Monetizing "co-benefits" of clean energy projects to boost public incentives programs

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About Us: Large portfolio of impact rich projects

- 220 contracted clean energy projects in over 20 countries
- Total volume: 60 million tCO_2e until 2020, 21 mil tCO2 delivered to clients
- 50% market share of “impact” rich projects (Gold Standard registered)
- We already quantify social, environmental and economic impacts of our projects.

…from a broad project pipeline

…and from the most important project types

- Renewable Energy (Biomass, Hydro, Wind, Geothermal)
- Waste Treatment (liquid and solid)
- Energy Efficiency
- Reduction of Waste Gas (Oil, Gas and Chemical Industries)
- Forestry
- Programmatic Approach (PoAs)

Global presence & recognition

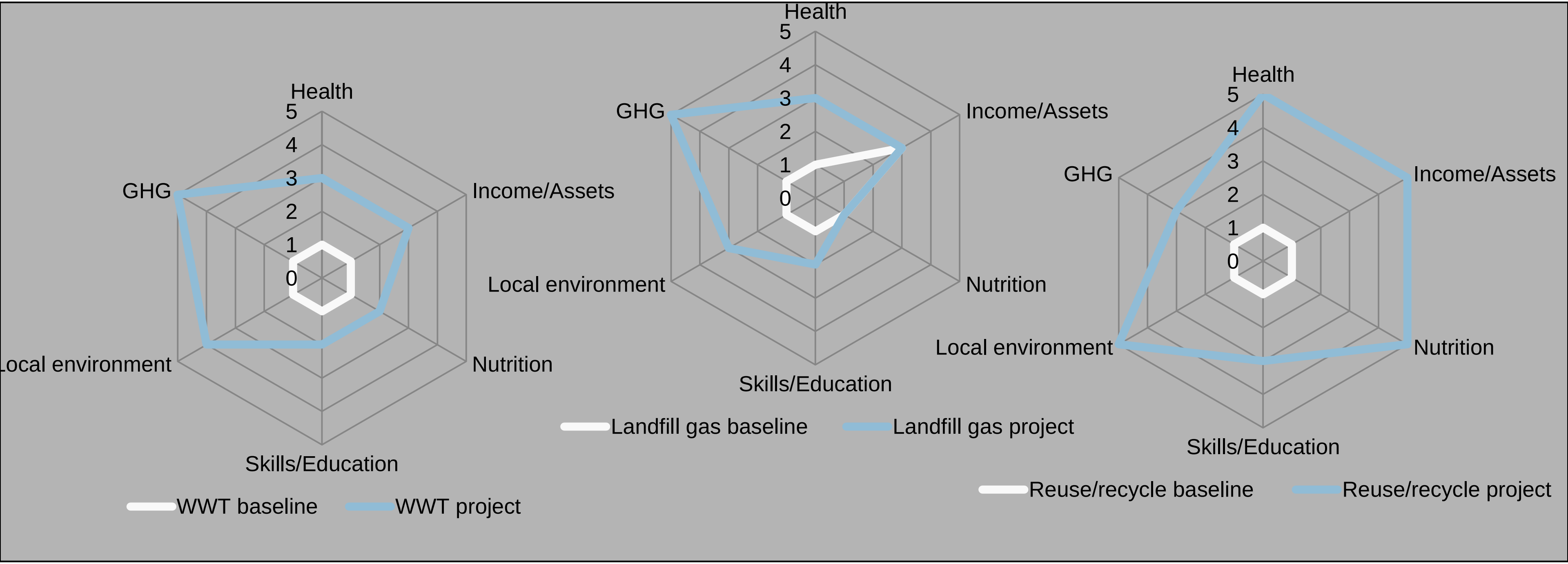
- 2006: Incorporation in Zurich / Switzerland
- 2012: present on all continents
- 2011 and 2012: Best Project Developer**
- Swiss Social Entre-preneur of the Year 2011***
- 150 professionals from 28 countries
- Projects in 25 countries
- Specialized in impact rich projects "Gold Standard"

*Majority stake in *Climate Friendly* ** *Environmental Finance's* Voluntary Carbon Market Survey 2011, and again 2012; *** Schwab Foundation/WEF

Setting the scene: the need for co-benefit monetization (case study: waste management)

- We had a big mechanism for co-benefit monetization (called CDM)
- It worked very well (for some time and some project types)
- CDM has transformed – on a sector-basis - best-practice in large industrial waste-water management, landfill gas and animal-manure management, driven by financial reward from methane destruction.
- **CDM has not delivered for thousands of smaller waste projects (in small/medium cities), places without central waste management planning capacity and projects without big methane baseline.**
- This happened for a reason: CDM monetized climate mitigation benefits. (and nothing else)

CDM did not work for co-benefit rich/carbon poor projects



CDM worked for projects with high relative GHG impacts (methane avoidance)
CDM did not work for projects with high "co-benefits".
Why: CDM only monetizes GHG mitigation (which it was designed for) …

What are some of the other co-benefits created clean energy?

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- In other words: to which **real** domestic policy objectives does clean energy contribute?

  or: why are line ministries really interested in clean energy?

  - energy security and trade balance
  - improved health of near-by communities
  - improved water quality
  - resilient (de-central)
  - more labor intensive = employment.
  - better resource efficiency = improved competitiveness of local economies.

  - (reduce global GHG emissions)

Key Observation: there is real willingness to pay for "co-benefits" created by clean energy projects

- These co-benefits are outcomes which are valued by policy makers, in many case, they are already paying for creating them
  - existing feed-in tariffs, tax breaks, … in many Asian countries
  - existing health budgets to treat diseases associated with unhealthy energy systems (plus loss of revenues from lost productivity)
  - existing costs associated with bio-wastes

- What we are looking for is a new "mechanism" to help us monetize this existing willingness to pay (transfer this willingness to pay to clean energy developers)
  - The framework for Nationally Appropriate Mitigation Actions (NAMA) could be that mechanism
  - To achieve results, NAMAs must be structured accordingly.

NAMA Design Principle No 1:

…a successful NAMA is driven by the value it generates towards domestic policy priorities.

- NAMA support/NAMA finance **monetizes international** willingness to pay (WtP) for climate related outcomes. Co-benefits are a decision factor but are not valuated per se'
- Need to identify the **existing domestic** WtP and beneficiary mapping for co-benefits:
  - How much does it cost society to treat a sick person? How much productivity is lost?
  - How much does it cost to clean up dirty water, or bring in clean water from elsewhere?
  - What is the value/willingness to pay for energy from waste? And for raw materials from waste?
  - What is the value of having poor people raising their income & reducing inequality?
  - What is the value of a more competitive economy (that generates more GDP)?

Key: identify the key entities/stakeholders that are willing to pay for such outcomes.

NAMA Design Principle No 2:

…a successful NAMA has a mechanism to transfer value from those that benefit to those that create the benefit.

- Project developers need to benefit from the value they are producing to incentivize investment. What is the simplest way to transform society's willingness to pay (i.e., environmental valuation) for those co-benefits into additional revenue for waste management projects?
  - Tipping fees
  - Feed-in-tariffs
  - Tax exemptions / Subsidies
  - Carbon credit payments
  - Pay for performance schemes
  - …other result-based finance (RBF) scheme

Key: identify the NAMA financial architecture and mechanisms to channel that revenue

NAMA Design Principle No 3:

…a successful NAMA has tangible, accessible and substantial incentives

- A NAMA must provide incentives for actions the CDM could not reach…
  - CDM carbon credits were ex-post and not bankable:
    - They take three years to issue, prices are volatile, some red-tape and excessive bureaucracy.
    - Many banks in developing countries never recognized carbon credits as collateral.
    - NAMA incentives should include the value of local benefits.
- NAMA incentives needs to be “bankable”: easily accessible to qualified project-level implementers
  - Mitigation impacts at the end of the day still result from on the ground investment decisions by private sector, municipal organizations, etc…

Key: identify the ideal set of incentives that will allow for the above

NAMA Design Principle No 4:

…a successful NAMA requires inter-agency cooperation

- Agencies that are expected to benefit from impacts within their jurisdiction and the NAMA implementing entity, that coordinates the transfer of incentives to the implementers of NAMA's underlying mitigation actions.

- Domestic benefits from NAMA accrue in different sectors which fall under the authority of different agencies (many times different than the NAMA entity). Therefore, the WtP for these benefits rests in different agencies.
- NAMA "beneficiary agencies" and NAMA management entity need to cooperate and jointly design a financial mechanism that provides incentives to those that are expected to implement mitigation actions within the NAMA.

Key: identify the required NAMA institutional & regulatory set-up that facilitates the above

Ongoing Case Study:
Energy Efficiency in the Vietnamese Cement Industry

Design Principle #1 – identify key stakeholders

- Key Domestic Policy Objective: slowing down coal use to reduce coal imports.
- This objective falls under the responsibility of Directorate General for Energy (Ministry for Industry and Trade (MIET))

Design Principle #2 – identify mechanism to channel that revenue

- MIET already provides incentive to RE generation. Considering that avoided use of MWh (EE) also create the desired impact (reduced use of coal in power generation), we propose to expand this incentive to EE in cement industry.

Design Principle #3 – identify tangible, incentive

- MIET already provides incentive of 10 USD/MWh to producers of RE via the Vietnam Environment Protection Fund (VEPF) to accelerate RE investment.

Design Principle #4

- Proposed solution: cement companies should be allowed to receive the payment from VEPF (as results-based payment from verified performance, i.e. using feed-in-tariff style approach)

Thank you

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Large CDM in Waste Management (avg. annual 140 kt CER)

Meth Number	*Meth Name (all versions included)*	*No. of active projects*	*Avg. CER/a*
AM0057	Avoided emissions from biomass wastes through use as feed stock in pulp and paper, cardboard, fibreboard or bio-oil production	1	91,804
AM0073	GHG emission reductions through multi-site manure collection and treatment in a central plant	2	231,308
AM0080	Mitigation of greenhouse gases emissions with treatment of wastewater in aerobic wastewater treatment plants	2	218,821
AM0083	Avoidance of landfill gas emissions by in-situ aeration of landfills	1	18,590
AM0093	Avoidance of landfill gas emissions by passive aeration of landfills	-	-
AM0112	Less carbon intensive power generation through continuous reductive distillation of waste	-	-
ACM0001	Flaring or use of landfill gas	255	45,166,282
ACM0010	GHG emission reductions from manure management systems	19	1,590,663
ACM0014	Treatment of wastewater	37	4,006,120
ACM0022	Alternative waste treatment processes	11	856,590
ACM0024	Natural gas substitution by biogenic methane produced from the anaerobic digestion of organic waste	-	-
AM 0025	Alternative waste treatment processes	79	10,643,858
ACM0002	Consolidated Methodology for grid connected renewable electricity generation (Biogas, Biomass, Methane)	32	3,263,352
ACM0006	Consolidated methodology for electricity and heat generation from biomass	154	15,995,146
	Total	**593**	**82,082,533**

Small CDM in Waste Management (avg. annual 70kt CER)

Meth Number	***Meth Name (all versions included)***	***No. of active projects***	***Avg. CER/a***
AMS-III.E.	Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment	21	1,468,292
AMS-III.F.	Avoidance of methane emissions through composting	70	1,892,083
AMS-III.G.	Landfill methane recovery	37	1,088,580
AMS-III.H.	Methane recovery in wastewater treatment	204	7,139,755
AMS-III.I.	Avoidance of methane production in wastewater treatment through replacement of anaerobic systems by aerobic systems	5	177,797
AMS-III.L.	Avoidance of methane production from biomass decay through controlled pyrolysis	1	43,879
AMS-III.Y.	Methane avoidance through separation of solids from wastewater or manure treatment systems	4	168,302
AMS-III.AF.	Avoidance of methane emissions through excavating and composting of partially decayed municipal solid waste (MSW)	-	-
AMS-III.AJ.	Recovery and recycling of materials from solid wastes	-	-
AMS-III.AO.	Methane recovery through controlled anaerobic digestion	9	342,321
AMS-III.D.	Methane recovery in animal manure management systems	134	3,300,316
AMS-I.D.	Grid connected renewable electricity generation (Biogas, Biomass, Methane)	300	10,890,499
AMS-I.C.	Thermal energy production with or without electricity (Biogas, Biomass, Methane)	311	11,119,780
	Total	**1,096**	**37,631,606**