



Forest Carbon Partnership Facility

Update on Transaction Registries

Eighteenth meeting of the Carbon Fund (CF18)

Paris, France, June 20-22, 2018

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1. QUICK REVIEW

2. CONSULTANCIES ON TRANSACTION REGISTRIES

3. RESULTS so far



QUICK REVIEW

A **Transaction Registry** is a (online) database that **issues, records** (+ other relevant info), **transfers** (between multiple account holders on the system - internal transfer - or to another transaction registries - external transfer) and **tracks** the **serialized carbon units** that are financed through Results-Based Climate Finance (RBCF) and / or exchanged within market mechanisms.

System to provide **assurance against double accounting and double payments.**

FCPF CF MF (Criterion 38)

Reversal (Criteria 19 and 20) and Uncertainty buffers (Criterion 22) – ERP Buffer Guidelines

ISFL ERs Program Requirements (3.7 ISFL ER Program transactions)

Reversal (ISFL ER Program Requirements 4.7) and Uncertainty buffers (ISFL ER Program Requirements 4.6.4) - ISFL Buffer Requirements

QUICK REVIEW

After conducting a **global survey on transaction registries**, collecting information on (i) programmatic and legal related aspects, (ii) the role of the carbon markets in REDD+ implementation, (iii) the scale of implementation of REDD+, (iv) REDD+ and land use-related risks, and (v) the registry design decision based on the scenarios,

After disseminating the survey results and findings to CF participants and REDD+ countries at **CF17** and **PC25**, the FMT proposed that:

- Given the variation in country suggestions, it looked likely that both a centralized registry and in-country registries would evolve
- A centralized registry (even in minimalist form) should be available in case a back-up option is needed in ERPA delivery terms (for uncertainty, reversal and pooled buffers)



QUICK REVIEW

Proposal of a Hybrid Model

- Potentially designed as **transaction modules** added to existing or planned **REDD+ Projects & Programs management systems** should be adapted to integrate FCPF CF / BioCF ISFL requirements
- **Complete functionality** at country level

Country Registries

- Centralized Registry holds **country accounts** of those CF/ISFL Countries that prefer not to develop their own registries
- **Country and third-party registries communicate** with the Centralized Registry for tracking/reporting purposes (portfolio level) and coordinate operations of the Pooled Reversal Buffer

Centralized Registry

step-wise approach process to pursue a simple, low cost, and flexible approach given the uncertainty on what will be required from registries in terms of functionality and compatibility under the Paris Agreement

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CONSULTANCIES ON TRANSACTION REGISTRIES

N°	Consultancy	Modality	Timeline
1	Study on the architecture of an WB Centralized Registry System: key functions, operational processes and rules. Analysis of alternatives (operational, technical and cost)	STC	May 12 - August 21 2018
2	Supporting analysis on risks and legal issues related to the operations of the WB Centralized Registry System	STC	May 12 - August 21 2018
3	Develop a System Blue Print for Country Registries	STC Ongoing consultancy	Dec. 31 2018
4	Procurement/development and implementation of the WB Centralized Registry System	Vendor Short-list of qualified firms (RFI /RFP)	June 30 2019

CONSULTANCIES ON TRANSACTION REGISTRIES

STUDY ON THE ARCHITECTURE OF AN WB CENTRALIZED REGISTRY SYSTEM: KEY FUNCTIONS, OPERATIONAL PROCESSES AND RULES. ANALYSIS OF ALTERNATIVES (OPERATIONAL, TECHNICAL AND COST)

PHASES	DELIVERABLES	TIMELINE
0	Inception report with a good understanding of the ToRs and a Work Plan that reflects the outlined activities and the deliverables	17 May 2018
1	Report Chapter 1. FCPF CF and BioCF ISFL Framework for the Centralized Transaction Registry.	24 May 2018
2	Report Chapter 2. Potential scenarios for the National Transaction Registries and the Centralized Transaction Registry	31 May 2018
3	Report Chapter 3. Risk and volume assessment to be managed by the Centralized Transaction Registry.	8 June 2018
4	RFI (request for interest) to improve knowledge of existing offers and potential providers, but also to assess which solutions are available in practice.	8 June 2018
5	Report Chapter 4. Scope and nature of the service.	20 June 2018

CONSULTANCIES ON TRANSACTION REGISTRIES

STUDY ON THE ARCHITECTURE OF AN WB CENTRALIZED REGISTRY SYSTEM: KEY FUNCTIONS, OPERATIONAL PROCESSES AND RULES. ANALYSIS OF ALTERNATIVES (OPERATIONAL, TECHNICAL AND COST)

PHASES	DELIVERABLES	TIMELINE
6	Report Chapter 5. Registry Functional Requirements.	9 July 2018
7	Report Chapter 6. Registry Technical Requirements.	19 July 2018
8	RFP (request for proposal) to solicit potential registry providers proposals to implement the Centralized Registry based on the volumes of data expected to be managed by the registry, the security measures required services, the nature of the services expected to be delivered by vendors based on basic registry needs, and the functional and technical requirements for the registry and its associated services, and the technical and financial assessed alternative/s.	16 Aug. 2018
9	Final Report , as a comprehensive compilation of the elaborated chapters.	21 Aug. 2018

CONSULTANCIES ON TRANSACTION REGISTRIES

SUPPORTING ANALYSIS ON RISKS AND LEGAL ISSUES RELATED TO THE OPERATIONS OF THE WB CENTRALIZED REGISTRY SYSTEM

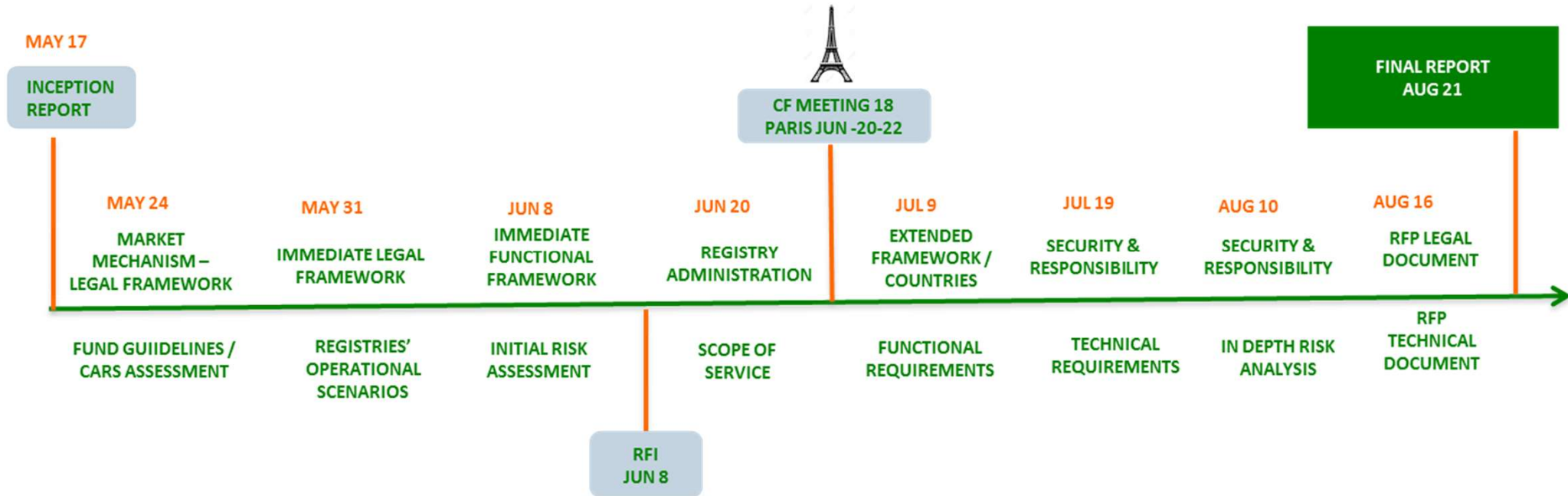
PHASES	DELIVERABLES	TIMELINE
0	Inception report with a good understanding of these ToRs and a Work Plan that reflects the outlined activities and the deliverables according to these ToRs.	17 May
1	Report Chapter 1. Scope of the market mechanism considered and supportive legal framework.	24 May 2018
2	Report Chapter 2. Immediate legal framework to support the role of the Centralized Transaction Registry.	31 May 2018
3	Report Chapter 3. Legal framework necessary to support the functions and transactions of the Centralized Transaction Registry. To support Consultancy 1 from the legal point of view (among others) on the elaboration of the RFI (request for interest)	8 June 2018
4	Report Chapter 4. Authority and functions of the registry administrator.	20 June 2018

CONSULTANCIES ON TRANSACTION REGISTRIES

SUPPORTING ANALYSIS ON RISKS AND LEGAL ISSUES RELATED TO THE OPERATIONS OF THE WB CENTRALIZED REGISTRY SYSTEM

PHASES	DELIVERABLES	TIMELINE
5	Report Chapter 5. Extended framework necessary to support the functions and transactions of the Centralized Transaction Registry.	9 July 2018
6	Report Chapter 6. Security, Responsibility and Confidence legal related issues To support Consultancy 1 from the legal point of view (among others) on the elaboration of the RFP (request for proposal)	19 July 2018 16 Aug. 2018
7	Final Report , as a comprehensive compilation of the elaborated chapters, on Supporting analysis on risks and legal issues related to the operations of the centralized registry system.	21 Aug. 2018

CONSULTANCIES ON TRANSACTION REGISTRIES



- **Consultants:** Antonio Jose Ludovino Lopes (Registry Legal Expert)
Otto Eduardo Niño (Registry System Analyst)
- **WB Teams:** Fund Management Team (FMT), LEGEN Team, ITS – BlockChain Lab, ITS Security Team, MI - Markets and Innovation
(33 staff members)
- **Countries:** Chile, Mexico, Costa Rica, Colombia, Ethiopia, Mozambique, DRC, RoC, Indonesia and Nepal. All CF and ISFL BioCF countries.

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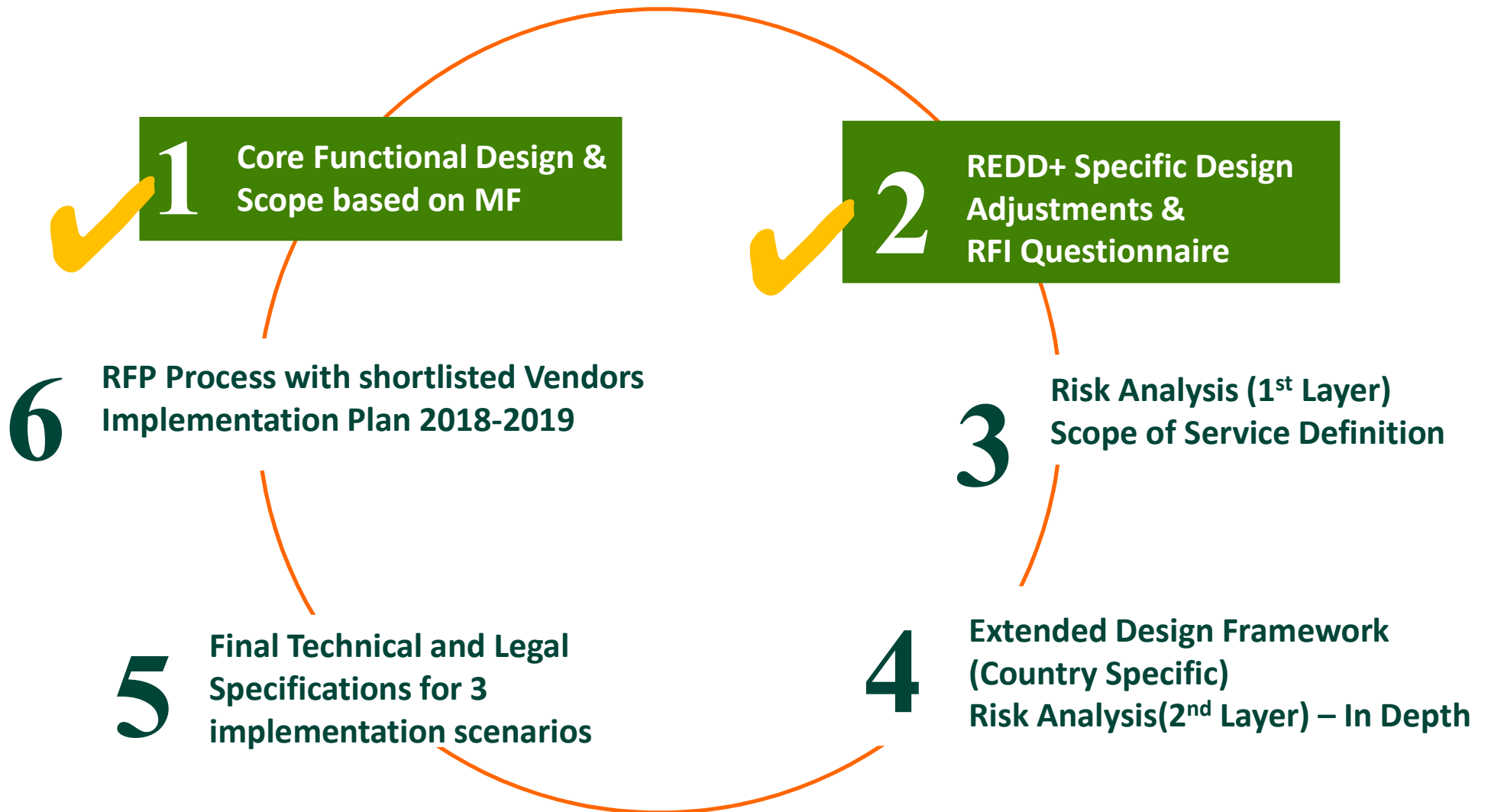
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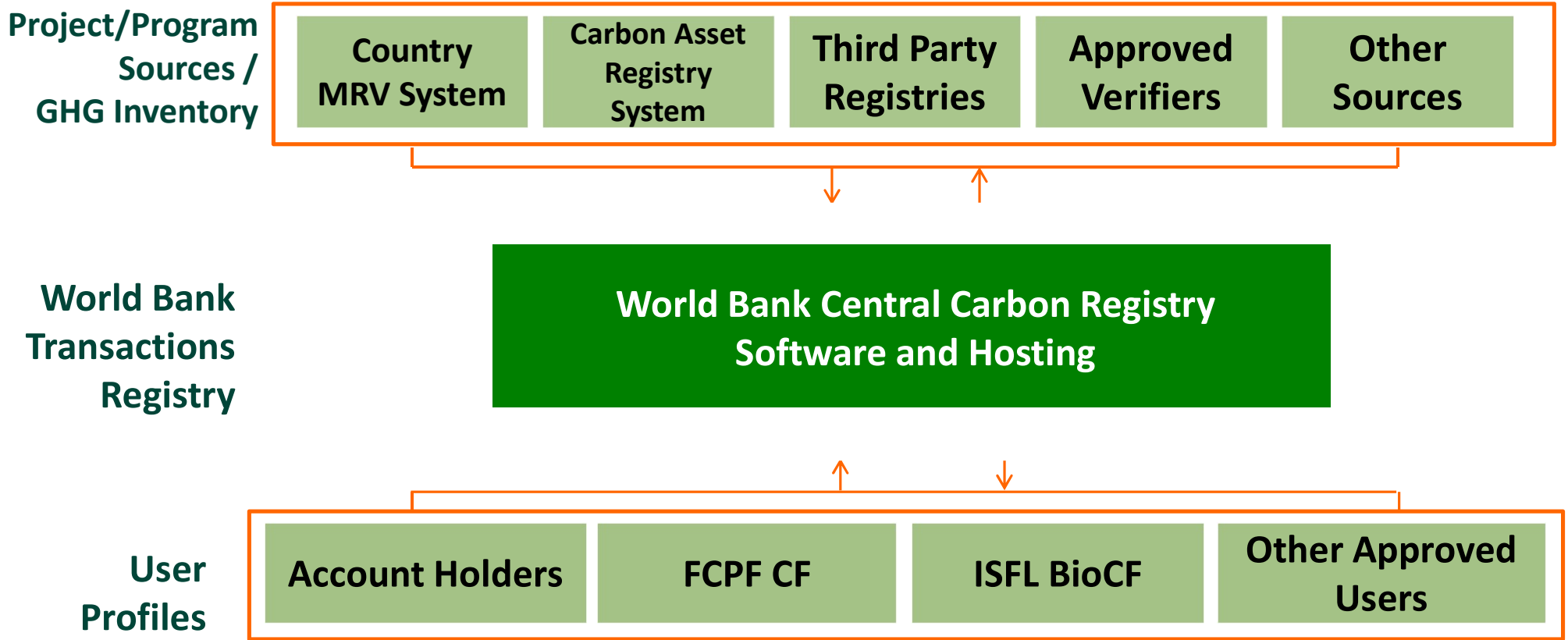


RESULTS



RESULTS

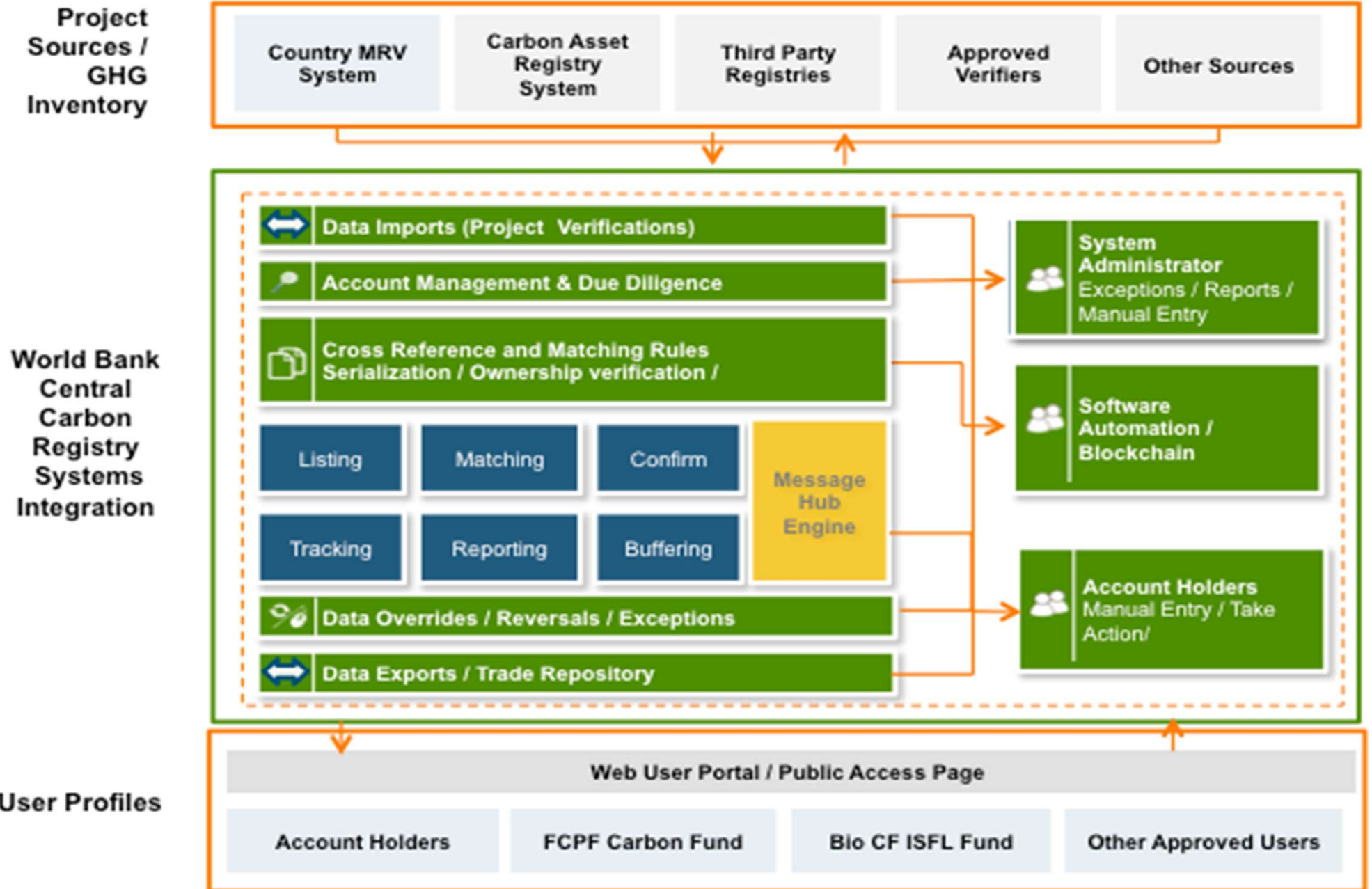
CORE STRUCTURE DESIGN



- **Functional structure and process logic** respond 100% to the FCPF Carbon Fund and Bio CF ISFL criteria & requirements.
- **Collaboration & connectivity** rule the structure adding transparency to the registry.
- Inclusion of **FinTech Innovation concepts** (e.g. **Blockchain & Digitalization**) will add scalability, reliability and facilitate adoption.

RESULTS

IT ARCHITECTURE & FUNCTIONAL ATTRIBUTES



RESULTS

IT ARCHITECTURE & FUNCTIONAL ATTRIBUTES

- Functionality is **focused on the traceability and avoidance of ER units double counting**. Fully conforming to the Funds' Methodological Frameworks Criteria.
- **Modular architecture** will allow seamless integration with existing MRV infrastructure whether developed in-country or by other the World Bank initiative, Adding key components such as KYC, Serialization, Messaging, Real time reporting, Digitalization, Mobility and more.
- **Multi-relational account management approach** for stronger security and compliance controls.
- **Data governance layers** will add transparency & standardization while conforming to the World Bank's information security policies.
- **Lifecycle of transaction aligns to ERPA Terms and Conditions** & adjusts to ERU's specific transfer characteristics.
- Further analysis and discussion ongoing over **roles & responsibilities of participants** and legal implications. Strict service level agreements relationships between the registry and its participants.

RESULTS

RFI

3. REQUIRED SOLUTION SCOPE AND CORE REQUIREMENTS

Regardless of the solution being a deployed or installed system or a managed service, it must have in-place the following functionalities and capabilities:

1. Connect and communicate with external databases and other registry platforms such as GHG Inventory databases, MRV systems, Exchanges, etc.
2. Record, list and track carbon emissions units for REDD+ mitigations structures/markets.
3. Provide public views and GPS localization of the projects where registered and listed units are generated.
4. Manage and apply multiple levels of hierarchies and access security to different types of accounts and user roles.
5. Offer an electronic (non-manual) process for account registration and activation.
6. Strong KYC due diligence processes integrated with account opening.
7. Have an integrated mechanism and system to assign identification codes or numbers to listed emission reduction units with mapping logic and capabilities
8. Data governance layers to apply operational rules over data flows and databases.
9. Proven electronic trading functionality to handle matching, confirmation and settlement of traded/transferred emission reduction units.
10. Unit tracking capabilities with robust governance features.
11. Connectivity capabilities to mirror transfers of emission units with external registries, other ETS
12. Demonstrate existing logical and functional workflows to handle inventory lists, accounting and transfers of carbon emission reduction units
13. Integrated real time messaging and alert capabilities to communicate lifecycle events processed on the registry platform.
14. Risk mitigation tools to secure, segregate, pledge or use any other mechanism for buffer coverage on listed emission reduction units.
15. Dynamic and user oriented reporting tools.
16. User friendly, intuitive web browser UI tools for interaction & trouble shooting.
17. Optionality for Cloud , SaaS and /or Deployed Software models.

4. YOUR ORGANIZATION

Please provide the following information on your organization:

1. Location of headquarters and main global/regional offices.
2. A brief general description of your organization structure, business record and business focus.
3. Please provide a descriptive list of your product, services or solutions offering.
4. Briefly describe your organization's experience in building and/or managing IT solutions for carbon emissions markets.
5. Can your organization provide the required services globally?
6. Can you provide referential cases or examples of similar solutions provided in the past?

5. ABOUT YOUR CARBON EMISSIONS REGISTRY SOLUTIONS

1. Please provide a detailed description of the registry system solutions you can offer (based on the above described scope of requirements).
2. If your solution only partially satisfies the requirements, would you be able to add functionality/ process/modules to achieve full satisfaction? Please elaborate on how would you complement the functional requirements
3. Would you be able to offer an integrated solution on your own or would your organization need to partner with other firms to satisfy the requirements? What's your experience on such scenario?
4. What functional modules from your solution would you suggest we should consider even if not listed above?
5. Having reviewed and answered the above listed questions/requirements, what do you consider to be the highest risk factors in implementing the solution or offering the services?
6. How are these risk factors mitigated / managed and, in your experience, what have been the biggest issues faced on similar projects and how have you resolved them?
7. Please elaborate on would you cover the following elements during implementation: a) Needed equipment & resourcing b) Quality & project management
8. What FinTech Innovation elements are planned for your solution's development roadmap?
9. Would your organization be interested in participating in the solicitation if / once issued?

7. COSTS COMPONENTS & VARIABLES

a. Please indicate available pricing models and options for the proposed solution or services. Please note that a quote is not requested at this point.
d. Please elaborate on any other considerations that should be given to costing scenarios.

8. TIME FRAMES AND IMPLEMENTATION

Please estimate the time and implementation process needed to:

a. Respond to a comprehensive Request for Proposal.
b. Complete the implementation of your proposed available solution or service.

1

CARS ENHANCEMENT (World Bank Carbon Asset Registry and Reporting System)

- Additional functionality and new module configurations needed (Buffer management, Programs structure, etc.). Phased approach could be considered.
- Estimated cost range: **US\$450,000-US\$600,000** (customization only) + yearly marginal maintenance costs (to be estimated by CARS team).
- Approximately **12 months of implementation (by June 2019)**

2

CUSTOMIZED BUILD OUT (Proof of Concept for FinTech Innovation concepts)

- Ensures full delivery of scope and functionality.
- It provides full control of development roadmap. Phased approach may also apply to speed delivery.
- Estimated cost range: **US\$750,000-US\$850,000**
- Approximately **8 -10 months of implementation (by December 2019)**

3

FULLY OUTSOURCED

- May further reduce costs and implementation time, leveraging proven solutions or parts thereof.
- Estimated cost range & implementation time will be assessed through **RFI /RFP** processes in the following weeks.

1

CARS ENHANCEMENT (World Bank Carbon Asset Registry and Reporting System)

- WB CARS enables Carbon Finance Unit to perform timely and accurate **recording, tracking, allocation and distribution of emission reductions (ER)** or carbon assets purchased on behalf of participants of the various carbon funds managed by the World Bank in its role as the Trustee.
- The CARS holds essential business **information about carbon funds, fund participants, financial contributions, carbon finance projects and emission reduction purchase agreements (ERPA)**.
- The platform enables the Trustee to **track the flow of the carbon assets, including asset generation, conversion, allocation and transfer**. It also has a reporting engine through which the fund participants and the fund management can produce detail reports about the status of the carbon asset portfolio under management.

1 CARS UPGRADES (some of them)

- **Serialization capabilities** (whether the administration of the serialization process remains at the bank or not; it should be relevant that it takes in the same registry platform.)
- **Participant level accounts** will need to be increased to allow jurisdictional approach and REDD+ Scenarios.
- **Interim holding accounts may need to be redefined** and reconfigured in order to support the Matching and Settlement of the transfers (trade).
- **Buffer account inclusion.**
- **Account creation process improvements** and access to complete that information should be done only **by approved verifiers.**
- Conversion transaction options will need to include at least two categories: **Buffer and Available for Sale** (Transfer accounts).

1

CARS UPGRADES (some of them)

Regarding ICAO/CORSIA requirements

- To add **qualification logic process** at the account opening and unit listing processes to permit the conversion flow to "convert" an emission reduction unit into a "CORSIA eligible unit". By default the eligibility qualification of a listed unit is not a functional attribute of the Transactional Registry, it belongs in the Pre-trade (listing) module.
- To **identify and facilitate tracking and transfer of unit ownership/holding from issuance to cancellation/retirement**. CARS will be modified as per our requirements to not only "mirror" a previously assigned serial number but rather assign a new serial unique identifier code to the listed units this will be possible. **Tracking of the life-cycle events of the units ownership** is one of key elements that the registry will have.
- To **identify unit status, including retirement / cancellation, and issuance status**. A Modified CARS would be able to provide this status reporting enhancing its current Data reconciliation and reporting flows.
- To **identify in serialization, or designate on a public platform, each unique unit's country and sector of origin, and vintage year**. This would need to be added either on the CARS Participant information or included in the requirements as part of the account opening and project /unit listing.



THANK YOU!

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