



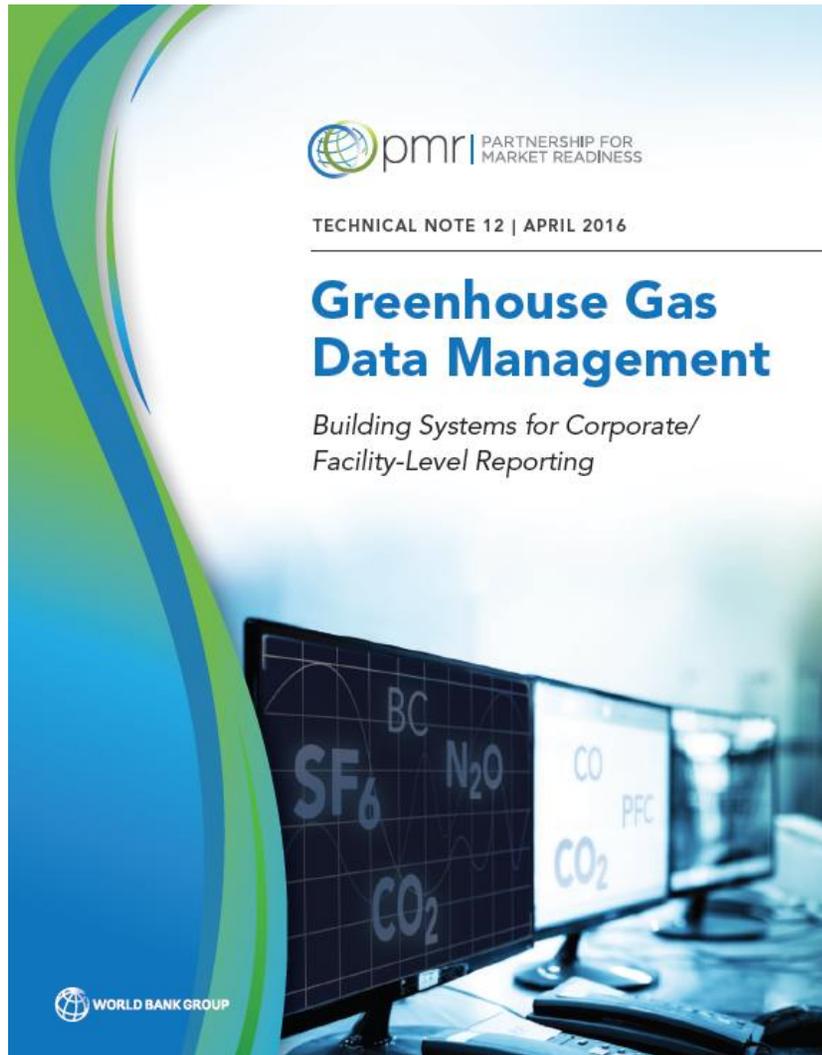
An Introduction to **Greenhouse Gas Data Management: Building Systems for Corporate/Facility-Level Reporting**

Mr. David Rosenheim
Ms. Alex Carr
The Climate Registry

Ms. Deborah Harris
ICF International

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The report is the result of extensive consultation



1. Resulted from a wide collaboration led by the **World Bank's PMR, The Climate Registry (TCR) and ICF International**.
2. Key insights were provided by over **10 national and sub-national jurisdictions** with experience designing and implementing GHG data management systems for corporate/facility-level reporting.
3. Experts from the **World Bank Group** and the **PMR MRV Working Group** provided input and reviewed the guide.

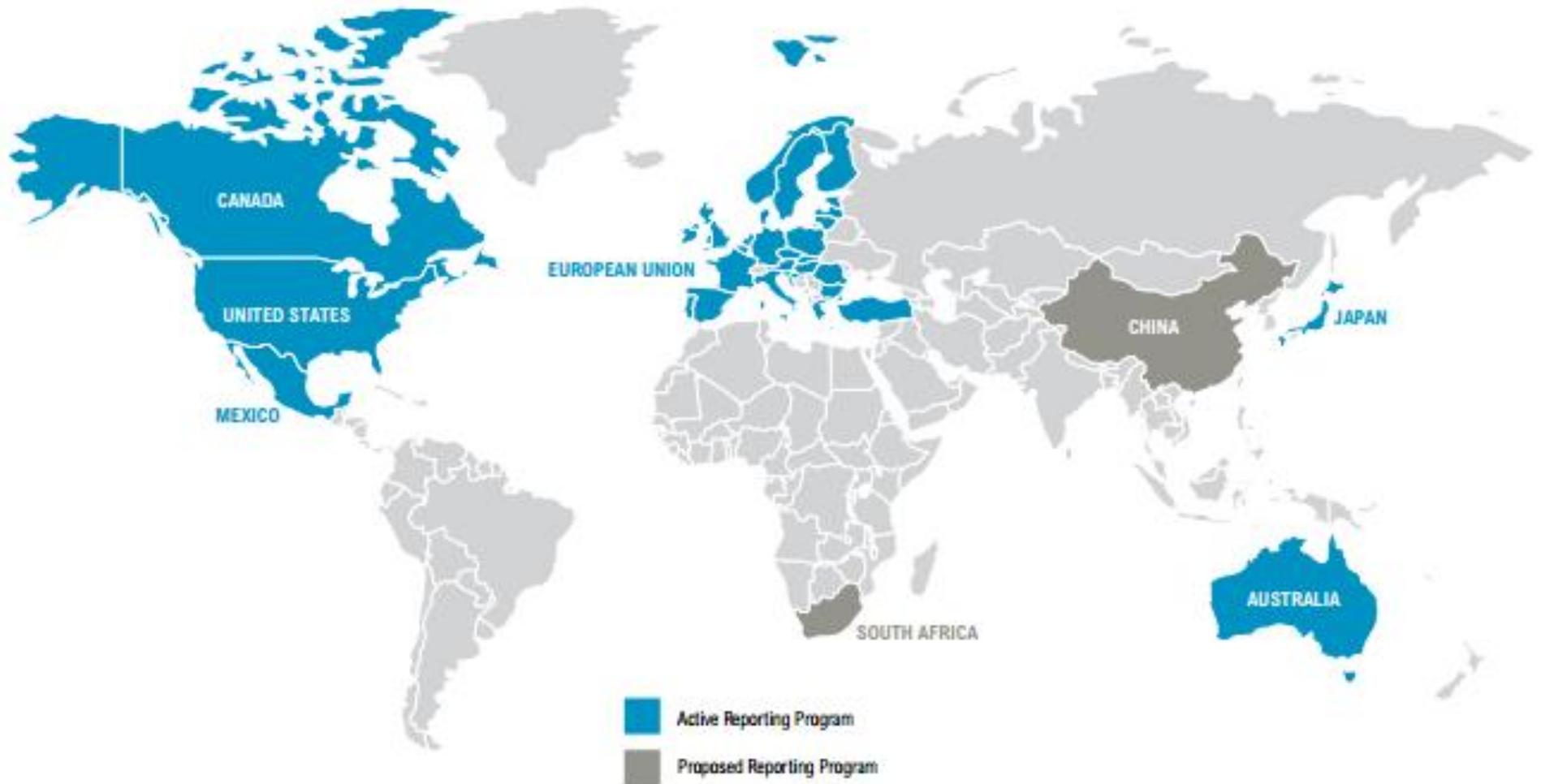
Webinar overview

- About **Greenhouse Gas Data Management: Building Systems for Corporate/Facility-Level Reporting**: Context and scope of the guide
- Key findings
- How to use the guide
- Questions?

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About the guide: Context and scope

Mandatory GHG Reporting Programs



What are GHG data management systems?

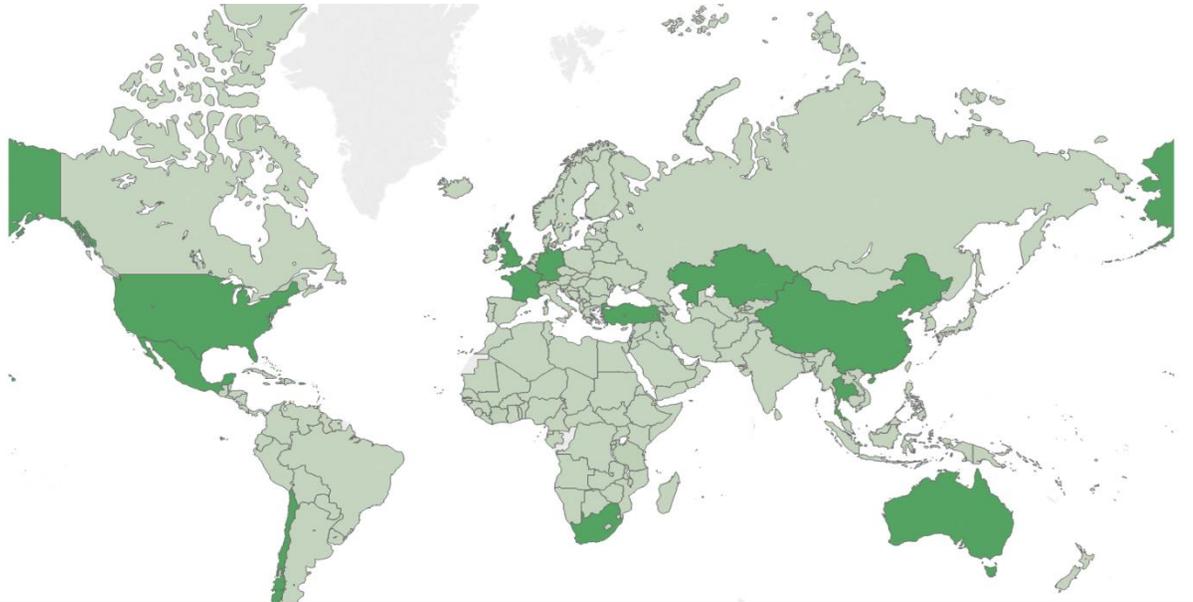
- ❑ **Repositories to collect and store GHG data from companies and organizations**
 - Level of the facility or enterprise
- ❑ **Benefits of GHG data management systems:**
 - Increased data accuracy, completeness, and consistency
 - Centralized, paperless data collection, facilitating interactions between regulators, regulated entities and verifiers
 - Can help industry demonstrate compliance, leadership, and transparency to shareholders and the public, as well as publicly track reductions
 - Enables stakeholders to access GHG data more easily so they can make informed decisions

Expected results of using the guide

- ❑ **The guide has been designed to help PMR decision makers:**
 - Understand **the key considerations and decision points** associated with designing, developing and implementing GHG data management systems
 - Determine whether to design and develop a system using **internal or external resources** (or a combination of both)
 - Understand how to **engage and oversee external consultants** during development and implementation
 - Develop **solutions that are appropriate** for unique jurisdictional needs and requirements, local conditions and policy environment, and capacity (financial, human and technical)
 - Bridge the **information and knowledge gaps between the different stakeholders** who will collaborate on and be users of the system

The guide is flexible and grounded in real-life experience

- ❑ There is no “one size fits all” GHG data management system
- ❑ The guidance is not intended to be applied identically in all jurisdictions; it is intended to be applicable to countries with varying policy goals and objectives, needs and capacity
- ❑ It provides an overview of all significant decision points based on lessons learned in over 10 jurisdictions that have experience designing, developing and deploying GHG data management systems



Scope of the guide

It is:

- A guide for regulators, program and system administrators, and IT/development teams on how to design, develop, and implement the GHG data management systems that support corporate/facility-level reporting programs

It is not:

- A guide for designing and developing transaction/tracking registries
- A guide for designing and implementing mandatory GHG reporting programs. For information on this, see: <https://openknowledge.worldbank.org/handle/10986/21981>

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Key findings

Key findings

- ❑ Different approaches to GHG system development
- ❑ Costs and funding
- ❑ Data upload and inputs
- ❑ Critical enablers of a successful system

Key findings: Development approaches

- ❑ **In general, jurisdictions are taking three different approaches to development:**
 - Developing a new system in-house or using external resources: Kazakhstan, US, UK, Australia, Mexico, Turkey
 - Re-purposing an existing system: Chile
 - Customizing a third-party system: South Africa, California, Thailand
- ❑ **A modular approach can be useful when there are resource and/or time constraints, e.g., South Africa, US, Chile, Kazakhstan**
- ❑ **Leveraging existing systems to collect GHG data is rare, as is integrating GHG data systems with other databases, e.g. national inventories, non-GHG air pollutant databases, transaction registries, energy databases**
- ❑ **None of the jurisdictions were linking systems with other jurisdictions**

Key findings: Costs and funding

- ❑ **“Generic” costs are difficult to quantify given the number of variables**
 - Majority of the cost is attributable to consultants and contractors being engaged to develop the software
 - System costs are typically less if existing software is customized or licensed
 - Hosting costs are variable and dependent on existing infrastructure, security, and how much back-up space is required

- ❑ **Funding options for design, development, and deployment of a GHG data management system include:**
 - Seeking development money from international agencies or funding from national governments

Key findings: Costs and funding cont'd

- **Funding options for the ongoing maintenance of a GHG data management system include:**
 - Using revenues earned through charging regulated entities/system users.
 - Charging a licensing and/or annual fee if the system is licensed to others

Key findings: Data upload and input

- ❑ **Decisions about how data is uploaded and inputted significantly impact system design**
 - Option 1: Manual entry of data into a web interface
 - Option 2: Manual entry of data into formatted spreadsheets, uploaded into the system, e.g. U.S. and California (certain source categories)
 - Option 3: Integration of separate data sets via web services (linking systems), e.g. Chile, South Africa, Mexico

Key findings: Critical enablers

- ❑ **Defining the legal, institutional and regulatory frameworks for the GHG reporting program in advance of developing a data system**
- ❑ **Making program design decisions in advance of GHG system development is critical**
- ❑ **Defining the requirements of the system before building it**
- ❑ **Engaging and consulting with key stakeholders before, during and after the development of the system**
- ❑ **Conducting testing at every stage of the software development process**
- ❑ **Providing training and support for users**

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How to use the guide

How the guide is organized

□ Three key sections:

- **Section 2** describes the legal, regulatory, and institutional frameworks that enable effective GHG data management system design and development
- **Section 3** describes a step-by-step process for developing the GHG data management system, from gathering system requirements to deployment
- **Section 4** contains options for providing support to and building the capacity of GHG data management users

□ **The detailed Table of Contents allows regulators and program administrators to select the information and steps that are most relevant to their specific circumstances and objectives**

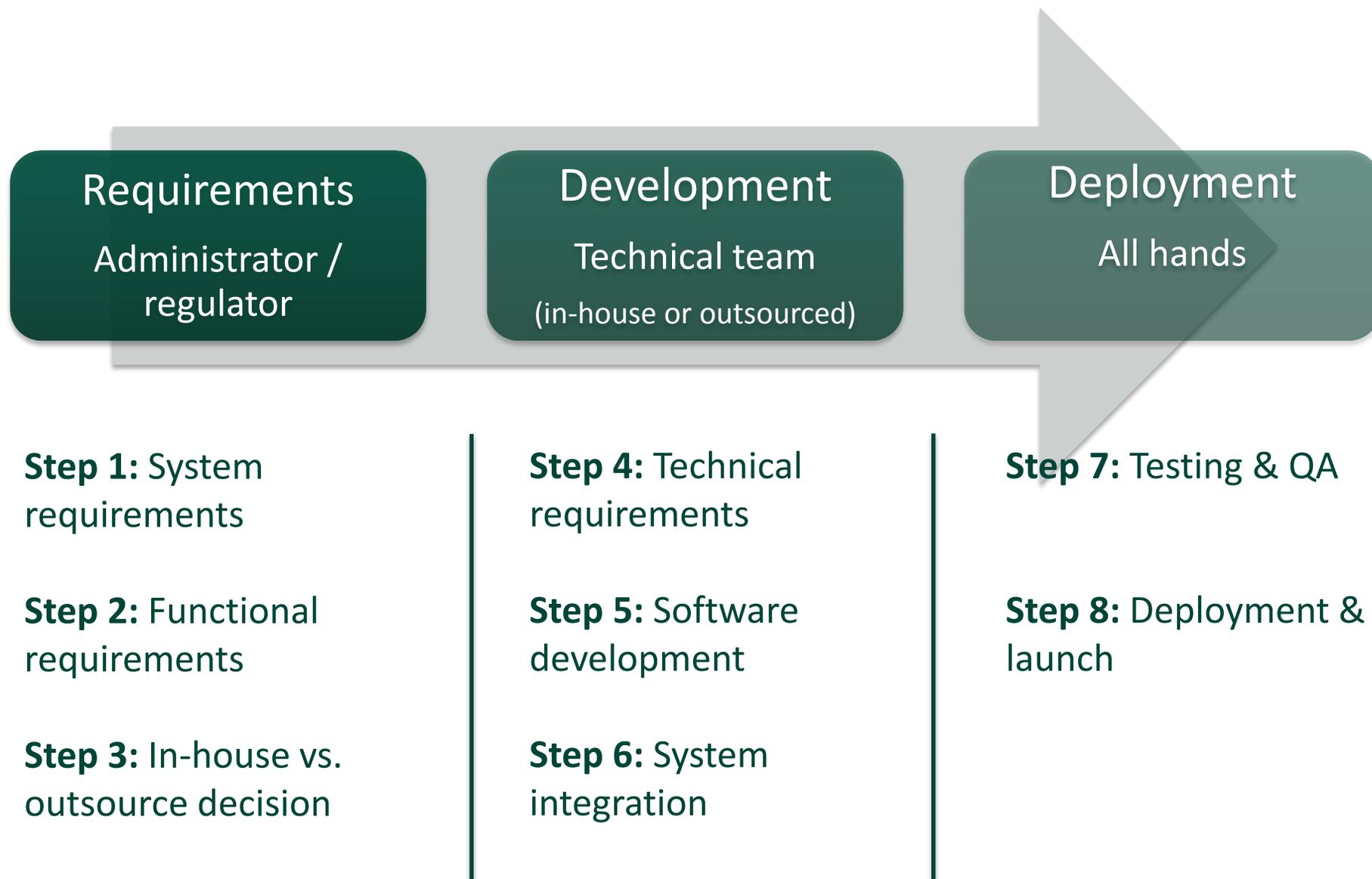
Section 2: Legal, regulatory, and institutional frameworks

- ❑ **Legal frameworks** give authorization, direction, and verification to determine and implement **regulations** that put into practice the primary legislative intent
- ❑ **Institutional frameworks** address GHG system governance and oversight that supports effective communication, ensures accountability, and supports system development, maintenance, and use
- ❑ These frameworks:
 - Support the development and implementation of GHG data management systems that are then used to support outlined policy objectives
 - Frame the design and development of GHG system (e.g., QA/QC, data use and disclosure, coverage)
 - Outline GHG MRV protocols
 - Address GHG system roles and responsibilities/authority

Institutional frameworks: Roles and responsibilities

- ❑ **Assess capacity of existing institutions and legal frameworks they support**
 - Non-GHG pollutants
 - National GHG inventory
 - Voluntary programs
- ❑ **Evaluate alignment potential for legal and institutional frameworks and leverage technical capacity, expertise, and resources**
- ❑ **Determine if institutional responsibilities should be consolidated**
 - ❑ Australia consolidated agencies and responsibilities into the Clean Energy Regulator
- ❑ **Establish institutional roles and responsibilities**
 - Statutory regulator
 - Program Administrator
 - IT developer
 - System administrator

Section 3: Developing the GHG data management system



Section 4: Providing support to and building the capacity of GHG data management system users

□ Key considerations

- Ensuring smooth reporting cycles and accurate data input
- Available resources, reporting timeliness, and accuracy requirements determine the appropriate type and level of support and training activities

□ User support options

- Help Desk
- Telephone and email
- Website

□ Training and capacity building options

- FAQs documents
- System user guides/manuals by user type, with step-by-step instructions and associated screenshots (Kazakhstan found this most valuable)
- Training materials and sessions

Questions?

Thank you!

For further information and input, contact:

PMR Secretariat

pmrsecretariat@worldbank.org

www.thepmr.org

The Climate Registry

acarr@theclimateregistry.org

www.theclimateregistry.org



ICF International

Deborah.Harris@icfi.com

www.icfi.com

