



THE RETURN ON INVESTMENT OF SPREADING THE RECYCLING HABIT

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Our insights source: Delterra's programs in three global South settings



Informal settlement

Barrio Mugica, Buenos Aires, Argentina



Mid-sized city

Olavarría, Argentina



Urban districts

Bali, Indonesia



Behavior change as part of launching recycling service
Common behavior change approach and data tracking
Different program tactics, recycling prices, and landfill fees

Building Blocks of Recycling Behavior Change

SUPPORTING INFRASTRUCTURE



Collection
schedule



Collection
logistics



Community
materials

ENGAGEMENT



"Top-down" mass
media campaigns



"Bottom-up"
face-to-face
interactions



Ongoing support
resources

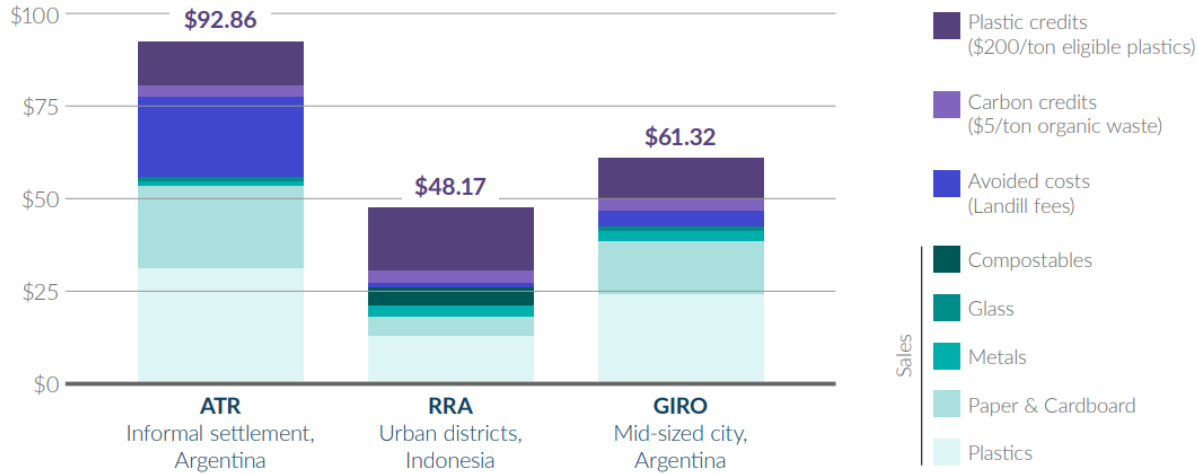
How we suggest defining and measuring the Recycling Behavior Return on Investment

| FOCUS OF OUR ANALYSIS | SCOPE | COST | BENEFITS | POTENTIALLY RELEVANT FOR | | |
|--|--|--|--|--------------------------|---------------------------|----------------|
| Direct costs (e.g. printing) and benefits (e.g. recyclables revenue) | 1 "Hard" costs and benefits only | Cash costs required for campaign implementation (e.g., printed materials, wages for hired personnel) | Revenue from MRF sale of recyclables (and/or composted organics) | ^ | ^ | ^ |
| + | | | | | | |
| Local resource use (e.g. staff time) and cost savings (e.g. landfill fees) | 2 Local resources used and savings generated | In-kind contributions of labor (e.g. municipal staff time) | Avoided costs of disposal (e.g. gate fees for landfilling or incineration) and transport to disposal sites | LOCAL GOVERNMENTS | RECYCLING INDUSTRY GROUPS | IMPACT FUNDERS |
| + | | | | | | |
| Potential later costs (e.g. follow-up campaigns) and income (e.g. carbon credits) | 3 Additional potential needs and income streams over time | Follow-up campaigns to sustain behaviors over time? | Monetizable environmental benefits (e.g. plastic credits and/or carbon credits) | | | |
| + | | | | v | | |
| Circular economy costs (e.g. program design) and benefits (e.g. recycling supply) | 4 Non-local contributions and value generated | Diagnostics and development of behavior change approach | Recycling system productivity gains (e.g. reduced idle capacity) Avoided use of virgin materials | | v | |
| + | | | | | | |
| Societal costs (e.g. citizen effort) and benefits (e.g. public health) | 5 Societal costs and benefits | Household recycling effort (e.g. time spent source separating) | Estimated value of non-monetizable benefits (e.g. avoided air and ocean pollution, reduced public health risks, job creation/improved livelihoods) | | | v |

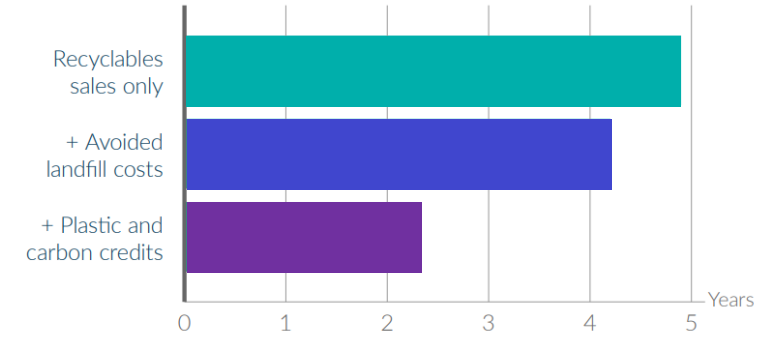
Promoting recycling behavior can pay back quickly, especially when prices reflect environmental impacts

BEYOND SALES REVENUE, EACH TON OF RECOVERED WASTE GENERATES SIGNIFICANT VALUE IN AVOIDED COSTS AND ENVIRONMENTAL BENEFITS

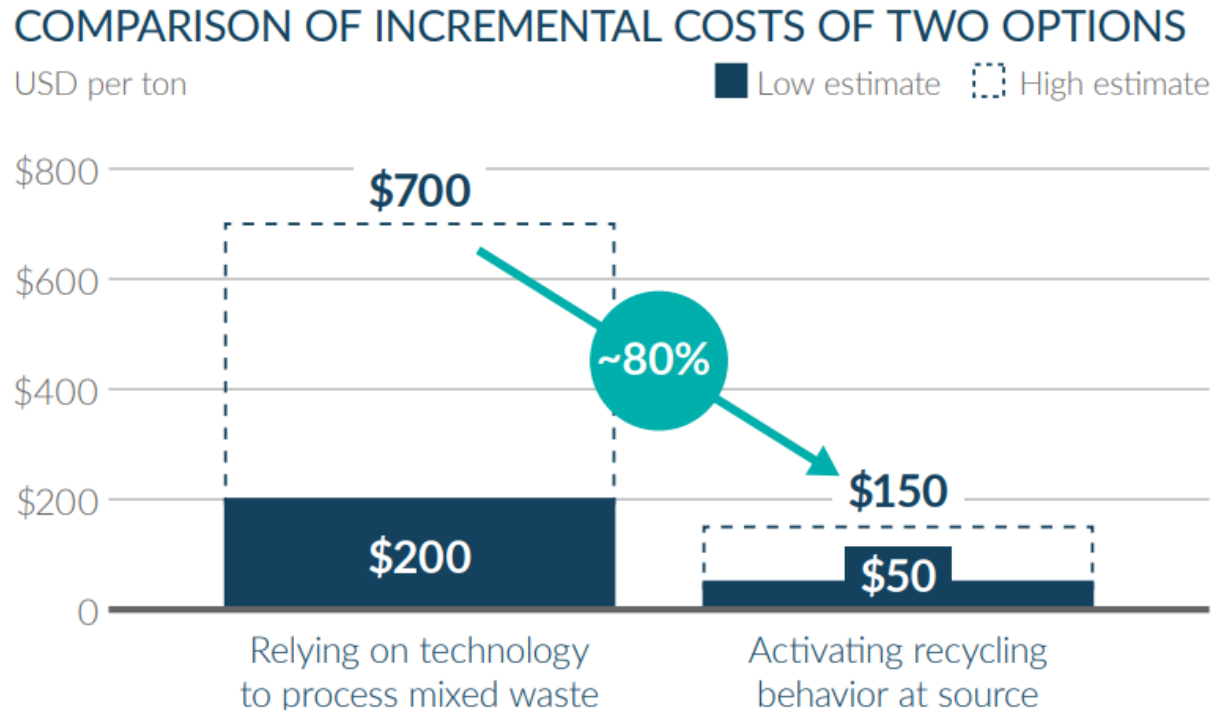
USD per ton per year



PAYBACK PERIOD BY LOCATION AND SCOPE OF BENEFITS CONSIDERED



Recycling behavior change costs less than technology-based alternatives



Deeper investment in community engagement may correlate to higher recycling rates, however, we are still experimenting to find the right level of investment

PARTICIPATION RATE AND INVESTMENT BY PROJECT

| | GIRO Mid-sized city, Argentina | ATR Informal settlement, Argentina | RRA Urban districts, Indonesia |
|---|--|---|---|
| Investment Per household | \$2 | \$6 | \$12 |
| Achievement Participation rate |  20% |  35% |  70% |
| Investment Per ton recyclables recovered annually | \$44 | \$150 | \$116 |

High participation rates needed to meet recycling goals