.

Please provide the following information in the summary report:

1) Introduction (2-3 pages)

a) Objectives (1 paragraph)

Provide a succinct statement of the overall objectives of the I&FF assessment.

b) Choice of Sectors (1 paragraph)

List the sector/type of measure combinations chosen for assessment (e.g., energy/mitigation measures), and explain briefly why they were chosen (e.g., stakeholder priorities, development priorities, economic importance, emissions share, mitigation potential, vulnerability to climate change).

c) Previous Analyses Utilized (1 paragraph)

List the previous analyses that were utilized for the I&FF assessment (e.g., National Adaptation Programmes of Action), and describe how they were used.

d) Institutional Arrangements and Collaborations (1 paragraph)

Describe the institutional arrangements and collaborations established for the I&FF assessment (i.e., describe with whom and for what purposes these arrangements were made).

e) Basic Methodology and Key Terminology (approximately 1 page)

This section should be a highly distilled version of section 2.1 of the *Methodology Guidebook* and is provided in the summary report so that readers will not have to read the *Methodology Guidebook* to understand the report. Provide sufficient information so that a reader who is unfamiliar with the assessment will understand the results.¹

- i) Describe briefly the basic I&FF methodology.
- ii) Define briefly the key terminology used in the report, including investment flows, financial flows, operation and maintenance costs, investment entities, sources of I&FF funds, baseline scenario, mitigation scenario, adaptation scenario, and assessment period and base year.
- iii) Explain how the negative externalities (e.g., unintended environmental damages) and benefits (e.g., greenhouse gas mitigation, increased food security) of the mitigation and adaptation measures for which I&FF were assessed were addressed in the assessment.

2) Sectoral Assessment Summaries (approximately 1 page each)

Provide a summary of each sectoral assessment that contains:

- a) a succinct description of the precise sectoral scope;
- b) a brief explanation of why the sectoral scope was chosen;
- c) the base year and assessment period;
- d) a description of the mitigation or adaptation measures for which I&FF were assessed;
- e) a succinct summary of the results, including:
 - i) significant cumulative changes (increases, decreases, and shifts) in IF, FF, and O&M costs needed to address climate change;
 - ii) significant annual changes (increases, decreases, and shifts) in IF, FF, and O&M costs needed to address climate change;
 - iii) the investment types that are most significant (in terms of changes in investments, as well as other criteria such as consistency with national priorities for the sector, and co-benefits of the investments);
 - iv) the investment types that are highest national priority, and why (e.g., national and sectoral development objectives, positive and negative externalities)
 - v) the investment entities and funding sources that would be responsible for the most significant and/or highest priority investment types;²
 - vi) the domestic policies and/or incentives that would be necessary to redirect and/or increase baseline I&FFs in order to achieve mitigation or adaptation objectives; and
 - vii) significant uncertainties and methodological limitations.

¹ This section will also be included in each of the sectoral reports. It is provided in all the reports because readers may only read the summary report or one of the sectoral reports.

² The investment types that are most significant may or may not be the highest priority investment types.

3) Summary Tables of Incremental Investment Costs (2 pages)

Complete two tables of sectoral IF and FF results in the form of Tables 1 and 2. These tables correspond to Tables 2-11 and 2-12 in Chapter II of the *Methodology Guidebook*. The number of columns in each of these tables in a particular summary report will depend on the number of sectoral assessments that a country undertook. Note that these tables assume that the assessment period is 2005-2030 for all sectoral assessments; this too may need to be revised. If resources allow, countries may want to consider presenting these IF and FF results graphically too. For example, the data in Table 1 could also be presented as a stacked column chart, and the data in Table 2 could be presented as a line chart.

Note that the values presented in Table 1 should be discounted and those in Table 2 should be undiscounted. The values in Table 1 should be derived by first calculating annual incremental values (for each investment entity/funding source, i.e., $\Delta IF(IT_{ALL}, IE/FS_j, YR_t)$ as defined by Equation 2.12 in the *Methodology Guidebook*), then discounting the annual incremental values, and then finally summing discounted annual incremental values over all years. Since the values in Table 2 are not discounted, the sum of each column in Table 2 will not equal the total value in the corresponding column in Table 1. As described in the *Methodology Guidebook*, the I&FF methodology recommends that countries use either one public discount rate or one private discount rate for all investments in each sector, depending upon whether public or private investments dominate the sector. Alternatively, one public discount rate for all sectors in the I&FF assessment should be used.

4) References

Provide a list of the references cited in the summary report

Table 1: Incremental Cumulative Discounted IF & FF for All Investments in Each Sector, by Investment Entity and Funding Source

Note: The number of columns in this table may need to be changed, depending upon the number of sectoral assessments that were undertaken. The order of the columns (from left to right) should be consistent with the order in which sectoral summaries are presented in the report. The assessment period listed in the uppermost column label may need to be revised. If different assessment periods were used for different sectoral assessments, then the assessment periods used should be noted in the cells with the sector names (e.g., Sector A (2005-2025)). The units label (million 2005US\$) may need to be revised too. Two notes should be added to the bottom of the table: 1) a note that explains whether the values in the government/domestic funds row include subsidies; and 2) a note that explains that the cumulative values are discounted and that provides the discount rate(s) that were used.

Category of Investment Entity	Source of I&FF Funds		Incremental Cumulative (2005-2030) Discounted Sectoral Investments (million 2005US\$)							
			Mitigation				Adaptation			
			Sector A		Sector B		Sector B		Sector C	
			Δ IF	Δ FF	Δ IF	Δ FF	Δ IF	Δ FF	Δ IF	Δ FF
Households	Domestic	Equity and debt								
	Total Household Funds (all domestic)									
Corporations	Domestic	Domestic equity (including internal cash flow)								
		Domestic borrowing (bonds and loans)								
		Total Domestic Sources								
	Foreign	Foreign direct investment (FDI)								
		Foreign borrowing (loans)								
		Foreign aid (ODA)								
		Total Foreign Sources								
Total Corporation Funds										
Government	Domestic	Domestic funds (budgetary)								
	Foreign	Foreign borrowing (loans)								
		Bilateral foreign aid (bilateral ODA)								
		Multilateral foreign aid (multilateral ODA)								
		Total Foreign Sources								
Total Government Funds										
Total (all investment entities and all sources)										

Table 2: Incremental Annual IF & FF for All Investments in Each Sector

Note: The number of columns in this table may need to be changed, depending upon the number of sectoral assessments that were undertaken. The order of the columns (from left to right) should be consistent with the order in which sectoral summaries are presented in the report. The years listed in the left column should reflect the assessment period, or periods, used in the entire I&FF assessment. For example, if 2005-2030 was used for Sectors A and C, and 2005-2025 was used for Sector B, the rows should be labelled 2005 through 2030, and the last five cells in each of the Sector B columns would be blank. If different assessment periods were used for different sectoral assessments, then the assessment period used for each sectoral assessment should be noted in the cells with the sector names so that it is clear why some cells have been left blank. The units label (million 2005US\$) may need to be revised too. Two notes should be added to the bottom of the table: 1) a note that explains whether subsidies are included; and 2) a note that explains that since annual values are not discounted, the sum of each column does not equal the corresponding column total in Table 1.

Year	Incremental Annual Sectoral Investments (million 2005US\$)							
	Mitigation				Adaptation			
	Sector A		Sector B		Sector B		Sector C	
	ΔIF	ΔFF	ΔIF	ΔFF	ΔIF	ΔFF	ΔIF	ΔFF
2005								
2006								
2007								
2008								
2009								
2010								
2011								
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2.2.2 I&FF Sectoral Reports

Each sectoral report should consist of four chapters: 1) an introduction that contains key background information for the sectoral I&FF assessment, 2) a description of the sectoral scope, scenarios, and data inputs, 3) a synthesis of the results, and 4) a list of references. One or more annexes should be added to the end of the report for material that is too voluminous or detailed to be placed in the main body of the report. Each sectoral report, not including the reference list or annexes, should be approximately 25 to 40 pages in length.³ Technical jargon and acronyms should be defined so the report is accessible to a wide audience.

Please provide the following information in each sectoral report:

Chapter 1: Introduction (2-3 pages)

1) **Objectives** (1 paragraph)

- a) Provide a succinct overview of the objectives of the sectoral assessment.

2) **Background** (1-2 pages)

a) **Previous Analyses Utilized** (several paragraphs)

List the previous analyses that were utilized for the sectoral assessment (e.g., National Adaptation Programme of Action [NAPA]), describe key relevant results of each, and describe briefly how each was utilized (e.g., the NAPA found that a specific adaptation measure would be particularly effective for reducing vulnerability in this sector, so that adaptation measure was included in the sectoral I&FF assessment).

b) **Institutional Arrangements and Collaborations** (several paragraphs)

Describe the institutional arrangements and collaborations established for the sectoral assessment (i.e., describe with whom and for what purposes these arrangements were made), and describe briefly key interactions including decision-making and data-access procedures (e.g., stakeholder meetings).

c) **Basic Methodology and Key Terminology** (approximately 1 page)

This section should be a highly distilled version of section 2.1 of the *Methodology Guidebook* and is provided in the sectoral report so that readers will not have to read the *Methodology Guidebook* to understand the report. Provide sufficient information so that a reader who is unfamiliar with the assessment will understand the results.⁴

i) Describe briefly the basic I&FF methodology.

ii) Define briefly the key terminology used in the report, including investment flows, financial flows, operation and maintenance costs, investment entities, sources of

³ Particularly complex sectors that include multiple distinct subsectors may require a greater number of total pages. In these cases, it may be clearest to divide the sections on historical data, scenarios, and results into subsectoral sections, each of which would then require a greater number of pages than indicated.

⁴ This section can be the same as what is included in the summary report, and in the other sectoral reports. It is provided in all the sectoral reports because readers may only read one sectoral report.

- I&FF funds, baseline scenario, mitigation or adaptation scenario, and assessment period and base year.
- iii) Explain how the negative externalities (e.g., unintended environmental damages) and benefits (e.g., greenhouse gas mitigation, increased food security) of the mitigation or adaptation measures for which I&FF were assessed were addressed in the sectoral assessment.

Chapter 2: Scope, Data Inputs, and Scenarios (10-18 pages)

- 1) **Sectoral Scope** (1 page or less, depending upon complexity of scope)
 - a) Describe precisely the sectoral scope chosen for assessment, including the subsectors that are included, the types of physical assets, processes, activities, and investment entities that are included, and, if the geographic boundaries are less than the entire country, the geographic boundaries of assessment too. To avoid ambiguity, it may be necessary with some sectors to explicitly state what subsectors, components, and/or activities are excluded.
 - b) Explain why the sectoral scope was chosen.
- 2) **Data Inputs and Scenarios** (14-20 pages)
 - a) **Assessment Period and Cost Accounting Parameters** (1 paragraph)

Name the assessment period (e.g., 2005-2030), cost accounting units (e.g., 2005 US\$), and discount rate or rates used.
 - b) **Analytical Approach** (1-3 pages)

Clearly and completely describe the analytical approach used for the sectoral assessment, i.e., the methodology used to develop the baseline and mitigation or adaptation scenario descriptions and to estimate IF, FF, O&M costs, and subsidies (if included) for the scenarios. For methods that are highly complex and/or involve a modeling tool, provide a summary of the model here, and a more detailed description in an annex. Also describe the data inputs, and the procedures (e.g., linear or exponential interpolations or extrapolations) and assumptions used to derive missing data.
 - c) **Historical IF, FF, and O&M Data, and Subsidies** (2-3 pages)

State the years for which historical IF, FF, and O&M cost data were collected, and describe the assets invested in, and programmatic investments made, during those years, as well as the assets in which investments were made previous to those years but that were still in operation during the historical period.

Describe the sources of IF, FF, and O&M data, and of subsidy data if included. Also describe calculations performed and assumptions used to derive estimates for data that were not available. Include citations for all data sources, including expert judgment.

Present the historical IF and FF data for the base year in the format of Table 3. Present O&M cost data by investment type (a table is unlikely to be necessary for this), and describe the significant types of O&M costs (e.g., salaries, fuel) that are included in the O&M cost data, and the sources of funds for O&M (e.g., operating revenues). If subsidies are included in the assessment, describe subsidies and present subsidy data. Present the entire time series of annual historical IF, FF, and O&M data (and subsidy data if included) by investment type, investment entity, and funding source in an annex.⁵

Discuss notable results, especially the significant investment types, investment entities, sources of funds, O&M costs, and subsidies. Also describe expected lifetimes of significant assets and programs, and any significant changes or trends in investments during the historical period.

d) **Baseline Scenario** (5-7 pages)

i) Scenario Description

Clearly describe the baseline scenario, i.e. describe the expected evolution of the sector, or subsectors, over the assessment period in the absence of new policies to address climate change. Discuss factors that will influence this evolution, including population growth and migration, socioeconomic trends, technological change, public and private investment trends, and national and sectoral plans. Provide detailed information about the expected baseline scenario investments (i.e., physical assets and programs), including the nature, scale, and timing of those investments.

The type of information provided in this section will depend on the sectoral scope, and will include data collected during the last part of step #2 in the *Methodology Guidebook* (“compile other input data for scenarios”). Information should include supply and demand projections (for products, land, and/or services), descriptions of existing facilities and infrastructure and plans for improvements and expansions, and descriptions of relevant laws, regulations, and policies. Sufficiently specific information about expected facility and infrastructure investments, and programmatic investments (e.g., research, education, assistance, and institutional investments), should be provided to justify the estimated baseline IF, FF, and O&M costs. It is recommended that tables be used to present summary information about the technical specifications of facility and infrastructure investments, the scope and scale of programmatic investments, and the timing and expected lifetimes of both

⁵ These can be printed directly from the worksheets used to compile the historical data, rather than creating new tables. The worksheets “Historical I&FF,” “Historical O&M_Pre-Histl Assets,” “Historical O&M_Histl Assets,” and “Historical Subsidies” in the associated Excel file “Example_I&FF_Workshts.xls” illustrate how worksheets for compiling the historical data might be structured. Note that these worksheets do not represent the entire set of worksheets that a country is likely to prepare for an assessment. For example, these historical costs worksheets might be based on underlying worksheets that contain inventories of physical assets and programs, unit investment costs for those assets and programs, and annual O&M costs for physical asset types.

types of investments. Large datasets and supplementary information should be placed in an annex.

ii) Baseline Scenario IF, FF, O&M Costs, and Subsidy Costs

Present the cumulative discounted IF, FF, and O&M cost estimates for each investment type in the baseline scenario, in the format of Table 4.

Present the annual IF, FF, and O&M cost estimates for each investment type in the baseline scenario, in the format of Table 5.

Describe the significant results (significant investment types for both IF and FF, significant investment entities and funding sources, significant O&M costs, significant annual fluctuations in investments and O&M costs).

Present the subsidy results, if subsidies are included, in a separate paragraph.

e) **Mitigation (or Adaptation) Scenario** (5-7 pages)

i) Scenario Description

Clearly describe the mitigation (or adaptation) scenario, i.e. describe the expected evolution of the sector, or subsectors, over the assessment period in the presence of new policies to address climate change. Do not repeat material presented in the previous section, but refer to it as needed. Provide comprehensive descriptions of the specific mitigation (or adaptation) measures that would be implemented, and the implications of those measures for the evolution of the sector. This should include specific information about the timing, number, and technical specifications of facility and infrastructure investments, and the timing, characteristics, and scale of programmatic investments. Also include descriptions of expected benefits and possible negative externalities of the measures.

As with the previous section, the type of information provided in this section will depend on the sectoral scope, and will include data collected during the last part of step #2 in the *Methodology Guidebook* (“compile other input data for scenarios”). Sufficiently specific information about expected facility and infrastructure investments, and programmatic investments, should be provided to justify the IF, FF, and O&M costs reported in the Results chapter of the report. It is recommended that tables be used to present summary information about the technical specifications of facility and infrastructure investments, the scope and scale of programmatic investments, and the timing and expected lifetimes of both types of investments. Large datasets and supplementary information should be placed in an annex.

ii) Mitigation (or Adaptation) Scenario IF, FF, O&M Costs, and Subsidy Costs

Present the cumulative discounted IF, FF, and O&M cost estimates for each investment type in the mitigation (or adaptation) scenario, in the format of Table 6.

Present the annual IF, FF, and O&M cost estimates for each investment type in the mitigation (or adaptation) scenario, in the format of Table 7.

Describe the significant results (significant investment types for both IF and FF, significant investment entities and funding sources, significant annual changes in investments).

Present the subsidy results, if subsidies are included, as a separate paragraph.

Chapter 3: Results (12-18 pages)

1) Incremental Changes in IF, FF, O&M Costs, and Subsidy Costs (3-4 pages)

Present the incremental discounted cumulative IF, FF, and O&M cost estimates for each investment type, and all investment types, in the format of Table 8.

Present the incremental annual IF, FF, and O&M cost estimates for each investment type, and all investment types, in the format of Table 9.

Note that the investment types listed in both Table 8 and 9 should include all the investment types included in the scenarios so that increases and decreases in investments in, and in O&M costs of, each investment type are presented in the tables. For example, if the baseline scenario included traditional coal-fired power plants and hydroelectric plants, and the mitigation scenario included traditional coal-fired power plants, advanced coal-fired power plants, hydroelectric plants, and wind turbines, Tables 8 and 9 would list traditional coal-fired power plants, advanced coal-fired power plants, hydroelectric plants, and wind turbines. Negative values in these tables indicate a decline in costs between the baseline and mitigation/adaptation scenario, and positive values indicate an increase.

Describe the significant results. This should include a discussion of significant incremental increases and decreases in cumulative and annual IF, FF, and O&M costs for individual and all investment types. Discuss how the shifts in investments over time are reflected in the changes in IF and FF (e.g., a shift from investments in traditional coal-fired power plants to investments in advanced coal-fired power plants).⁶ Discuss also which investment entities and funding sources would be responsible for the significant

⁶ Note that Tables 8 and 9 are designed to display incremental increases and decreases in investments, but do not display shifts in investments from one investment type to another, which would require change matrices.

incremental changes in investments. Present the subsidy results, if subsidies are included, as a separate paragraph.

2) Policy Implications (2-4 pages)

Discuss investment priorities, given the incremental costs of investments, expected co-benefits of investments, and sectoral and national development objectives.

Given these priorities, discuss the policy measures that might be used to induce investment entities to implement the evaluated measures and change their investment patterns (e.g., economic instruments such as taxes, regulatory instruments such as fuel portfolio standards, voluntary agreements, and information dissemination and demonstration). Distinguish between public and private sources of finance, as well as between domestic and foreign sources. If appropriate, include tables that summarize potential policy measures for each measure.

Discuss potential implementation barriers (financial, informational, disincentives), specifying to what extent these barriers affect the individual public and private investment entities.

3) Key Uncertainties and Methodological Limitations (1-2 pages)

Discuss key uncertainties and methodological limitations, and where future analytical efforts should focus.

References

Provide full references for all citations, including printed material, electronic material, and personal communications.

Table 3: Base Year IF & FF Data, By Investment Type, Investment Entity, and Funding Source

Note: The number of columns in this table may need to be changed, depending on the number of investment types for which data were collected. The base year in the top row, and the units labels (million 2005US\$), may need to be revised. The base year should be the most recent year for which data are available; although 2005 is recommended, an earlier or more recent year may be chosen. Households IF and Corporations IF and FF should be net of subsidies. If subsidy costs are included explicitly in the assessment, the domestic funds source for Government IF and FF should include subsidy costs, and a note should be added below the table that explains this.

Category of Investment Entity	Source of I&FF Funds		Base Year (2005) IF and FF for Each Investment Type (million 2005US\$)										
			Investment Type 1		Investment Type 2		Investment Type 3		Investment Type 4				
			IF	FF	IF	FF	IF	FF	IF	FF			
Households	Domestic	Equity and debt											
	Total Household Funds (all domestic)												
Corporations	Domestic	Domestic equity (including internal cash flow)											
		Domestic borrowing (bonds and loans)											
		Total Domestic Sources											
	Foreign	Foreign direct investment (FDI)											
		Foreign borrowing (loans)											
		Foreign aid (ODA)											
		Total Foreign Sources											
Total Corporation Funds													
Government	Domestic	Domestic funds (budgetary)											
	Foreign	Foreign borrowing (loans)											
		Bilateral foreign aid (bilateral ODA)											
		Multilateral foreign aid (multilateral ODA)											
		Total Foreign Sources											
Total Government Funds													
Total													

Table 4: Baseline Scenario: Cumulative Discounted IF, FF, and O&M Estimates, By Investment Type, Investment Entity, and Funding Source

Note: The number of columns in this table may need to be changed, depending on the number of investment types that are included in the baseline scenario. The labels “Investment Type 1,” “Investment Type 2,” etc. should be changed to the names of the specific investment types included in the scenario. The units labels (million 2005US\$) should be revised if different units were used. A note should be added below the table that provides the discount rate or rates that were used. Households IF and Corporations IF and FF should be net of subsidies. If subsidy costs are included explicitly in the assessment, the domestic funds source for Government IF and FF should include subsidy costs, and a note should be added below the table that explains this.

Category of Investment Entity	Source of I&FF Funds		Cumulative Discounted IF, FF, & O&M Estimates For Baseline Scenario (million 2005US\$)														
			Investment Type 1			Investment Type 2			Investment Type 3			Investment Type 4			All Investment Types		
			IF	FF	O&M Costs	IF	FF	O&M Costs	IF	FF	O&M Costs	IF	FF	O&M Costs	IF	FF	O&M Costs
Households	Domestic	Equity and debt															
	Total Household Funds (all domestic)																
Corporations	Domestic	Domestic equity (including internal cash flow)															
		Domestic borrowing (bonds and loans)															
		Total Domestic Sources															
	Foreign	Foreign direct investment (FDI)															
		Foreign borrowing (loans)															
		Foreign aid (ODA)															
		Total Foreign Sources															
Total Corporation Funds																	
Government	Domestic	Domestic funds (budgetary)															
	Foreign	Foreign borrowing (loans)															
		Bilateral foreign aid (bilateral ODA)															
		Multilateral foreign aid (multilateral ODA)															
		Total Foreign Sources															
Total Government Funds																	
Total																	

Table 5: Baseline Scenario: Annual IF, FF, and O&M Estimates by Investment Type

Note: The number of columns in this table may need to be changed, depending on the number of investment types that are included in the baseline scenario. The labels “Investment Type 1,” “Investment Type 2,” etc. should be changed to the names of the specific investment types included in the scenario, and the units labels (million 2005US\$) should be revised if different units were used. The years listed in the left column should reflect the assessment period used in the sectoral assessment. A note should be added to the bottom of the table that explains whether subsidies are included.

Year	Annual IF, FF, & O&M Estimates for Baseline Scenario (million 2005US\$)														
	Investment Type 1			Investment Type 2			Investment Type 3			Investment Type 4			All Investment Types		
	IF	FF	O&M Costs	IF	FF	O&M Costs	IF	FF	O&M Costs	IF	FF	O&M Costs	IF	FF	O&M Costs
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															
2019															
2020															
2021															
2022															
2023															
2024															
2025															
2026															
2027															
2028															
2029															
2030															

Table 6: Mitigation (or Adaptation) Scenario: Cumulative Discounted IF, FF, and O&M Estimates, By Investment Type, Investment Entity, and Funding Source

Note: The number of columns in this table may need to be changed, depending on the number of investment types that are included in the scenario. The labels “Investment Type 1,” “Investment Type 2,” etc. should be changed to the names of the specific investment types included. The types of investments, and the number of types, in the Mitigation (or Adaptation) Scenario may not be the same as in the Baseline Scenario. The units labels (million 2005US\$) should be revised if different units were used. A note should be added below the table that provides the discount rate or rates that were used. Households IF and Corporations IF and FF should be net of subsidies. If subsidy costs are included explicitly in the assessment, the domestic funds source for Government IF and FF should include subsidy costs, and a note should be added below the table that explains this.

Category of Investment Entity	Source of I&FF Funds		Cumulative Discounted IF, FF, & O&M Estimates For Mitigation/Adaptation Scenario (million 2005US\$)														
			Investment Type 1			Investment Type 2			Investment Type 3			Investment Type 4			All Investment Types		
			IF	FF	O&M Costs	IF	FF	O&M Costs	IF	FF	O&M Costs	IF	FF	O&M Costs	IF	FF	O&M Costs
Households	Domestic	Equity and debt															
	Total Household Funds (all domestic)																
Corporations	Domestic	Domestic equity (including internal cash flow)															
		Domestic borrowing (bonds and loans)															
		Total Domestic Sources															
	Foreign	Foreign direct investment (FDI)															
		Foreign borrowing (loans)															
		Foreign aid (ODA)															
	Total Foreign Sources																
Total Corporation Funds																	
Government	Domestic	Domestic funds (budgetary)															
	Foreign	Foreign borrowing (loans)															
		Bilateral foreign aid (bilateral ODA)															
		Multilateral foreign aid (multilateral ODA)															
	Total Foreign Sources																
Total Government Funds																	
Total																	

Table 7: Mitigation (or Adaptation) Scenario: Annual IF, FF, and O&M Estimates by Investment Type

Note: The number of columns in this table may need to be changed, depending upon the number of investment types that are included in the Mitigation (or Adaptation) Scenario. The labels "Investment Type 1," "Investment Type 2," etc. should be changed to the names of the specific investment types included in the scenario. The types of investments, and the number of types, in the Mitigation (or Adaptation) Scenario may not be the same as in the Baseline Scenario. The units labels (million 2005US\$) should be revised if different units were used. The years listed in the left column should reflect the assessment period used in the sectoral assessment. A note should be added to the bottom of the table that explains whether subsidies are included.

Year	Annual IF, FF, & O&M Estimates for Mitigation/Adaptation Scenario (million 2005US\$)														
	Investment Type 1			Investment Type 2			Investment Type 3			Investment Type 4			All Investment Types		
	IF	FF	O&M Costs	IF	FF	O&M Costs	IF	FF	O&M Costs	IF	FF	O&M Costs	IF	FF	O&M Costs
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
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2028															
2029															
2030															

Table 8: Incremental Cumulative Discounted IF & FF Estimates, By Investment Type, Investment Entity, and Funding Source

Note: The number of columns in this table may need to be changed, depending upon the total number of investment types included in the assessment. All the investment types in the baseline scenario, and all the investment types in the mitigation (or adaptation) scenario should be listed. A note should be added below the table that provides the discount rate or rates that were used. The units labels (million 2005US\$) may need to be revised. Households IF and Corporations IF and FF should be net of subsidies. If subsidy costs are included explicitly in the assessment, the domestic funds source for Government IF and FF should include subsidy costs, and a note should be added below the table that explains this.

Category of Investment Entity	Source of I&FF Funds		Incremental Cumulative Discounted IF, FF, & O&M Estimates (million 2005US\$)														
			Investment Type 1			Investment Type 2			Investment Type 3			Investment Type 4			All Investment Types		
			ΔIF	ΔFF	ΔO&M Costs	ΔIF	ΔFF	ΔO&M Costs	ΔIF	ΔFF	ΔO&M Costs	ΔIF	ΔFF	ΔO&M Costs	ΔIF	ΔFF	ΔO&M Costs
Households	Domestic	Equity and debt															
	Total Household Funds (all domestic)																
Corporations	Domestic	Domestic equity (including internal cash flow)															
		Domestic borrowing (bonds and loans)															
		Total Domestic Sources															
	Foreign	Foreign direct investment (FDI)															
		Foreign borrowing (loans)															
		Foreign aid (ODA)															
		Total Foreign Sources															
	Total Corporation Funds																
Government	Domestic	Domestic funds (budgetary)															
	Foreign	Foreign borrowing (loans)															
		Bilateral foreign aid (bilateral ODA)															
		Multilateral foreign aid (multilateral ODA)															
		Total Foreign Sources															
	Total Government Funds																
Total																	

Table 9: Incremental Annual IF & FF Estimates by Investment Type

Note: The number of columns in this table may need to be changed, depending upon the total number of investment types included in the assessment. All the investment types in the baseline scenario, and all the investment types in the mitigation (or adaptation) scenario should be listed. Also, the years listed in the left column should reflect the assessment period used in the sectoral assessment. The units label (million 2005US\$) may need to be revised too. A note should be added to the bottom of the table that explains whether subsidies are included.

Year	Incremental Annual IF, FF, & O&M Estimates (million 2005US\$)														
	Investment Type 1			Investment Type 2			Investment Type 3			Investment Type 4			All Investment Types		
	ΔIF	ΔFF	ΔO&M Costs	ΔIF	ΔFF	ΔO&M Costs	ΔIF	ΔFF	ΔO&M Costs	ΔIF	ΔFF	ΔO&M Costs	ΔIF	ΔFF	ΔO&M Costs
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															
2019															
2020															
2021															
2022															
2023															
2024															
2025															
2026															
2027															
2028															
2029															
2030															

Table 10: Incremental Annual IF for all Investment Types, by Investment Entity/Funding Source Combination

Note: This table is broken into two parts because of space limitations of the page. The first row of the table is completed with simple labels and formulas to illustrate the incremental calculations.

Year	Annual IF for All Investment Types by Investment Entity/Funding Source Combination (million 2005US\$)																	
	Households			Corporations														
	Domestic			Domestic						Foreign								
	Equity & Debt			Domestic Equity			Domestic Borrowing			FDI			Foreign Borrowing			ODA		
	BS	CCS	Δ	BS	CCS	Δ	BS	CCS	Δ	BS	CCS	Δ	BS	CCS	Δ	BS	CCS	Δ
2005	A1	B1	C1= B1-A1	D1	E1	F1= E1-D1	G1	H1	I1= H1-G1	J1	K1	L1= K1-J1	M1	N1	O1= N1-M1	P1	Q1	R1= Q1-P1
2006																		
2007																		
2008																		
...Additional rows would need to be added for the intervening years (2009-2029)																		
2030																		

Year	Annual IF for All Investment Types by Investment Entity/Funding Source Combination (continued) (million 2005US\$)											
	Government											
	Domestic			Foreign								
	Domestic Funds			Foreign Borrowing			Bilateral ODA			Multilateral ODA		
	BS	CCS	Δ	BS	CCS	Δ	BS	CCS	Δ	BS	CCS	Δ
2005	S1	T1	U1= T1-S1	V1	W1	X1= W1-V1	Y1	Z1	AA1= Z1-Y1	AB1	AC1	AD1= AC1-AB1
2006												
2007												
2008												
...Additional rows would need to be added for the intervening years (2009-2029)												
2030												

Table 11: Incremental Annual IF, FF, and O&M Costs for All Investment Types and All Investment Entity/Funding Source Combinations

Note: The first row of the table is completed with simple labels and formulas to illustrate the incremental calculations.

Year	Annual IF, FF, and O&M Costs for All Investment Types & All Investment Entity/Funding Source Combinations (million 2005US\$)								
	Baseline Scenario			Climate Change Scenario			Incremental Cost		
	IF	FF	O&M Costs	IF	FF	O&M Costs	IF	FF	O&M Costs
2005	A1	B1	C1	D1	E1	F1	G1= D1-A1	H1= E1-B1	I1= F1-C1
2006									
2007									
2008									
<i>...Additional rows would be added for each of the intervening years (2009-2029)</i>									
2030									

Table 12: Incremental Cumulative and Annual IF, FF, and O&M Subsidy Costs for Individual Investment Types

Note: This same table format could be used for all investment types. The first and last rows, and the first column, of the table are completed with simple labels and formulas to illustrate the incremental calculations, and the cumulative figures.

Year	Annual IF, FF, and O&M Subsidy Costs for Investment Type I (million 2005US\$)								
	Baseline Scenario			Climate Change Scenario			Incremental Cost		
	IF Subsidy	FF Subsidy	O&M Costs Subsidy	IF Subsidy	FF Subsidy	O&M Costs Subsidy	IF Subsidy	FF Subsidy	O&M Costs Subsidy
2005	A1	B1	C1	D1	E1	F1	G1= D1-A1	H1= E1-B1	I1= F1-C1
2006	A2								
2007	A3								
2008	A4								
<i>...Additional rows would be added for each of the intervening years (2009-2029)</i>									
2030	A26								
Cumulative	A27=SUM(A1:A26)	B27=SUM(B1:B26)	C27=SUM(C1:C26)	D27=SUM(D1:D26)	E27=SUM(E1:E26)	F27=SUM(F1:F26)	G27=D27-A27	H27=E27-B27	I27=F27-C27

