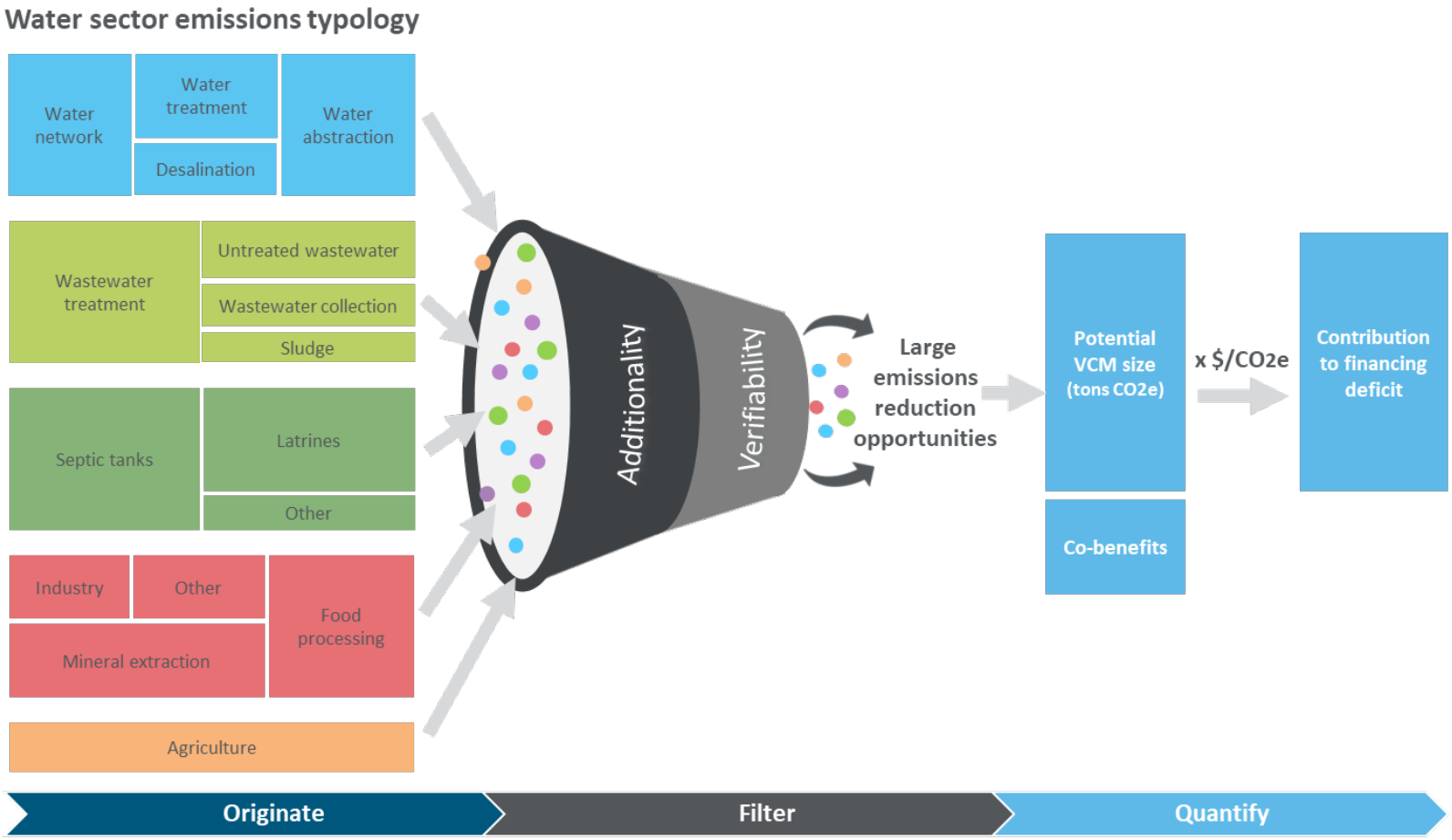
The potential of water voluntary carbon markets to mobilize finance for climate and water

Castalia, November 2023

Voluntary carbon markets have the potential to reduce GHG emissions from the water sector by at least 445 MtCO2e p.a.

- The water sector emits about 2 billion tCO2e p.a.
- Voluntary carbon markets could help catalyze a reduction of over 445 MtCo2e p.a. …
- by helping close financing gaps …
- contributing as much as US $10.6 b towards meeting SDG 6,
- yielding co-benefits of increased access and resilience in water services, better public health, and increased aquatic biodiversity

Methodology



Six segments demonstrate the potential for climate and water benefits

Intervention	Verifiable & additional reduction potential ($MtCO_2e$)
Reducing water losses in piped systems	52
Pumping efficiency for piped water and sewage services	78
Distributed renewable energy for piped water and sewage services	340
Demand-side management for piped water supply	100
Maximum potential reduction from all grid electricity reduction measures	**340**
Reducing methane emission from wastewater treatment and discharge	**3**
Reducing methane emission from on-site sanitation value chain	**102**
Potential emissions reduction from the initiatives	**445**

Co-benefits

Based on proven models

Leakage control – Bahamas

The Water and Sewerage Corporation partnered with MIYA, a specialized water operator, to reduce leakage

Emission reduction: 25,617 tons CO2e p.a.

Co-benefits
17 MLD saved
Improved utility cashflows
US$ 16 million savings to government

Wastewater CH4 reduction—Santiago, Chile

Aguas Andinas, Santiago's utility, invested in a project to supply biogas from a wastewater treatment facility to the municipal gas utility.

Emission reduction: 19,788 tons CO2e p.a.

Co-benefits
US$ 1 million in profit from renewable energy certificate sales
The project was recognized as a Clean Development Mechanism

Pumping Efficiency – Yerevan, Armenia

Yerevan's water utility used a performance-based contract with Acea to increase pumping efficiency and make other improvements

Emission reduction: 27,690 tons CO2e p.a.

Co-benefits
30 percent reduction in electricity costs
Improved cashflows
Increase from 6h to 18h daily water supply

Citywide Desludging – Malindi, Kenya

Proposed PPP for city-wide transport and emptying services of sludge to a fecal sludge plant to produce briquettes usable as cooking fuel

Projected **17 percent** reduction of sanitation-related methane emissions

Co-benefits
Replacement of CO2 emissions from charcoal and firewood
Reduced deforestation and improved environmental management
Improved public health

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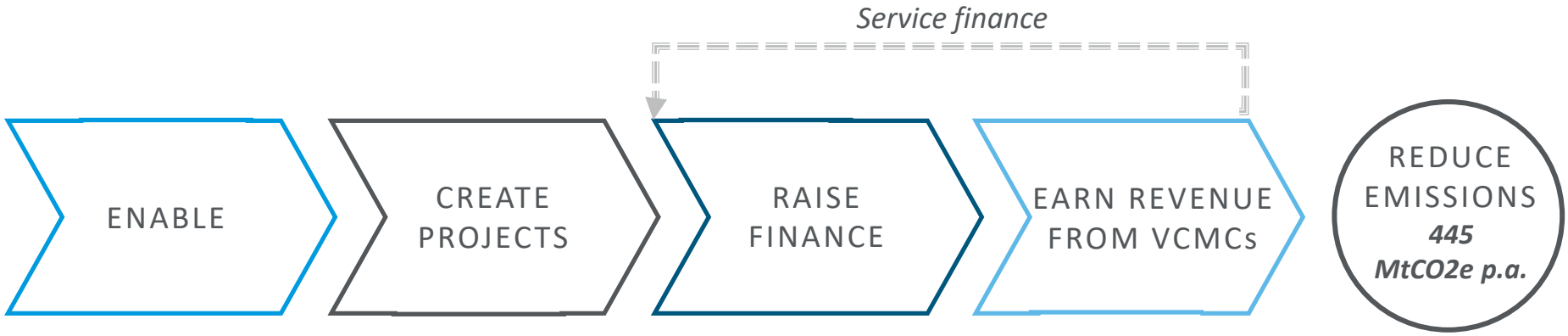
There is an identifiable path forward



Develop standards
Publicize possibilities

Donors and certifiers

Conceptualize
Issuers, developers supported by donors

Feasibility and structuring
Issuers, developers and specialized companies, supported by donors

Catalyze additional financing
Donors, issuers, and developers

Buy/sell credits
Issuers, buyers, and certifiers

Co-benefits
Improved resilience, access, public health, reduced costs, aquatic biodiversity

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Let's do this together

- 445 MtCO2e p.a. potential for additional, verifiable reductions from water services sector
- VCMs can help catalyze these reductions and $10.6b toward closing the SDG6 financing gap
- Co-benefits will include improved resilience, access, public health, and aquatic biodiversity
- Multiple stakeholders in developing countries around the world will have to work together if this potential is to be achieved.
- Are you in?

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Thinking for a better world.

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