



Gold Standard
Supply Report Q1 2016

*Better information for
better decision-making*



INTRODUCTION

Marion Verles, CEO of Gold Standard

Welcome to the first edition of our Gold Standard Supply Report which aims to increase access to market information for planning and decision-making.

This report is a response to feedback we received from our Transparency Initiative launched last year as a way to increase confidence and participation in carbon markets. Published quarterly, this report will provide up-to-date supply data for Gold Standard emissions reductions and help build clarity around the complexities of the market, especially in regards to pricing and how it varies from project to project.

This work on increasing visibility on the supply side also extends into supporting demand and sustainable pricing for high-impact project outcomes. This includes working with the Science Based Targets initiative to raise expectations for every company to do its fair share to accelerate the transition to a low carbon economy by financing emissions reductions outside their operations. We are advocating for the highest quality emissions reductions to be recognised in the International Civil Aviation Organization's (ICAO) potential new market mechanism, which with its large scale stands to be a tremendous opportunity for our stakeholders. Gold Standard has helped guide the development of the World Bank's Pilot Auction Facility to support sustainable pricing for GHG reductions, with Gold Standard VERs to be included soon. And at the grassroots level, we are working to bring more climate-friendly products directly to consumers with the well-known and trusted Fairtrade label alongside Gold Standard's.

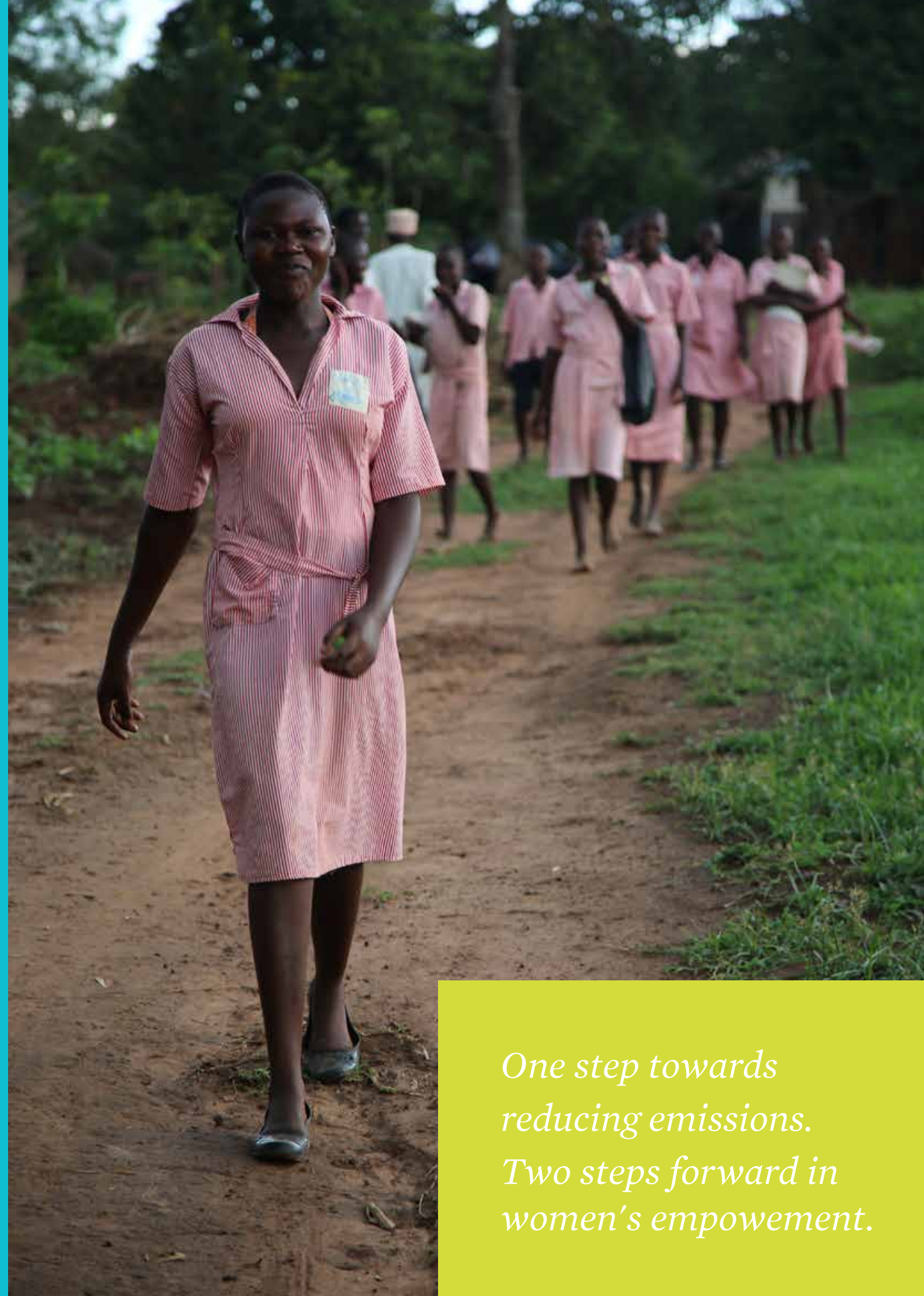
All these initiatives are helping to strengthen the cornerstone of our strategic plan, Gold Standard 3.0. The restructuring of our standard will enable us to serve as one comprehensive and integrated standard that will allow various outcomes – from reduced greenhouse gas emissions to water benefits to improved health – to be certified through a single certification process. This quantification of impacts is expected to unlock new sources of results-based funding and enable more finance to reach those projects and communities that need it the most.

Our draft standard for Gold Standard 3.0 completed its first public consultation on 15 April 2016 with an aim to move to piloting in the beginning of 2017. In parallel, we are working with partners that include the Government of Luxembourg, Bix Capital, World Bank and Global Alliance for Clean Cookstoves to refine and launch the standard, its first impact methodologies and promote its uptake worldwide. For more information about this work and how to get involved please visit our website: www.goldstandard.org

We hope you find this report insightful and we welcome any comments to help improve further editions.

With best regards

Marion Verles



*One step towards
reducing emissions.
Two steps forward in
women's empowerment.*

CARBON PRICING:

What is a carbon credit worth?

Investing in climate and development projects is a powerful way to contribute to the transition to a low-carbon, climate secure world. However it can seem complex – especially answering what appears to be a simple question of how much you should pay for a carbon credit. Why is one carbon credit – representing one tonne of carbon dioxide prevented from entering the atmosphere -- more expensive than another? While your carbon credit provider can guide you through the process, we hope to provide some clarity in how carbon credits are valued, taking into account significant differences among the projects that issue them.

Pricing based on market dynamics

The voluntary carbon market today is primarily driven by supply and demand, regardless of the implications to the project in terms of long-term viability. The graph below provides the cumulative value and average price by project type over the past 10 years according to the State of the Voluntary Carbon Market Report 2015 published by Ecosystem Marketplace.

Markets can be very effective for driving competition and reducing the cost of accomplishing an objective. However, what if that objective is the security of our climate and providing access to basic human rights, such as food, water, education and good health? Paying for carbon

credits at prices below what it costs to maintain a project means that these projects may stop operating in the vulnerable communities they support. Further, neglecting to fully account for the real value they deliver in beyond-carbon development benefits can accelerate a race to the bottom, meaning that the highest quality projects might be the first to fail.

Gold Standard believes that organisations and individuals have an opportunity and an ethical obligation to consider longer-term environmental and social impacts of their investment decision and consider both the costs and true value of project outcomes.

Fig. 1 Cumulative Value and Average Price of Top 7 Project Types

Avoided deforestation	\$442 M	\$5.2/ tCO ₂ e
Wind	\$384 M	\$4.6/tCO ₂ e
Landfill methane	\$285 M	\$5.9/tCO ₂ e
Tree planting (A/R)	\$270 M	\$7.7/tCO ₂ e
Hydropower	\$170 M	\$4.1/tCO ₂ e
Clean cookstoves	\$162 M	\$10.2/tCO ₂ e
Forest Mgmt.	\$113 M	\$8.4/tCO ₂ e

Notes: Based on 412 Mt5CO₂e of transacted offsets associated with a project type, 2007-2014
Source: Forest Trends Ecosystem Marketplace. State of the Voluntary Carbon Markets 2015

Pricing based on project cost

A cost-based model takes into account the implementation costs of a project and is used to help ensure the on-going viability of projects. The Fairtrade Carbon Credit pricing model provides a great example of how this works in practice, and is currently the only application in carbon markets today. This model calculates a minimum price that ensures the average costs of the projects will be covered. However, in the Fairtrade model a buyer also pays an additional premium on top. This “Fairtrade Premium” goes directly to the local community – smallholder farmers and producers in rural communities – to fund activities that help them adapt and become more resilient to an already changing climate.

A cost-based model is a step toward ensuring project sustainability. The Fairtrade version with its premium for local communities also ensures funding is channeled directly to the most vulnerable, and it encourages producers to participate in developing the carbon projects and increase their involvement and expertise over time. The Fairtrade Climate Standard also features requirements for buyers of credits to reduce their own carbon footprints. Companies like DHL and Marks & Spencer have already committed to purchasing Fairtrade Carbon Credits from Gold Standard projects. However, a cost-based pricing model does not specifically account for the additional value these projects deliver in sustainable development.

Fig. 2 Fairtrade Minimum Prices for Fairtrade Carbon Credits

The formula below shows how to calculate the Fairtrade Minimum Price for Energy Efficiency, Renewable Energy and Afforestation/Reforestation projects.



The minimum price for projects eligible under the Fairtrade Climate Standard

- Energy Efficiency – 8.20€/tCO₂e + 1€ Fairtrade premium
- Renewable Energy – 8.10€/tCO₂e + 1€ Fairtrade premium
- Forest Management– 13€/tCO₂e + 1€ Fairtrade premium

Pricing based on value delivered

While all Gold Standard projects play a critical role in our transition to a low-carbon economy, some projects go far beyond carbon mitigation. Using a value-driven model to set a price for carbon credits can truly account for the holistic environmental, social and economic impacts of a specific project—that is, both in emissions reductions plus the additional development benefits that can transform lives.

The United States Environmental Protection Agency (EPA) released an updated report in 2015 to estimate the total cost of carbon to society. Figure 3 summarizes these costs over time according to different risks and assumptions of climate science. This means that for every tonne of carbon dioxide we emit into the atmosphere, we sacrifice an average of USD \$36 in environmental degradation and negative social impacts. In theory, these should be accounted for in the price of a carbon credit. And this is being reflected in some organisations, with com-

panies using tools like an internal or a ‘shadow’ price on carbon to account for the economic impact of their emissions. For example, Swiss retailer Coop sets their internal price on carbon at CHF 150 (roughly USD \$150) to drive innovation and investment into Gold Standard-certified emissions reduction activities that also support communities within their supply chains.

To take this a step further and shine a light on the value above and beyond carbon mitigation, Gold Standard commissioned a group of economists to conduct a comprehensive valuation of the socio-economic benefits delivered by our projects. The conclusion was that projects that follow our principles of inclusive design, transparent governance and outcomes that are long-term, consistent and comparable, deliver additional outcomes worth billions of (US equivalent) dollars. The economic value of Gold Standard project impacts per tonne of CO₂ can be seen in fig 4.

Fig. 3 Social Cost of CO₂ 2015-2050* (in 2007 dollars per metric ton)

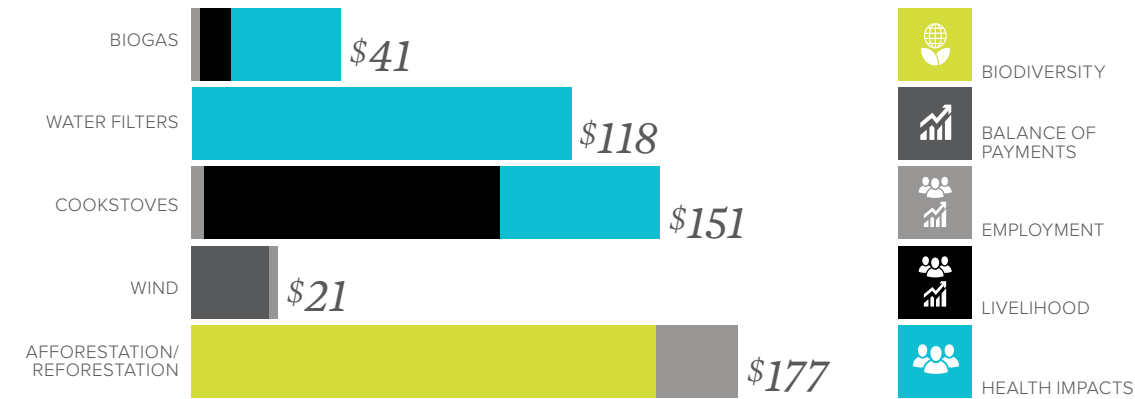
Source: Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866 (May 2013, Revised July 2015)

Discount Rate and Statistic

Year	5% Avg.	3% Avg.	2.5% Avg.	3% 95th Percentile
2015	\$11	\$36	\$56	\$105
2020	\$12	\$42	\$62	\$123
2025	\$14	\$46	\$68	\$138
2030	\$16	\$50	\$73	\$152
2035	\$18	\$55	\$78	\$168
2040	\$21	\$60	\$84	\$183
2045	\$23	\$64	\$89	\$197
2050	\$26	\$69	\$95	\$212

*The SC-CO₂ values are dollar-year and emissions-year specific.

Fig. 4 Monetary value of Gold Standard project impacts per ton of reduced CO₂ emissions



Prices in the voluntary carbon market do reflect some of these “economic value” principles. For example, prices for clean cookstove projects, which often deliver life-saving health benefits to women and children, are generally higher than projects that focus more on the emissions reductions. But they ultimately yield to the forces of supply and demand, without safeguards such as a minimum price. This is why there is a tremendous gap between the average historical prices for carbon credits from Figure 1 compared to the economic value of impacts they deliver as noted in Figure 4.

Gold Standard’s new holistic standard “Gold Standard 3.0,” currently in development, aims to address this discrepancy by more rigorously quantifying the beyond-carbon benefits and allowing for these to be either sold on top of the carbon emission reduction or at least more accurately accounted for within the price of a Gold Standard carbon credit. But in the meantime, we advocate for buyers of carbon credits to more fully recognise these values in their negotiations with sellers.

Gold Standard Recommendations

In conclusion, deciding on what project to invest in and how much it’s worth remains a bit like navigating the real estate market. There are a number of different considerations ranging from quality, type, size, and geographical location. While ‘value’ can remain somewhat subjective depending on your organisation’s ideals, objectives and requirements and is subject to the forces of supply and demand, Gold Standard advocates for prices of carbon credits to more closely mirror the true social cost of carbon and the economic value provided in additional impacts, while using the power of markets to help deliver this in the most cost-effective manner.

In setting a fair price on carbon credits, Gold Standard recommends accounting for the true cost of carbon emissions plus the value of the development impacts.

Our best practice pricing tips

- Consider the full economic value of a project’s impacts from carbon mitigation to development outcomes
- Commit to paying a price that can sustain and expand project activities
- Contribute to a more transparent voluntary carbon market by requiring price disclosure in your carbon credit transactions



A CORPORATE PERSPECTIVE

What the leaders are doing to take climate action

Annina Böhlen works for Coop Cooperative, one of Switzerland's largest retail and wholesale companies, and is responsible for the Coop sustainability fund. We asked Annina to tell us about Coop's climate strategy and what they are doing to ensure their long-term corporate success.

Can you give us an overview of Coop's climate strategy?

Throughout its value chain Coop makes a conscious effort to use energy carefully to protect the climate. In 2008, Coop drew up its "CO₂-neutral by 2023" vision. To achieve this vision, Coop is cutting its absolute energy consumption by 20% each year and increasing the proportion of renewable energy to 80%. It focuses on the following CO₂ reduction measures:

- Stores: Coop systematically implements the Minergie low-energy standard in all new and refurbished buildings, also using LED technology and CO₂ as a refrigerant. In addition, Coop also makes increasing use of renewable energy sources for heat generation.
- Transport: Wherever possible, Coop transports goods by rail. For its lorries, environmentally friendly fuels such as biodiesel and biogas are used.
- Production facilities: Coop makes use of the resulting waste heat and cold from the production facilities

Besides the reduction measures of the "CO₂-neutral by 2023" vision, Coop also compensates the air miles travelled by its goods and its staff business trips and has been doing this since 2007. It also offsets the CO₂ emissions caused by deliveries as part of the Coop@home online service, working with WWF to support CO₂-reducing projects that are certified to the Gold Standard.

Does COOP use an internal price on carbon? If so, how does it influence your decision-making?

The goal of reaching "CO₂ neutrality by 2023" meant that Coop had to closely examine its potential for reducing energy requirements and increase its use of waste heat and renewable energy sources. To help Coop do this, it has defined innovative principles for evaluating investments and for decision-making processes. The investment evaluation process focuses on the

investment's lifetime and anticipates possible increases in energy prices. In order to drive investment in emissions reduction activities, Coop introduced in 2010 an internal price of carbon of 150 CHF/t CO₂.

Why did you decide to begin investing in climate protection projects? Are you interested primarily in 'climate neutral' claims?

No, Coop does not make any climate neutral claims. Coop is convinced that sustainability is a cornerstone of long-term corporate success. As a cooperative, Coop pledged 150 years ago to procure products in a cost-effective way while preserving the commercial and social interests of our members. Today, these rightful interests include preventing any negative impact resulting from its business activities and conducting its business in a sustainable manner. Environmental protection has been enshrined in our Articles of Association since 1973.

Why did you decide to support Gold Standard projects in particular? How do you select your projects?

The Gold Standard guarantees high quality emission reduction projects. Together with WWF, Coop has developed Gold Standard projects that fit within the Coop value chain. By choosing Gold Standard, Coop ensures that its CO₂-reducing projects are not only real and verifiable, but also make measurable contributions to sustainable development - benefitting the local communities involved in the Coop value chain.

Coop has succeeded in reducing its annual CO₂ emissions from 2008 by 24.8 per cent - thereby remaining in line with its vision.

Gold Standard credits are known to sell at higher prices. How do you consider this in your decision-making?

Coop invests only in certificates which meet the highest requirements and which are supported by WWF. Therefore Gold Standard is a basic requirement for all our certificates. By working with WWF, Coop is able to invest in the development of projects that help support its value chain and is committed to pay a price which guarantees not only a reduction in CO₂-emissions but also enables co-benefits regarding biodiversity, livelihood, health impacts and employment.

What other CSR commitments do you have?

Coop pursues a comprehensive sustainability strategy based on three pillars and ensures that sustainability is incorporated into all relevant company strategies and processes.

We've already talked about "resource efficiency and climate protection". The next pillar is sustainable products and services. Coop's broad range of organically, humanely and fairly produced goods allows Coop to offer consumers the chance to make environmentally and socially responsible purchases. Coop's internal guidelines dictate that goods may only be transported by air if there are no other options available due

to quality reasons or lack of time – and for all those products that do travel by air the emissions are compensated.

The third pillar of our sustainability activities refers to our employees and the society. An important tool here is the Coop Sustainability Fund: The fund allows the origination of innovative solutions in socially and environmentally relevant areas and thus to make consumption more sustainable and to give something back to society. The Coop Sustainability Fund invests at least CHF 16.5 million every year for this purpose. Coop's emission reduction projects are also financed by the fund.

What are your reflections on COP21? Has the Paris Agreement figured into any of your discussions for the future? If so, how?

Already in 2008, Coop formulated the vision of achieving CO₂ neutrality in all of its retail and production activities by 2023. With this in view the COP21 did not directly influence Coop's decisions. But in the run-up to COP21, Coop, alongside WWF and others, took part in a campaign to ensure that Switzerland sets itself more ambitious climate objectives. The outcomes from Paris have strengthened our determination to continue consistently on the chosen path to CO₂ neutrality.



Coop's CHF 150 internal price on carbon helps drive finance to climate and development projects in their value chain.



MAKE AN IMPACT *with our Gold Standard projects*

There are a number of different considerations ranging from quality, type, size, and geographical location, when deciding on what projects to invest in and how much they're worth. These projects are just a couple of examples of how our projects are contributing to both climate change and the Sustainable Development Goals.



Hydrologic water filters, improving health in Cambodia

In rural Cambodia, clean air and water remain out of reach for millions of people. Hydrologic, a Cambodian social enterprise, has set out to change this with its locally made ceramic water purifiers. With a filter in their homes, families no longer need to boil their water to make it safe. This reduces indoor air pollution, slashes household fuel costs, and protects Cambodia's vulnerable forests – making a profound difference in the hands of those who need it most.



www.nexusfordevelopment.org

Project Impacts

- 400,000+ water filters distributed to more than 1 million people
- 90,000 tonnes of CO₂ saved per year
- A total saving of \$32,000 on fuel purchase and collection
- 230 hectares of forest saved per year – equivalent to 320 football pitches
- Savings of over \$16 million in health co-benefits from reduced diarrhea and respiratory illness related to smoke inhalation

What's the project worth?

- Based on cost and according to Fairtrade, the MINIMUM price should be 8.20€
- Based on value delivered, a credit from a Gold Standard Water Filter project provides \$118 in additional benefits beyond carbon



The Paradigm Project: Providing clean cooking and safe water in Kenya

The Paradigm Kenya project is one of the first in the world to combine efficient cookstoves with water treatment interventions, providing hundreds of thousands of people with access to cleaner cooking and safe water. The project model offers consumers a wide range of stove, water, and solar products alongside the financing required to make them affordable.



THE PARADIGM PROJECT
— est. 2008 —

www.theparadigmproject.org

Project Impacts since 2010

- 770,897 tonnes of CO₂e avoided
- 550,000 people impacted
- 3.9 million trees saved
- 65 million hours of productive time saved
- \$61 million in household income saved

What's the project worth?

- Based on cost and according to Fairtrade the MINIMUM price should be 8.20€
- Based on value delivered, a credit from a Gold Standard Cookstove project provides \$151 in additional benefits beyond carbon



When you invest in this Cambodian project, you are helping:

- More than 1 million people to access safe water
- Households to save \$73 a year on fuel purchase and collection
- To protect over 230 hectares of forest
- To significantly reduce the number of people suffering from diarrhea and respiratory illness



On average, for every tonne of CO₂ purchased from this Kenya programme:

- You impact approximately 2 people
- You save 2 trees
- You save women 79 hours of time otherwise spent collecting wood
- You save families \$43 in household income otherwise spent on cooking fuel



GOLD STANDARD

Supply Report

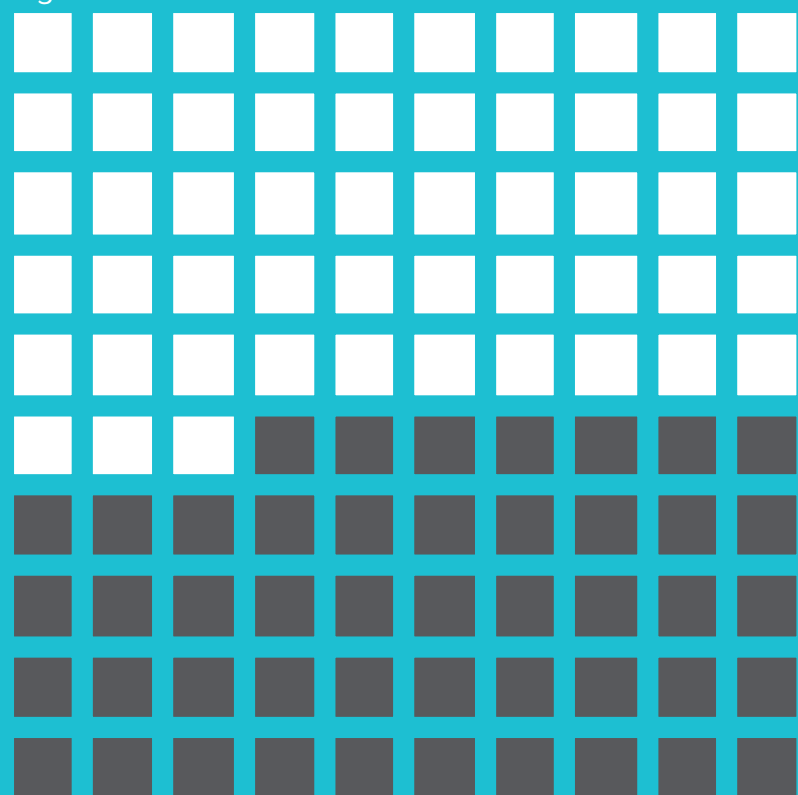
This section of the report provides our up-to-date supply data. As this is our first report, we've included information on our issuances and retirements for 2015 as well as the latest supply and demand data from Q1 2016. The report also provides our project issuance projections for the next three months.

Gold Standard Overall

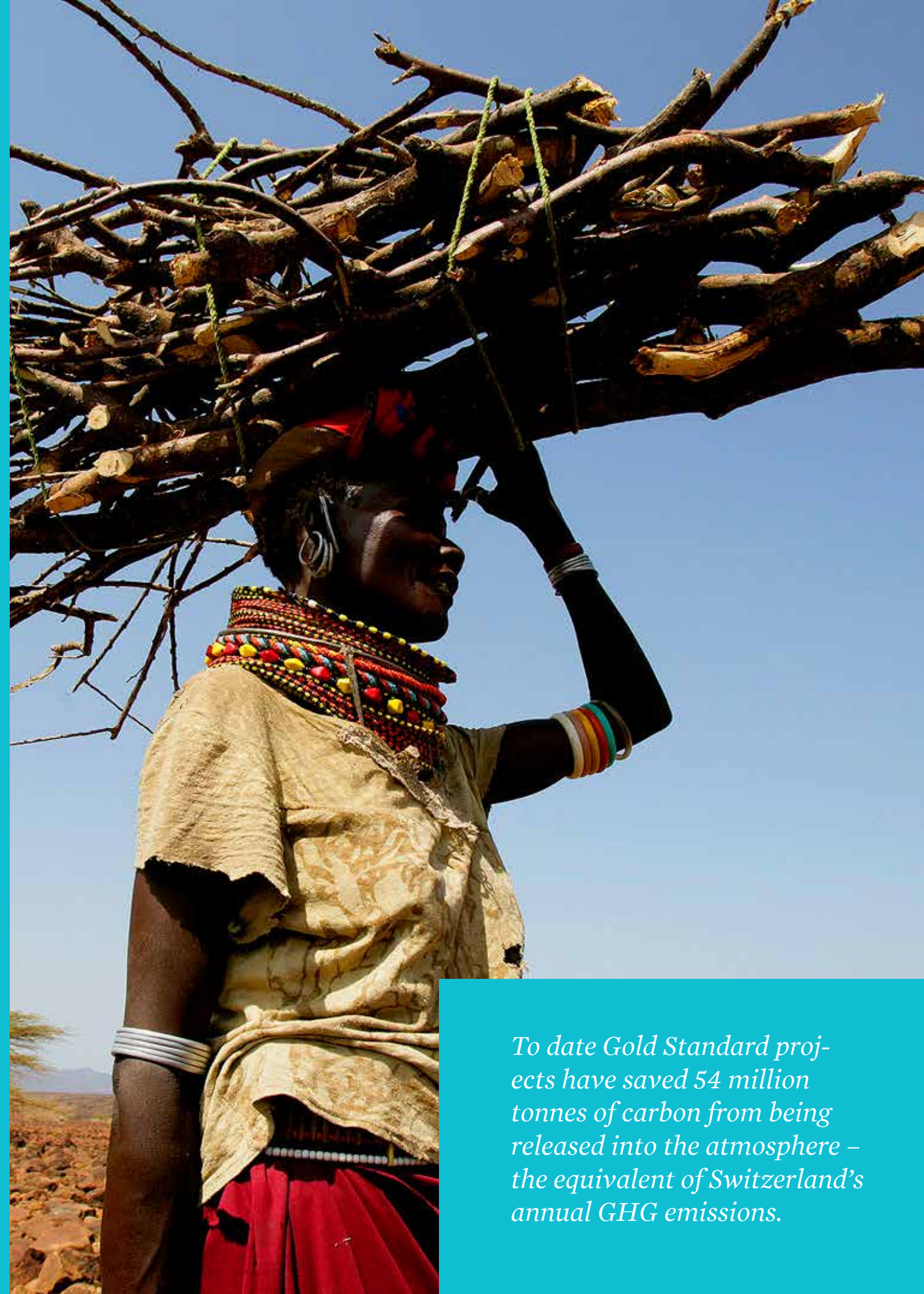
We have 1300+ projects in our pipeline with a potential to save more than 9 billion tonnes of CO₂ per year. Figure 1 provides an insight into the total supply and demand for Gold Standard. In total over half of our issued credits have been retired.

25 million GS VERs retired in total

Fig. 1



47 million GS VERs issued in total



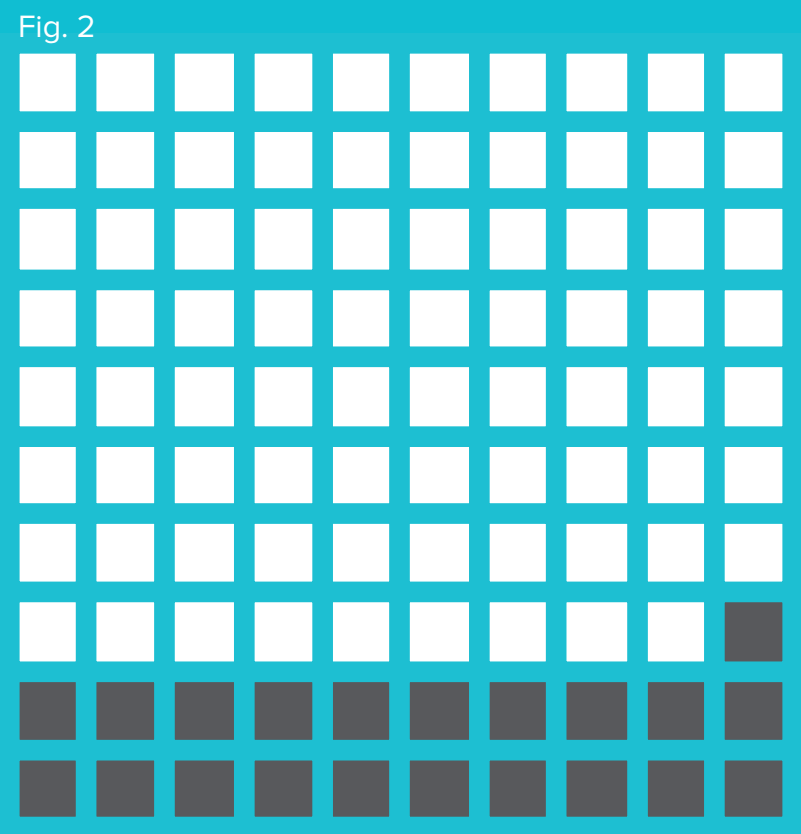
To date Gold Standard projects have saved 54 million tonnes of carbon from being released into the atmosphere – the equivalent of Switzerland's annual GHG emissions.

2015 GOLD STANDARD

Issuances + Retirements

Figure 2 shows the supply and demand for Gold Standard VERs throughout 2015. Although there is no direct correlation between issuances and retirements from the same year – i.e. retirements could have come from projects issued in previous years – this graph provides an indication of the market for Gold Standard projects.

7.8 million GS VERs retired in 2015



9.9 million GS VERs issued in 2015

2015 Gold Standard issuances + retirements

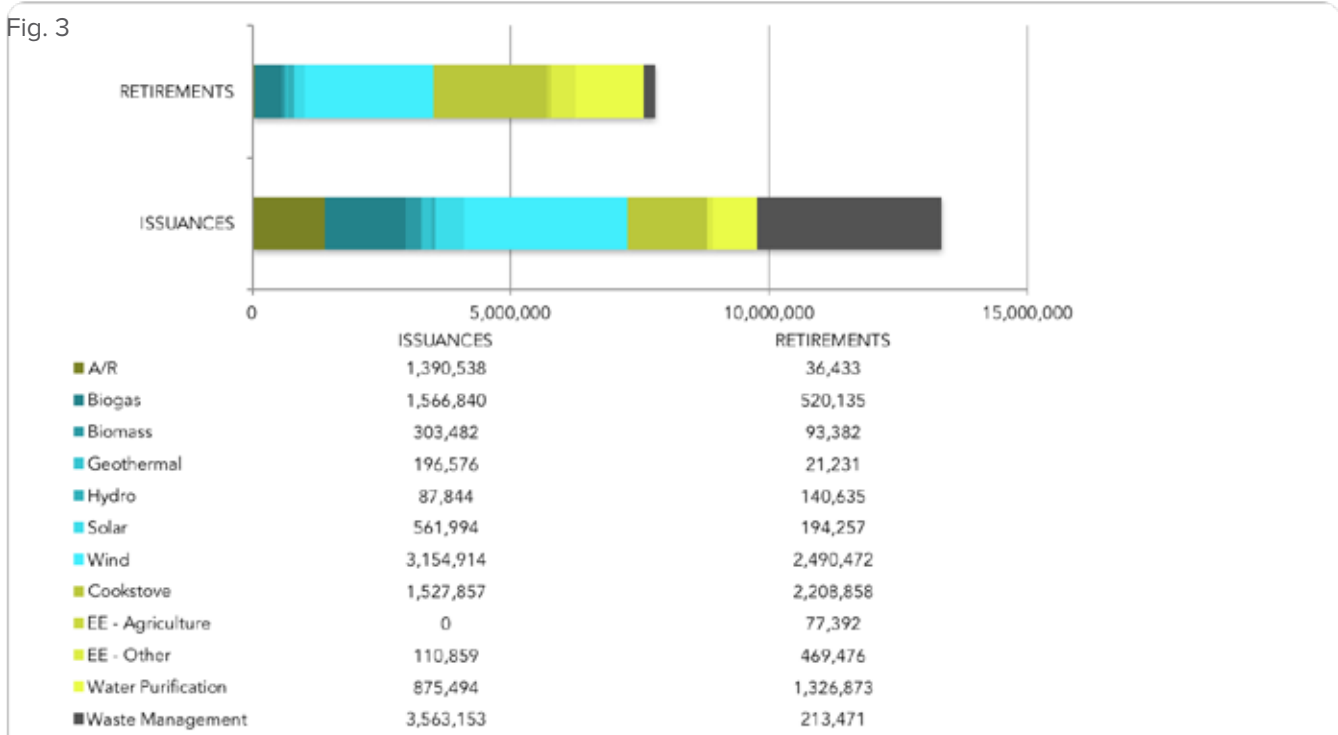
Table 1 shows how many emission reductions were issued by quarter and by product type (e.g. CER, VER or Validated A/R VER) for 2015. In total, 206* projects issued over 13 million carbon credits or validated A/R certificates. The majority of these credits (74%) were VERs. The table also shows the VER retirements for 2015. Retirements ranged from corporations such as Microsoft, Danone, Jaguar Land Rover, KLM and M&S to Green World Rising Films starring Leonardo di Caprio.

Table 1

	Q1	Q2	Q3	Q4	Grand Total
Issued CERs	664,636	1,226,223	96,871	35,807	2,023,537
Issued VERs	794,846	3,824,861	1,906,170	3,399,773	9,925,650
Validated A/R VERs	904,927	103,184	240,037	142,216	1,390,364
Total Issuances	2,364,409	5,154,268	2,243,078	3,577,796	13,339,551
Total VER Retirements	1,594,910	3,476,626	716,678	2,004,401	7,792,615

2015 issuance + retirement volumes by project type

Figure 3 shows the issuances and retirement volumes by project type. The chart is colour co-ordinated to better visually represent the data. In 2015, more emission reductions from cookstove, water filter and energy efficiency projects were retired than issued.



2015 retirement volumes by location

Table 2 provides insight into which regions are retiring credits from which countries. For example, organisations based in Europe like to retire credits from projects in Africa or Asia.

Table 2

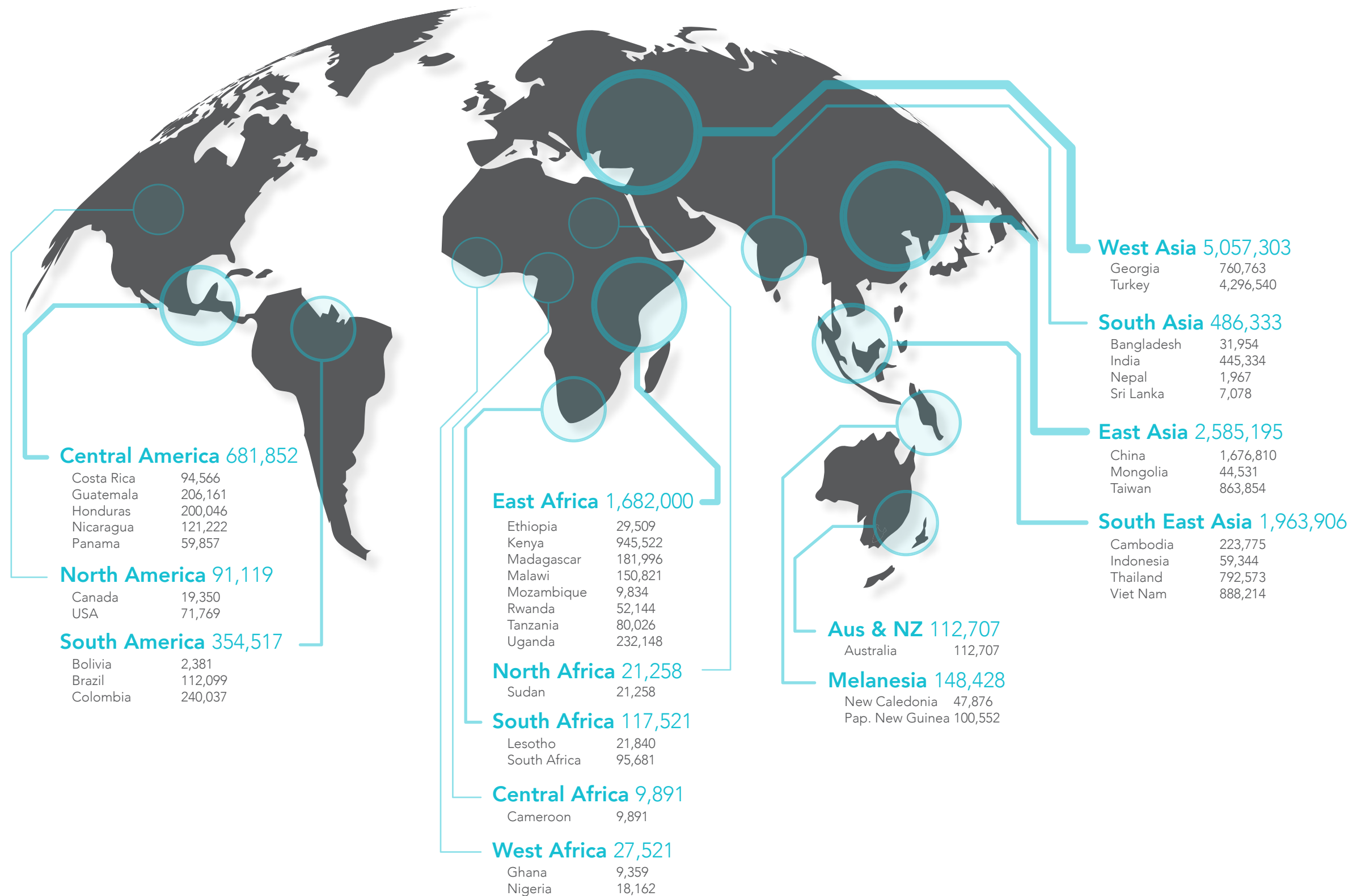
From ↓ retired in →	Africa	America	Asia	Europe	Oceania	Grand Total
Africa	26,572	139,392		2,854,442	26,615	3,047,021
America		55,866		282,213	15,557	353,636
Asia		71,521	56,540	3,805,776	441,337	4,375,174
Europe				445		445
Oceania				14,985	1,354	16,339
Grand Total	26,572	266,779	56,540	6,957,861	484,863	7,792,615

*This number has been corrected from the original publication which stated 744 projects

2015 issuance volumes by location

In 2015 we issued carbon credits from projects based in 40 different countries around the world. The graph below provides an overview of where these issuances took place.

Fig. 3

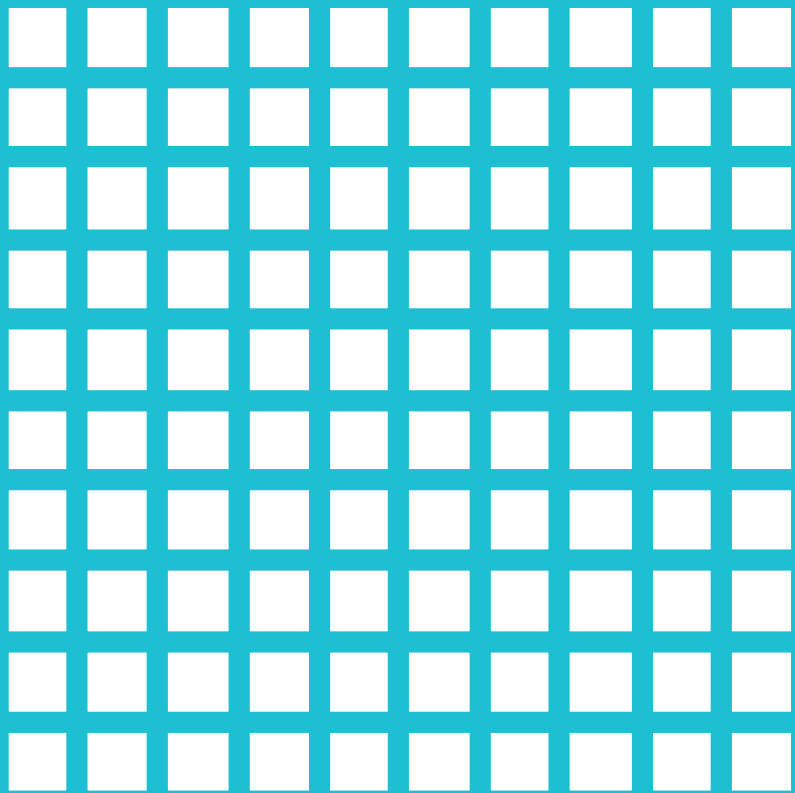


Q1 2016 GOLD STANDARD

Issuances + Retirements

1.9 million GS VERs retired in Q1 2016

Fig. 5*



1.9 million GS VERs issued in Q1 2016

*This graphic is for guidance only. There is not a direct correlation between retirements and issuances, as retirements made in 2015 could have been against projects issued in previous years.



Table 3 shows how many emission reductions were issued this quarter compared to Q4 2015. In total, 168 projects issued over 2.5 million carbon credits or validated A/R certificates in Q1 2016. The table also shows that nearly 1.9 million VERs were issued in Q1 and the same amount retired (see figure 5).

Table 3

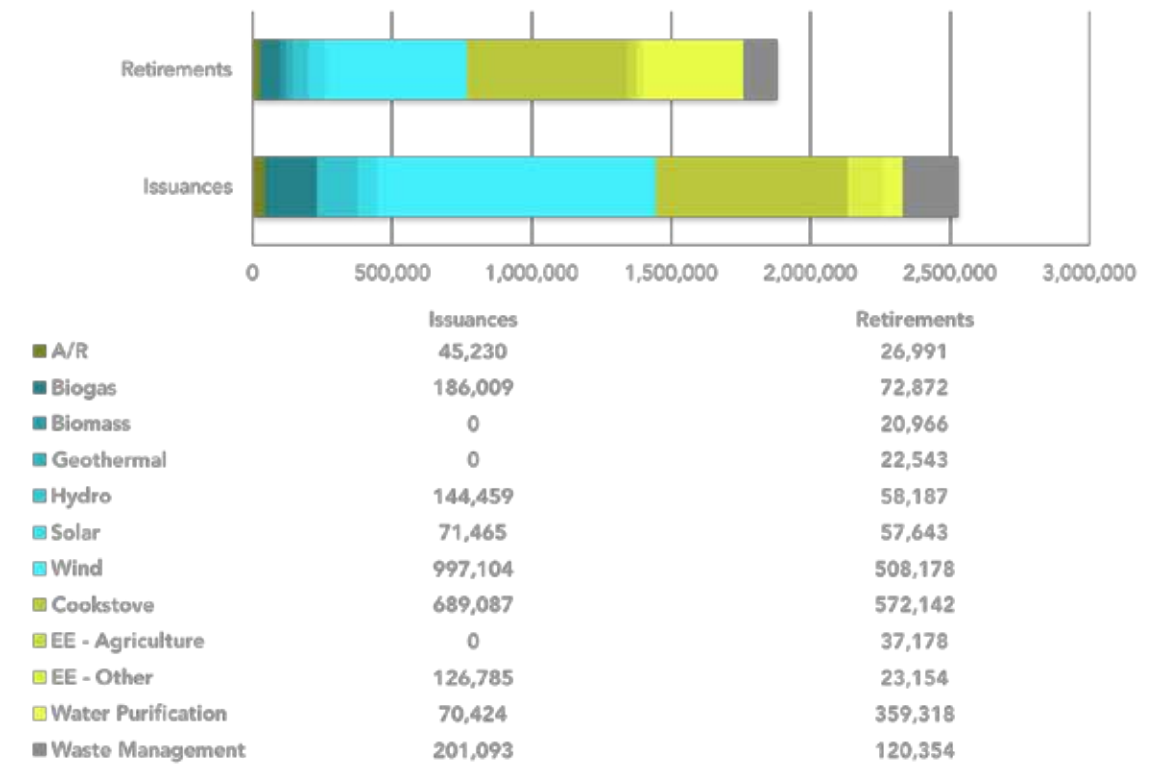
	Q4 2015	Q1 2016	%. Diff.
Issued CERs	35,807	609,042	1600.00%
Issued VERs	3,399,773	1,877,384	-44.00%
Validated A/R VERs	142,216	45,230	-68.00%
Total Issuances	3,577,796	2,531,656	-31.00%
Total VER Retirements	2,004,401	1,879,526	-5.00%



Q1 2016 issuance + retirement volumes by project type

Figure 6 tracks the issuances and retirement volumes by project type for Q1 2016. Biomass, geothermal, energy efficient agriculture activities and water filter projects all retired more credits than were issued in this quarter.

Fig. 6



Q1 2016 retirement volumes by location

Table 4 provides some insight into which regions retired credits from which countries in Q1 2016. Projects based in Africa or Asia received the most retirements.

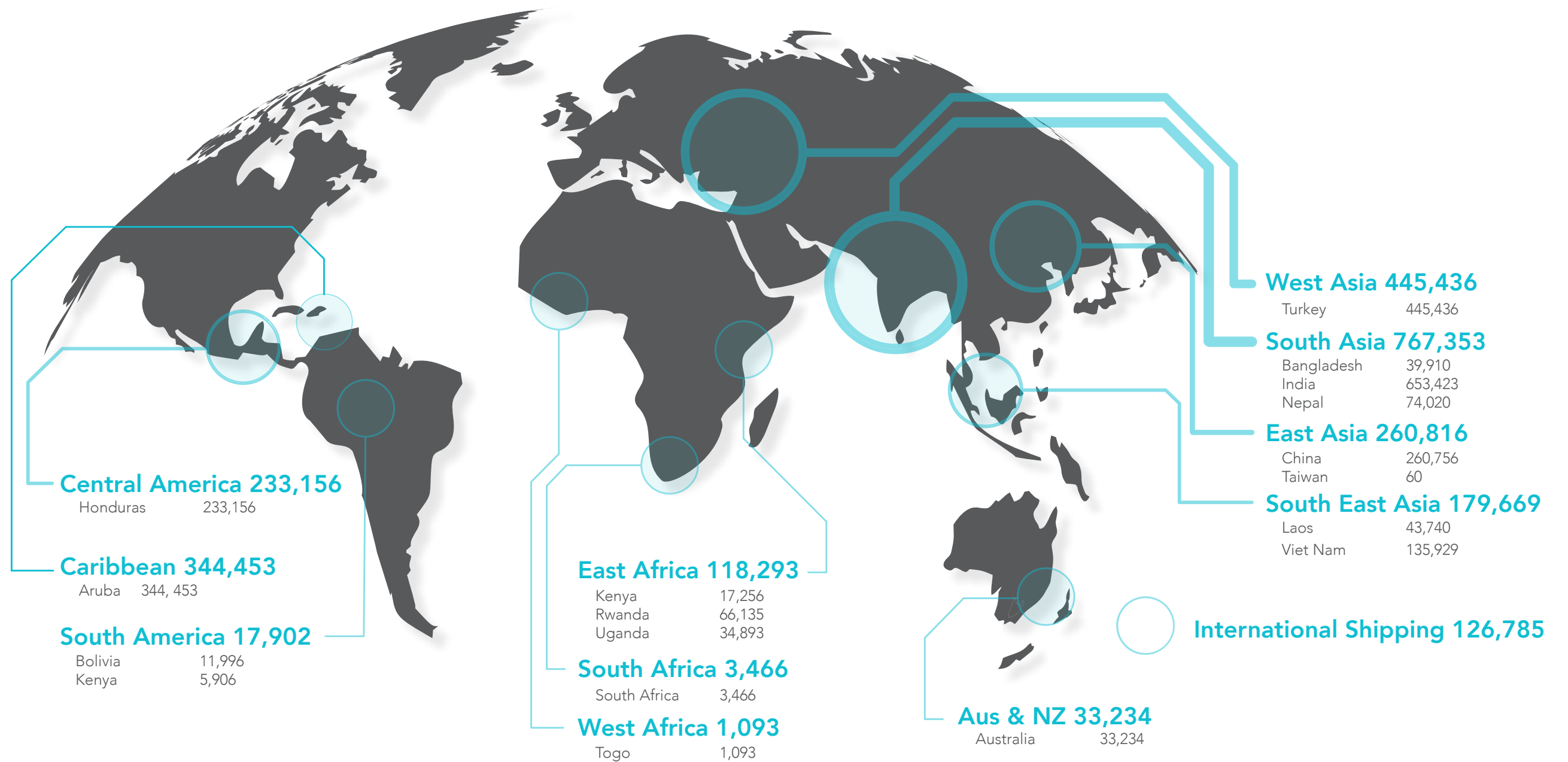
Table 4

From ↓ retired in →	Africa	America	Asia	Europe	Oceania	Grand Total
Africa	52,720	90,172	5,347	495,033	2,633	645,905
America		9,803		62,575		72,378
Asia	19,851	53,072	3,287	960,582	117,072	1,153,864
Europe				7,379		7,379
Oceania						
Grand Total	72,571	153,047	8,634	1,525,569	119,705	1,879,526

Q1 2016 issuance volumes by location

In Q1 2016 we issued carbon credits from projects based in 16 different countries around the world. The graph below provides an overview of where these issuances took place.

Fig. 7

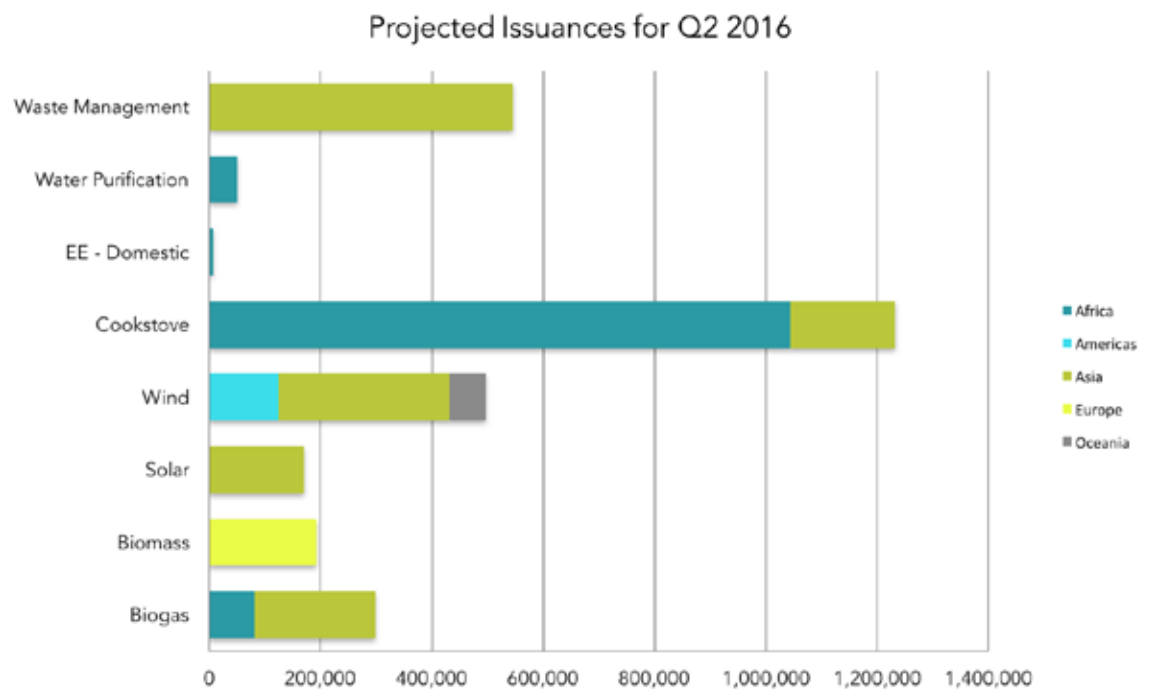




Gold Standard Projections for Q2 2016

Approximately 40 projects are expected to issue just under 3 million emission reductions over the next three months, of which 40% are cookstoves, 18% waste management and 16% wind. Figure 8 provides a breakdown of these activities by project type and location.

Fig. 8



Projected Projects for Q2 2016

Table 5

Project Type ↓ Region →	Africa	Americas	Asia	Europe	Oceania	Grand Total
Biogas	81,238		216,243			297,481
Biomass				192,035		192,035
Solar			169,261			169,261
Wind		124,785	306,751		64,000	495,536
Cookstove	1,042,956		189,149			1,232,105
EE - Domestic	6,929					6,929
Water Purification	50,818					50,818
Waste Management			544,937			544,937
Grand Total	1,181,941	124,785	1,426,341	192,035	64,000	2,989,102

We hope you find this data of value, we would like to evolve and improve this report over time and welcome your comments or suggestions.

Please send any feedback to Claire Willers at info@goldstandard.org.