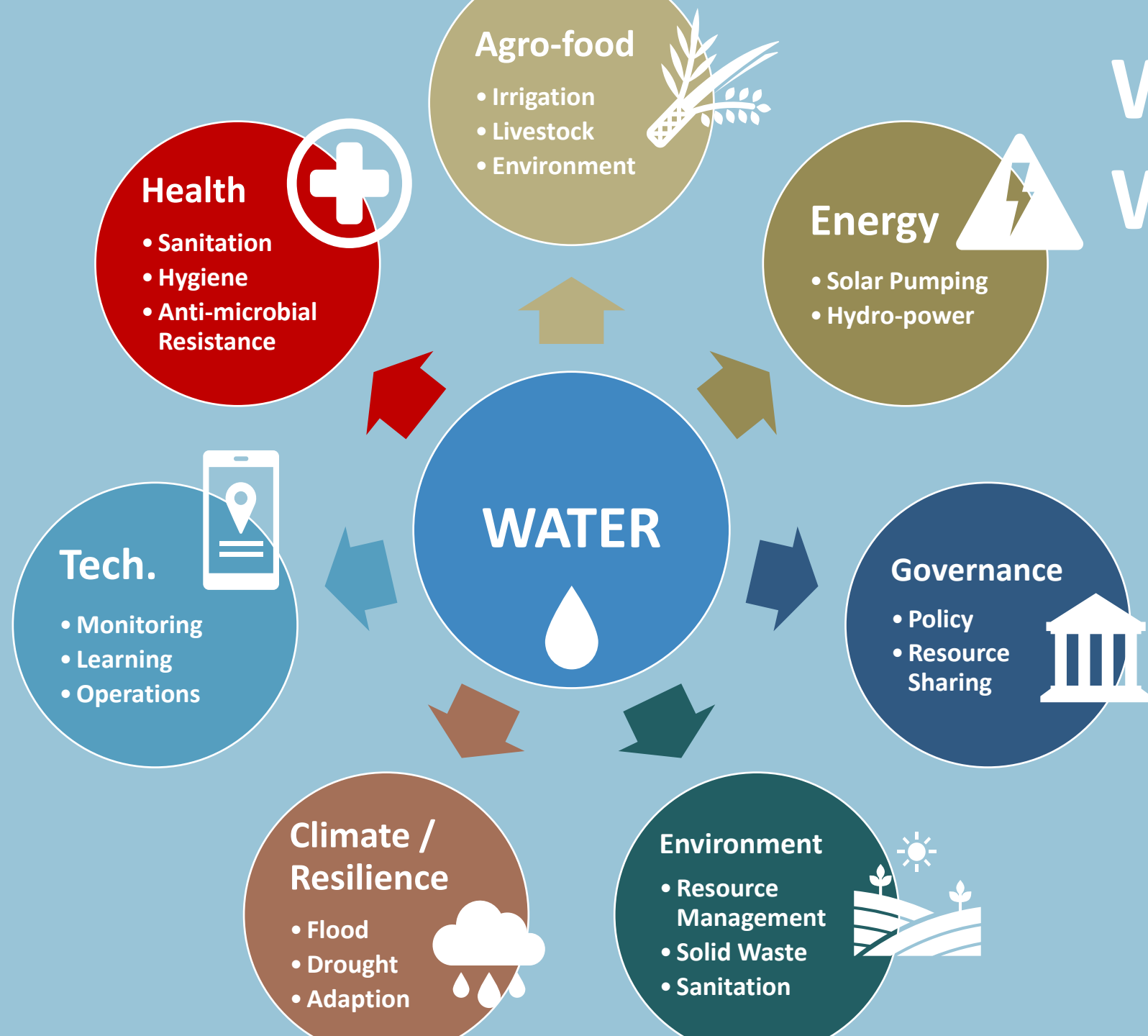


When we say WATER...





RESULTS-BASED FINANCING THROUGH CARBON CREDITS: WASH & WRM



MILLENNIUM WATER
ALLIANCE

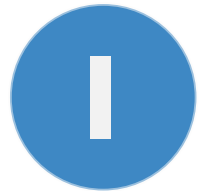
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FOUNDATION



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**SETTING THE
STAGE**
WASH AND
CARBON CREDITS



**KEY
STAKEHOLDERS**
ROLES AND
RESPONSIBILITIES



**BUILDING THE
FOUNDATION**
GO NO GO
DECISION TREE



**THE CERTIFICATION
JOURNEY**
THE PROCESS



REFLECTIONS



NEXT STEPS



**QUESTION &
ANSWER**

Millennium Water Alliance

- **Global consortium** improving access to safe water, sanitation, and hygiene (WASH) and Water Resource Management (WRM)
- **Partnerships:** Works with governments, NGOs, and private sector for sustainable water solutions
- **Impact:** Enhancing water security and health for millions in vulnerable regions



Setting the Stage





Overview

- **About Carbon Credits**
- **Opportunities, Modalities, and Challenges**
- **Path Forward**
- **Reflections**

Overview

- **Climate Finance:** Funding for projects that mitigate or adapt to climate change
- **Results-Based Financing (RBF):** Payments made only after agreed results are achieved. Includes Payment for Eco-system Services (PES)
- **Carbon Credits (CC):** Certificates for reducing, removing, or avoiding 1 ton of CO₂ emissions = 1 CC

WASH and WRM CC Modalities

Water Access



- Reduction in Boiling Water for Treatment
 - HH
 - Institutions
- No credits for Solar

Water Resource Management



- Sustainable Agriculture
- Wetlands Management
- Reforestation
- Agroforestry
- Riparian zones

Sanitation



- Institutional Bio-digestors
- Other opportunities TBD

Opportunities

Sustained Maintenance, Repairs, and Operations

- Funding for 10–15 years
- Results-based financing (RBF)
- Payment for Ecosystem services (PES)

Creating methods for other RBF / PES Mechanisms

- Water Credits
- Donor based

Opportunities

Long-term Data Collection

- Repair needs, frequency, and Cost
- Water Quality
- This data currently does not exist publicly

Payment for community-financed infrastructure

- Solar to diesel conversion ex. Winrock Model
- Water Treatment ex. [Clara](#) and Venturi doser

Opportunities

Sustained Household Water Quality

- Y1 80% 0 E.coli. Presence at HH
- Y2 85%
- Y3+ 90%
- Safe Water Optimization Tool can help guarantee water quality at HH level

Challenges

Requirements to qualify for CC

- Uses renewable energy i.e. solar or hydro power
- **Project Types**
 - **Provide** new access to water (prove additionality)
 - **Restore** access to water
 - **Increase** access to water (only for additional uptime)
 - **Make water safe**
- Monitor Flow-rates i.e. digital monitoring
- Ensure no detectable E. Coli at HH level i.e. chlorination

Challenges

Scale is needed (50K HH/project) due to high fixed costs

- Registration and certification body \$
- Ongoing Monitoring and evaluation \$
- Only population 1KM from point of collection

Creation of ongoing Maintenance, Repair, and Operations (MRO) systems

- Few exist
- Only paid for water quantity (uptime)

Challenges

Intense Monitoring and Evaluation

- HH JMP surveys
- Stakeholder consultations
- HH water quality testing
- 95% confidence Ex. 100K HH = 385 surveys

Variability

- Changes in price/demand for CC (currently \$10)
- Laws can change

WASH and WRM CC Modalities

Water Access



- Reduction in Boiling Water for Treatment
 - HH
 - Institutions
- No credits for Solar

Water Resource Management



- Sustainable Agriculture
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Sanitation



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Key Stakeholders



Roles and Responsibilities

- **Project Proponent (Owner):**
Develops and manages projects.
- **Local Communities:** Stakeholders in project design
- **Project Developer:** Firm facilitating CC generation process.

Roles and Responsibilities

- **Verification Bodies:** Independent auditors that verify emission reductions and ensure compliance/w standards
- **Donors and/or Investors:** Supply \$ necessary for project development, implementation, and scaling.
- **Buyers of CC:** Entities looking to offset their carbon footprint through investment in CC projects.



Building the Foundation



Evaluating Carbon Opportunities

- **Environmental Impact:** How many credits are available?
- **Social Benefits:** What are the improved health and economic opportunities?
- **Financial Viability:** Will the project be profitable?

Key Requirements for Projects

- **Additionality:** Must demonstrate emissions reductions are additional to any that would occur in the absence of the project.
- **Measurability:** Ability to accurately measure GHG reductions using recognized methodologies.
- **Permanence:** Ensuring emission reductions are long-lasting and not reversed.

Key Requirements for Projects

- **Independent verification** of emission reductions by a recognized 3rd party.
 - Verification Bodies: [Gold Standard](#) and [Verra](#)
 - Independent auditors
- **Leakage:** Addressing any unintended increase in GHG emissions outside the project boundary.

Additionality

- **CC projects must demonstrate** that they would not have taken place without the additional revenue from CC to be considered "additional"
- **Least Developed Countries (LDCs) and Landlocked Developing Countries (LLDCs)** projects are assumed additional without needing to prove financial additionality.
- **Ethiopia's Status:** Considered additional due to underfunding of community-based projects.

Suppressed Demand Methods

1. **All HHs not treating water method** (supposed 30% limit)

2. **Fractional Method:** nuanced approach to calculating

Baseline survey: 80% lack safe water (no treatment); 20% treat water, 5% by boiling.

Ratio [5% (boiling) / 20% of households (treating water) i.e 1/4] × 80% (fraction not treating) = **20% (Suppressed Demand)**

20% (Suppressed Demand) + 5% (Boiling) = **25% Eligible for CC**

Suppressed Demand

- **Understanding Suppressed Demand:** A concept allowing projects to generate carbon credits by accounting for the theoretical future use of non-renewable biomass for water boiling, even in areas where boiling is not the primary treatment method.
- **Importance in Carbon Credits:** Allows projection of GHG emissions reductions that support climate action.
- **Ethiopian Context:**
 - Less than 5% of households boil water.
 - Emission reductions (credits) can be claimed (in theory) for the 80% of households who lack safe water access (consuming untreated water).

Suppressed Demand

Key Takeaways

- Designed to support water programs even if no CO2 reduction
- Can claim all or fraction of HH that do not treat water (speculation that this is limited 30%)
- Some houses must boil water for treatment
i.e. no boiling (0%) = no carbon credits

Decision Framework (Go-No Go)

1. Does the project meet the key requirements for a CC project?

2. Can suppressed demand be justified and defended?

3. Do the pros outweigh the cons?

4. Is there a CC project developer that meets our expectations?

Move Forward with the CC Project for Safe Water

Step 1: Evaluating Carbon Credit Project Viability

- **Must target a minimum of 30,000 to 50,000 HHs** to ensure financial viability through CC generation.
- **Past Water and Fuel Usage:** Demonstrate that target users relied on unsafe water and solid fuels on inefficient stoves before the project.
- **Can demonstrate non-detectable E. coli levels** in drinking water, not exceeding 10% of samples.
- **Focuses on decentralized systems i.e. less than 50,000 HH/system** to simplify additionality

Step 1: Evaluating Carbon Credit Project Viability

- **All systems must have unique IDs (mWater)** for accurate tracking and monitoring, essential for both small and large-scale interventions.
- **Technology Performance:** HH water treatment (HWT) technologies meet WHO 2-star or 3-star performance standards.
- **YES? Move forward**

2. Can suppressed demand be justified and defended?

- **Defending Suppressed Demand:** Assess the ability to justify and defend the application of suppressed demand in the context of WASH projects.
- **Reputational and Financial Risks:** Importance of a robust justification to mitigate potential reputational risks and ensure the project's financial viability.

Low Risk: Boiling as a prevalent treatment method; assumption of widespread adoption with resources.

Medium Risk: Boiling common among wealthier households; projected increase in boiling with economic development.

High Risk: Low prevalence of boiling; equity argument for recognizing suppressed energy use due to poverty and climate change.

Weighing Pros and Cons

Benefits:

- **Environmental Impact:** Significant reduction in GHG emissions through alternative water treatment methods.
- **Social Benefits:** Improved access to safe drinking water, enhancing public health and reducing disease prevalence.
- **Potential revenue generation** from CC to sustain O&M and expand WASH projects.
- **Results-based Financing:** CC project pay on performance and opportunity to develop systems for this approach

Weighing Pros and Cons

Challenges:

- **Complex Certification Process:** Rigorous and time-consuming certification procedures.
- **Financial Viability Concerns:** Ensuring the project generates sufficient CC to be financially sustainable.
- **Reputational Risks:** Managing public perception and justifying the application of suppressed demand.
- **Regulatory Uncertainties:** Adapting to changing regulations and standards in carbon markets.

Step 3: Do the pros outweigh the cons?

Decision Analysis: Evaluating if the benefits of pursuing CC surpass the associated challenges.

Pros:

- **Revenue Potential** for significant additional funding, enhancing financial sustainability.
- **Quality Monitoring Data Over Time:** Required rigorous data collection strengthens project implementation and monitoring.
- **Safeguards and Feedback:** Enhanced project integrity and community engagement through required safeguards and grievance mechanisms.

Step 3: Do the pros outweigh the cons?

Cons:

- **Revenue Uncertainty:** Variability in timing and amount of revenue, with potential delays and fluctuations.
- **Resource Intensiveness:** Substantial effort and financial investment required for project registration, ongoing monitoring, and verification processes.
- **Reputational Risks:** Increased public scrutiny and the need to robustly justify the project's carbon credit claims.

Selecting a Carbon Project Developer

- **Experience and Reputation:** Track record in successfully certifying similar projects.
- **Alignment with Project Goals:** Developer's commitment to sustainability and community impact.
- **Technical Expertise:** Ability to navigate complex carbon standards and methodology.
- **Supportive Collaboration:** Willingness to work closely with project teams, offering guidance and transparent communication.
- **Cost and Financial Terms:** Understanding of cost implications and sharing of revenue from carbon credits.

Step 4: Is there a carbon project developer that meets our expectations?

- **CC Ownership:** Deciding where the CC will be registered and ownership details.
- **Sales Process:** Understanding the developer's role in selling CC and the terms.
- **Exclusivity Terms:** Conditions under which exclusive rights to sell the CC are granted.

Step 4: Is there a carbon project developer that meets our expectations?

- **Roles and Responsibilities:** Clarity on who handles data collection, fees, and responses to audits.
- **Revenue Sharing:** Agreement on the division of revenue from CC sales.
- **ERPA (Revenue Sharing Agreement) Termination:** Conditions under which the agreement can be terminated.

Decision Framework (Go-No Go)

1. Does the project meet the key requirements for a CC project?



2. Can suppressed demand be justified and defended?



3. Do the pros outweigh the cons?



4. Is there a CC project developer that meets our expectations?



**Move Forward with the CC Project
for Safe Water**

Costs of Implementation

Infrastructure:

- Increase in access to water sources
- Enhancement of uptime for existing systems

Water Treatment:

- Implementation of community-based treatment facilities
- Distribution of household water treatment units

Maintenance, Repair, and Operations

- Spare Parts
- Management
- Labor

Community Engagement:

- Hygiene promotion campaigns
- Educational materials and community workshops

Water Quality Assurance:

- Regular water testing for safety compliance
- Investment in water quality monitoring equipment

Registration & Certification:

- Initial project registration fees
- Validation costs with standard bodies

Monitoring & Evaluation:

- Functionality monitoring of water systems
- Household-level monitoring for user engagement

Audits:

- Third-party verification audits
- Compliance checks and reporting

Human Resources:

- Project management team
- Technical staff for system maintenance and data collection

Bridging the Funding Gap

- **Typically takes ~1-2 years to see CC revenue**
- **Gap Costs:** startup, monitoring, engagement, and Maintenance, Repair, and Operations (MRO)
- **May not apply if new system is layered** on existing CC project
- **Ex. USAID BHA DRIP-FUNDI Project** covering gap

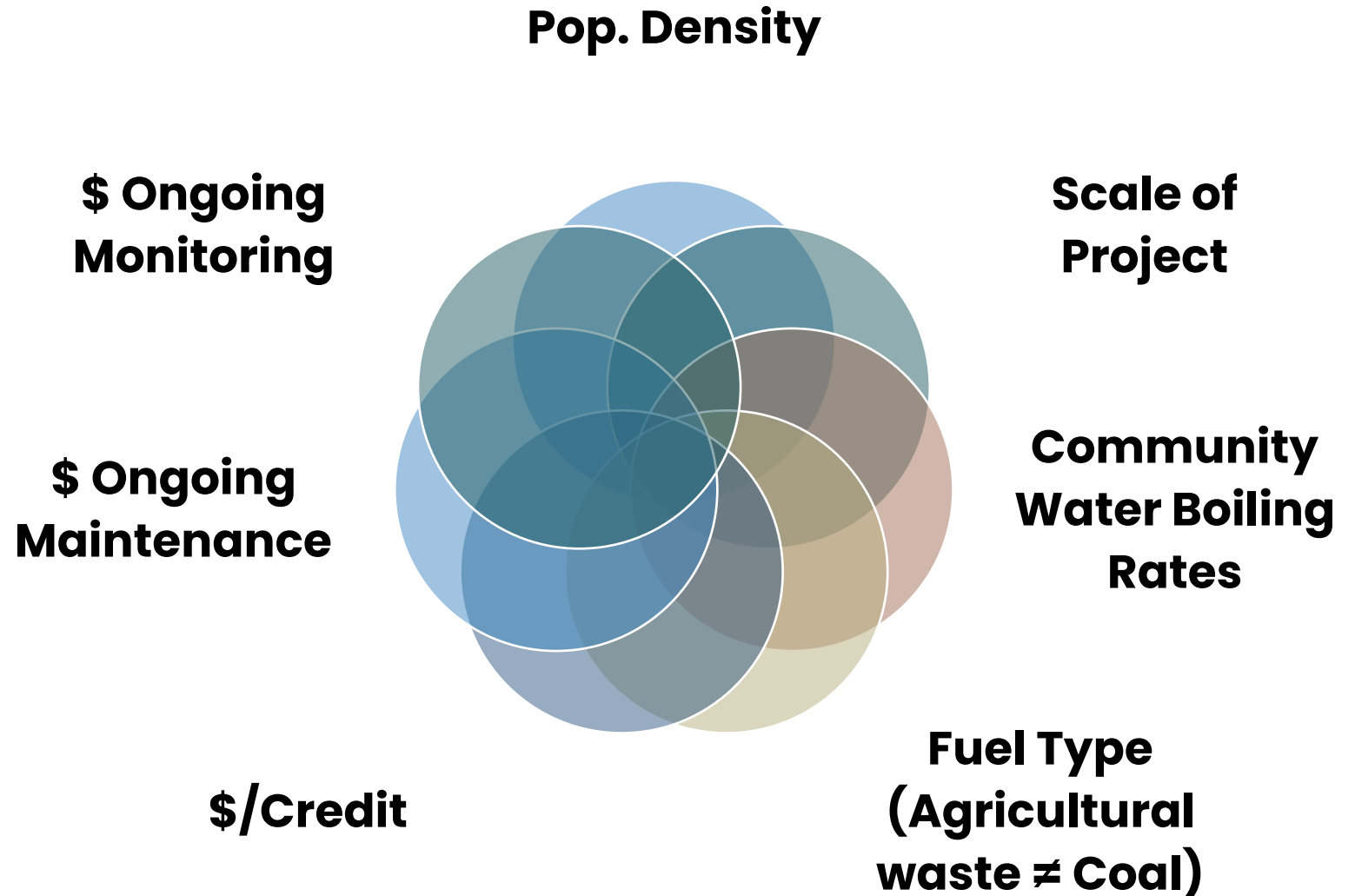
Funding and Scale

- **Layering CC:** Encourage existing grant-funded projects to integrate CC, enhancing sustainability and impact.
- **Collaborative Approach:** Seek partnerships with ongoing CC projects to include your project, maximizing resource utilization and impact.
- **Expanding Opportunities:** Identify projects/w CC potential; propose adding them to your initiative to increase financial viability and environmental benefits.
- **Innovative Financing:** Donor funding (grants), Developer funding (investment), Loans, combination

Building the Foundation

MILLENNIUM WATER ALLIANCE

Many factors
must come
together for
Carbon
Credits for
Safe Water to
be feasible

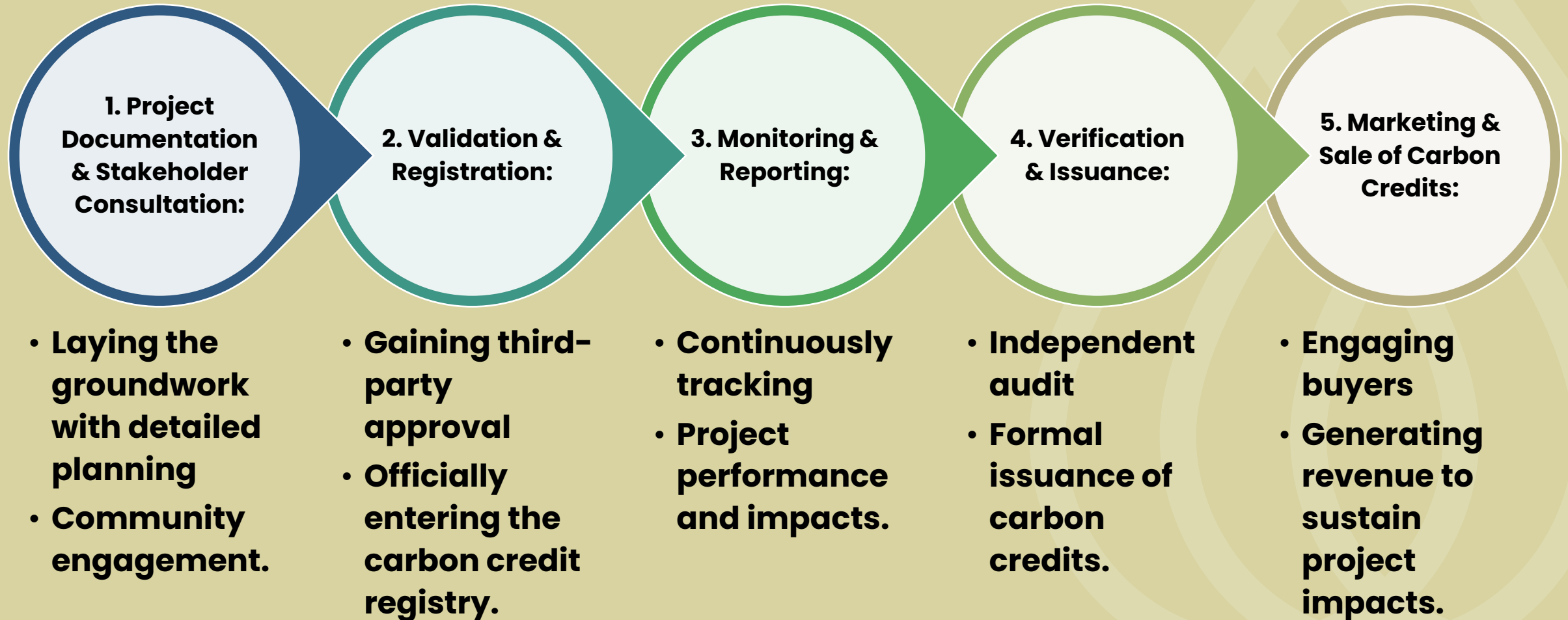


IV

The Certification Journey



Certification Steps under Gold Standard (~2-3 years)



1. Project Documentation & Stakeholder Consultation

Project Documentation:

- Development of comprehensive **project design documents (PDD)**, detailing objectives, expected impact, and methodologies.
- Collection and analysis of baseline data to establish project necessity and potential outcomes.

1. Project Documentation & Stakeholder Consultation

Stakeholder Consultation:

- Engagement with local communities, government bodies, and potential partners.
- Collection of feedback to ensure project alignment with community needs and expectations.

Duration: 6 – 12 Months

Cost:

- \$30–50K USD (external costs only)
- Staff time, consultancy fees

2. Validation & Registration

Third Party Validation:

- by an accredited body to assess project against carbon standard requirements.
- Identification and resolution of potential issues to ensure compliance.

Registration:

- Official submission of validated project to a carbon standard registry (Gold Standard). Valid for 5 years.
- Project becomes eligible for generating and issuing carbon credits.

Duration: 6–12 Months

Cost: \$20–30K USD (External Costs only)

3. Monitoring & Reporting

Monitoring:

- Continuous monitoring of project implementation to gather data on performance and impact.
- Utilization of innovative technologies for accurate data collection
i.e. remote monitoring

Reporting:

- Compilation of monitoring data into comprehensive reports.
- Submission of reports to carbon standard bodies for review.

Duration: Every 1–2 years

Cost: ~\$10K USD (External Costs only)

Project Data Collection

- Baseline and Ongoing Household Water Quality Data
- Household Usage and Access Data
- System Functionality and Reliability Metrics
- Environmental Impact Assessments
- Community Feedback and Satisfaction Levels
- Health Impact Data Related to WASH Services

Hygiene Promotion and Data

- Education Campaigns on Water Safety and Sanitation
- Behavioral Change Strategies for Sustainable WASH Practices
- Engagement Activities with Schools and Community Centers
- Monitoring of Hygiene Practice Adoption Rates
- Feedback Mechanisms to Tailor Ongoing Hygiene Initiatives

4. Verification & Issuance

Verification:

- **Independent audit by a third-party** verifier to confirm reported results.
- Assessment of project's adherence to carbon standard requirements and its actual impact.

Issuance:

- Upon successful verification, carbon credits are formally issued.
- Credits are registered and become available for sale.

Duration: 6-12 Months

Cost: \$15-30K USD

5. Marketing & Sale of Carbon Credits

Marketing:

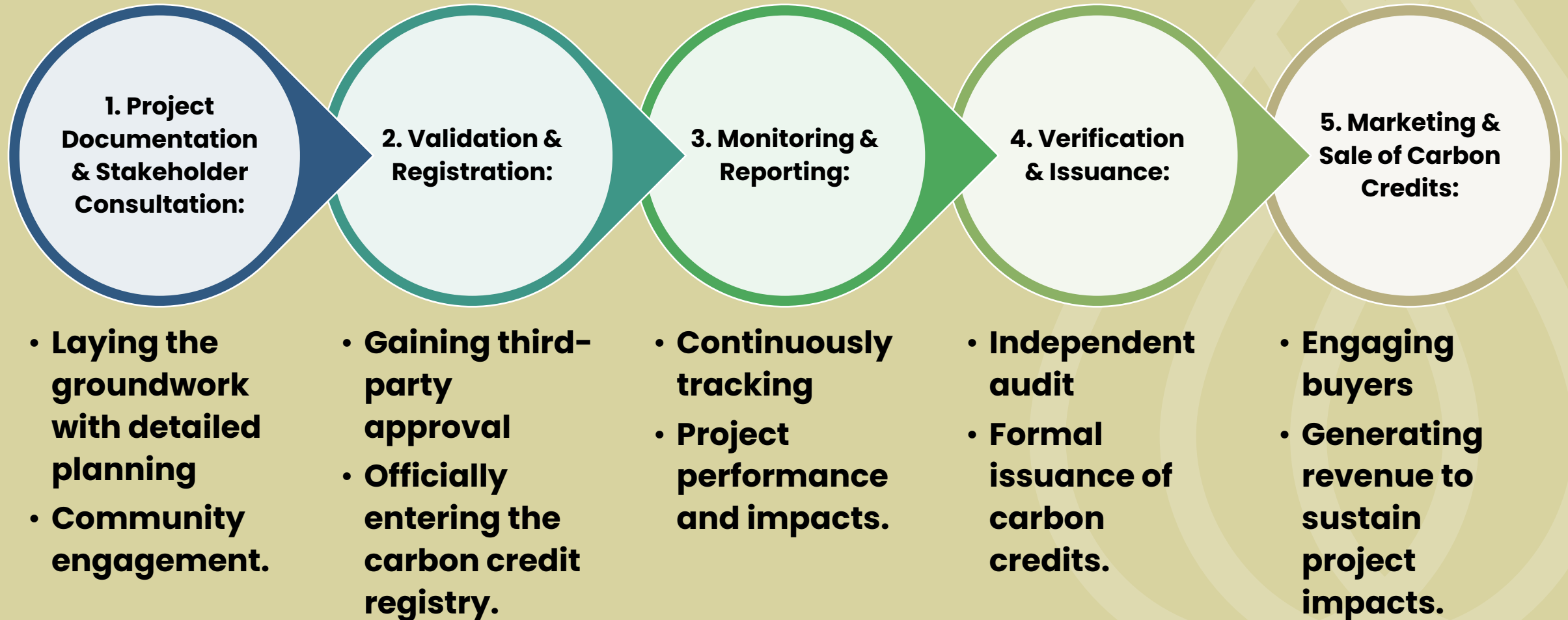
- Strategic marketing of carbon credits to potential buyers, highlighting project impact and sustainability benefits.
- Utilization of platforms and networks to reach a wider audience.

Sale:

- Negotiation and sale of carbon credits to interested parties.
- Revenue generated supports project sustainability and further environmental initiatives.

Sales Margin: 10 – 50%, depending on investment and risk

Certification Steps under Gold Standard (~1.5-3 years)





REFLECTIONS



Reforestation, Wetland Management, and Sustainable Agriculture for Water



Carbon Sequestration:
Trees capture and store CO₂, offering a natural solution to climate change.



Enhanced Water Cycle:
Reforestation improves groundwater recharge, reduces evaporation rates, and stabilizes water flows.



Biodiversity Benefits:
Supporting diverse ecosystems contributes to the resilience of water sources.



Opportunities for CC:
Reforestation projects can generate CC, providing financial incentives for restoration and conservation efforts⁵⁵



Carbon Credits

- Mitigation not Adaptation
- = **1 ton of Carbon** removed or prevented

Water

- **Reducing Boiling** by providing safe water
- Sanitation: **Biogas** + Future potential
- WRM: **Reforestation, Wetland Management, and Sustainable Agriculture**

Suppressed Demand

- Credits for people who **would boil water if they could** afford it
- Ex. claiming credits for 80% who do not treat water

Recommendations (Objective)



DIVERSIFY FUNDING:
EXPLORE GRANTS AND PARTNERSHIPS FOR WASH AND CLIMATE CHANGE (ADAPTION).



ROBUST DATA MANAGEMENT:
INVEST IN SYSTEMS TO ENSURE ACCURATE, VERIFIABLE DATA COLLECTION AND MANAGEMENT.



STAY INFORMED:
KEEP UP WITH REGULATORY CHANGES AND MARKET TRENDS IN THE CC LANDSCAPE.



TRANSPARENT COMMUNICATION:
ENGAGE WITH STAKEHOLDERS OPENLY ABOUT THE PROJECT'S AIMS, METHODS, AND OUTCOMES.



STRATEGIC PLANNING:
CONSIDER A RANGE OF SCENARIOS IN PLANNING TO MITIGATE RISKS ASSOCIATED WITH MARKET AND REGULATORY CHANGES.

Recommendations (Subjective)

Feasibility

- Assess Early
- Assess Often
- Developer Partnerships

Collaboration

- Specialization
- Increase Scale

Scale

- Reduce Risk
- Cover fixed costs



Next Steps



Implementers

- **Start Collecting Key data**
 - Baseline water quality
 - **Include in any HH Surveys:** Boiling rates, Fuel type, # of HH served by system
- **Use digital data collection** (mWater) to enable M&E
- **Identify O&M providers**
- Communication and Partnership: **Reach out to MWA**

Actionable Steps

For Investors and Donors:
Consider supporting WASH projects with CC potential to amplify impact.

Collaboration Call: Encourage stakeholders to collaborate, share insights, and join forces to expand the impact of CC in WASH.

Resources



Visit the [MWA website](#) for detailed reports, tools, and case studies.



Engage/w the [learning paper and feasibility study](#) for in-depth understanding.