

GOLD STANDARD
Supply Report Q3 2016

*Better information for better
decision-making*

INTRODUCTION

About this report

This report is a response to feedback we received from our Transparency Initiative launched in 2015 as a way to increase confidence and participation in carbon markets and aims to improve access to market information for planning and decision-making.

Published quarterly, the report provides up-to-date issuance and retirement data for Gold Standard emissions reduction projects. It also features information and articles that help build clarity around the complexities of the market, especially in regards to pricing and how it varies from project to project.

We hope you find this report insightful and we welcome any comments or feedback to help us continue improving.

info@goldstandard.org





CARBON PRICING:

Internal price on carbon

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 is a tonne of carbon worth? This series of articles aims to provide some clarity in how carbon is valued, taking into account the different projects and approaches.

Previously, we outlined the different ways to [value a carbon credit>>](#) and why prices can vary by [project type>>](#). This edition discusses the benefits of setting an internal price on carbon and the approaches organisations are using to do this.

With the risk and impacts of climate change becoming more evident and the need to pay for carbon emissions emerging as a part of the cost of doing business, more organisations and governments are looking to put a price on carbon. According to the Carbon Disclosure Project (CDP) there are more than 1000 companies reporting that they price carbon internally or plan to do so in the next one to two years.

What is an internal price on carbon?

Carbon pricing is a financial tool for reducing risks, costs and greenhouse gas (GHG) emissions. It provides a mechanism to reflect the social, environmental and economic costs of climate change, which can then be used in financial decision-making.

Why or how is this going to benefit me as a business?

There are many benefits and opportunities with setting an internal price on carbon.

A primary driver is to de-risk against any future carbon pricing legislation - with the Paris Accord, many governments are establishing a market value for reducing emission reductions. For companies to ensure long-term success, they will need to be prepared and well positioned to deal with these upcoming policies.

Managing risk for future investments - setting a price on carbon helps translate climate change into financial terms. This enables teams to test and assess the profitability of projects in different scenarios to make better decisions to future-proof the business. It also brings innovative ideas to the table on how to best allocate capital to deliver higher returns in a low-carbon economy.

Generate finance for cleaner alternatives + reducing emissions – charging those who emit emissions can provide a company with the means to redistribute finance into energy efficiency initiatives that help minimize the business risks associated with climate change as well as helping to achieve the company's GHG reduction targets.

Answering to investors and consumers – awareness around the need for climate action is growing among consumers, and investors are increasingly requiring disclosure of climate risk. Setting a carbon price and reducing your emissions gives you a clear response to those demands.

How are organisations applying the concept of carbon pricing and how do you set a price on carbon?

Prices currently vary significantly by region and sector. Analysis by the UK government's Department of Energy and Climate Change and the Carbon Trust estimates that, in a scenario where warming is limited to less than 2 degrees, the global price of carbon is expected to converge at \$140 per ton of CO2 by 2030 and \$400 by 2050. The US Environmental Protection Agency (EPA) estimates the social cost of carbon to range between \$16-152 by 2020 and \$26-212 by 2050. Other studies suggest even [higher costs>>](#)

The Carbon Disclosure Project and We Mean Business have also tried to provide some guidance, with their report [Carbon Pricing Pathways: Navigating the Path to 2C>>](#). And a number of organisations have come together to create the Carbon Pricing Leadership Coalition, which aims to expand the use of effective carbon pricing policies to deliver meaningful emission reductions.



There are varying ways to describe the concept of carbon pricing, but essentially companies use one of three approaches to put a price on carbon, moving from a decision-making tool to a practice that drives finance directly to efforts that reduce GHG emissions.

Shadow price

A shadow price creates an assumed cost for carbon and is used to better understand the potential impact of external carbon pricing on the profitability of a project. Forming a shadow price enables companies to test planned projects under a range of different scenarios, such as potential carbon prices, policies and caps.

ASDA (a Walmart affiliate) was one of the first UK retailers to embed a shadow cost for carbon in all its carbon mitigation investment decisions. Although the actual price set is confidential, ASDA says “its flexible, to allow it to change with time as external factors evolve, and thus ensure our appraisal model remains world class.” Other companies, such as Shell, model carbon prices to lower the risk of stranded assets.

Internal prices

Generating a fixed value that can be assigned to each metric tonne of carbon emissions reveals hidden carbon risks. When emissions bear a cost in profit-and-loss statements, it helps to uncover inefficiencies and differentiate business units within a company. This can help to incentivize low carbon innovation within departments, cutting a company’s energy use and carbon pollution.

Novartis, the global healthcare company based in Switzerland, is using an internal carbon price to help achieve its sustainability goals. By 2020, the company aims to reduce both scope 1 + 2 emissions and non-recyclable operational waste by 30% compared to 2010. The company has endorsed a carbon price of US\$100 per tonne of carbon dioxide emitted, in line with the cost of climate change to society as indicated by the World Bank. Building a carbon price into investment decisions is important as it helps identify projects that will most cost-effectively reduce GHG emissions.

Carbon tax / internal carbon fees

Internal taxes go a step further by charging business units for their emissions and using the fees generated to support investment into clean technologies and/or carbon reduction projects that help the transition to a low carbon economy.

Microsoft is one of the best known examples of an organisation setting an internal carbon fee to help meet its environmental objectives. Since 2012, Microsoft has been carbon neutral. Using the money raised from its internal carbon fee to reduce emissions by 9.5 million tonnes of CO₂, to purchase more than 14 billion kilowatt hours of green power and to help reach more than 7 million people around the world by supporting carbon reduction projects, such as those certified by Gold Standard.

Ben & Jerry's creates an internal fund to support investments that help achieve the company’s GHG reduction target. It has set a price of US\$10 (or €10) for every metric tonne of GHG emissions. According to the latest CDP report, this fee has generated more than US\$1 million annually, which is mainly being used to support farmers in the development and implementation of carbon footprint-reducing strategies within its supply chain.

Disney has set a goal to achieve zero net direct GHG emissions through energy avoidance or reduction, renewable energy, and then offsetting what can’t be avoided. To help with this latter element, they have created the ‘Climate Solutions Fund’ whereby they charge businesses for the GHG they produced and use the money generated to invest in projects that fit their business objectives, such as the Gansu Anxi wind farm project certified to Gold Standard.

Making the most out of your investment

Ultimately, organisations that invest in carbon reduction projects want to ensure that the money they invest goes as far as it can. Gold Standard believes that climate + development must go hand-in-hand. Thus, all our projects adhere to a participatory approach, environmental + social safeguards, transparent governance, and long-term, consistent outcomes to ensure that our projects not only lower emissions, but deliver sustainable development to vulnerable communities all around the world. By supporting these types of projects, organisations can meet multiple Corporate Social Responsibility (CSR) and climate mitigation objectives with a single investment.

Like any other business opportunity, the transition to a low-carbon economy will create both winners and losers, but by setting an internal price on carbon, companies will be better prepared to address the risks they face, ensuring they choose the right path for long-term, sustainable success.



Investing in a low-carbon, climate secure world

Microsoft, Ben & Jerry’s and Disney have invested in some of the following Gold Standard projects, helping us reach a climate secure world where sustainable development brings life-changing benefits to communities everywhere.

- » Improved Stoves and Water Purification Project, Guatemala
- » Microfinance for Home Insulation, Mongolia
- » Paradigm Healthy Cookstove and Water Treatment Project, Kenya
- » Mamak Landfill Waste Management Project, Turkey
- » Gansu Anxi Wind Farm Project, Turkey
- » Sayalar Wind Farm, Turkey
- » Mare Manastir Wind Farm, Turkey
- » Improved Household Charcoal Stoves in Ghana
- » Efficient Cooking with Ugastoves, Uganda



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.





Lighting up Madagascar

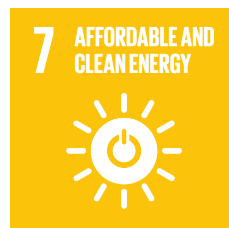
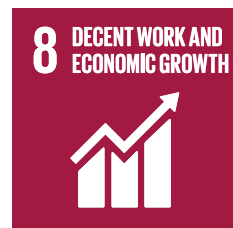
Madagascar relies on diesel power plants to provide power for its inhabitants, forcing the country to spend more than \$100 million in fossil fuel imports each year – a cost in both economic and environmental terms. This multi-stakeholder project developed by [myclimate](#) distributes high quality energy saving lamps while pushing for a broader regulatory framework to support efficient lighting technologies. 518,000 energy saving lamps have been distributed Antananarivo, the capital of Madagascar, allowing the Malagasy government being able to save \$5.5 million per year in reduced peak load and fossil fuel imports and the households to save an accumulated \$3.5 million on electricity bills.

Project Impacts

- » 49,000 tons of CO2 saved from the atmosphere the equivalent of taking 10,300 cars of the road for a year
- » 518,000 energy saving lamps have already been distributed
- » Each lamp saves 94 kg of CO2 over its 7-year lifetime
- » A decrease of about 18% of the household's electricity bill compared to the baseline
- » Economic benefit of \$5.5 million savings per year in the reduced peak load and saved fossil fuel imports in the country.

What's the project worth?

- » Based on cost and according to Fairtrade, the MINIMUM price should be 8.20€



When you invest in this Madagascan project, you are:

- » Positively impacting the lives of 586,000 people
- » Helping each household save \$19 per year
- » Providing more light for families + children to focus on activities that help enhance their lives



A breath of fresh air for New Caledonia

Already severely affected by climate variability and extreme tropical weather events, the small island developing state of New Caledonia remains extremely vulnerable to future changes in the regional climate and to rising sea levels. Located in a hurricane hot spot, this project uses innovative technology specifically designed for this type of climate to replace dirty fossil fueled energy with sustainable wind power.

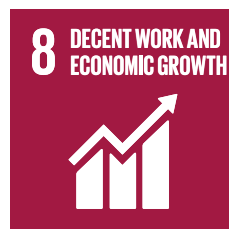
In addition, to strengthen civil society and indigenous Kanak rights, the project supports local and regional initiatives addressing employment, youth and community activities - serving as an example of environmentally respectful development that is sensitive to the needs of local tribes.

Project Impacts

- » Saves more than 32,000 tonnes of CO2 emissions from being released each year
- » Builds awareness on the importance of low carbon futures for local schools
- » Helps fund two Community Coordination Centers that offer employment and training opportunities in collaboration with tribes and communities.
- » Stimulates technology development and transfer in the wider region thanks to the innovative and pioneering application of the typhoon safe turbine technology.

What's the project worth?

- » Based on cost and according to Fairtrade, the MINIMUM price should be 8.10€
- » Based on value delivered, a credit from a Gold Standard wind project provides \$21 in additional benefits beyond carbon



When you invest in this Pacific Island project, you are:

- » Creating nearly 60 jobs for local Kanak people + lowering pressure on migration
- » Helping to stimulate technology development and transfer
- » Enabling New Caledonia to benefit from sustainable, renewable energy



GOLD STANDARD

Supply Report

This section of the report provides our up-to-date supply data for Q3 2016. For historical data, please refer to previous editions of this [report](#)>> The report also provides our project issuance projections for the next three months.



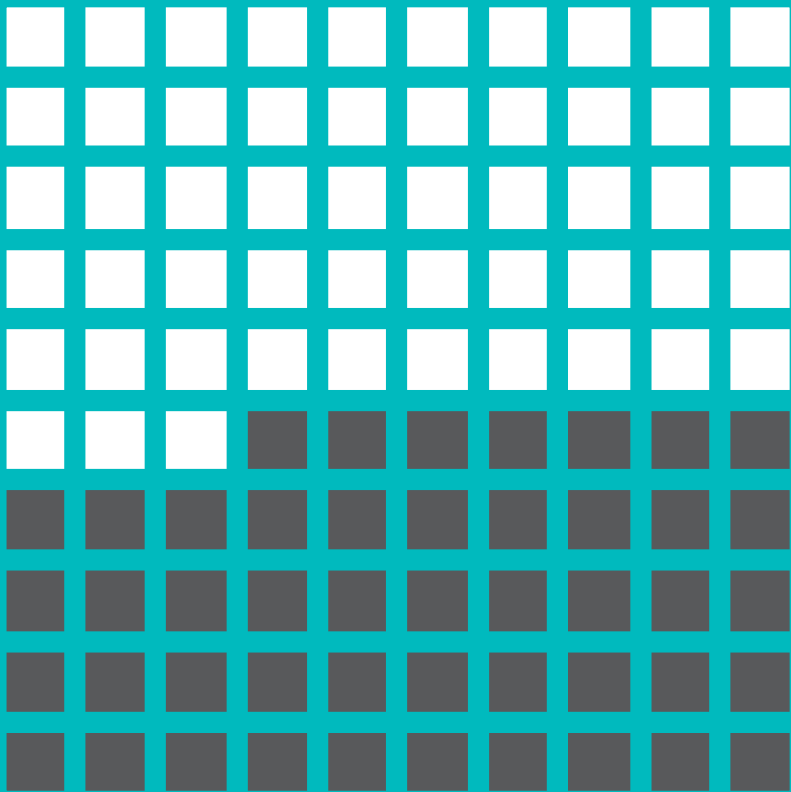
7 GOLD STANDARD OVERALL

Issuances + retirements

We have 1300+ projects in our pipeline with a potential to save more than 9 billion tonnes of CO2 per year. To date, Gold Standard projects have saved nearly 61 million tonnes of CO2 from being released into the atmosphere – the equivalent energy usage for more than 6.4 million average American homes per year. Figure 1 provides an insight into the total supply and demand for Gold Standard Verified Emission Reductions (VERs). Just over half of our total issued VER credits have been retired.

Fig. 4

28 million GS VERs retired in total



52 million GS VERs issued in total



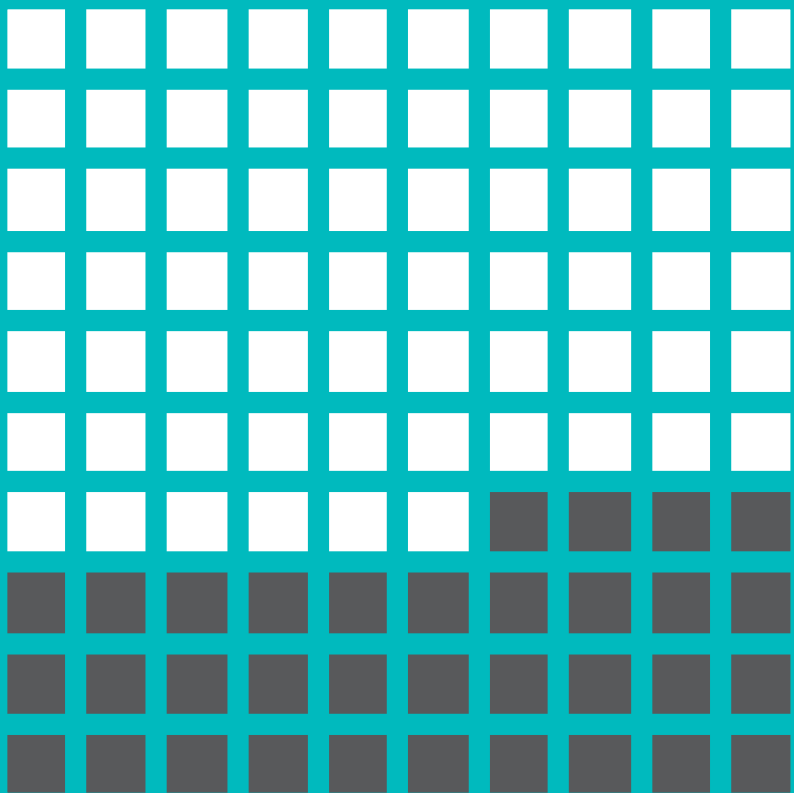
Q3 2016

Issuances + retirements

Figure 5 shows the supply and demand for Gold Standard VERs for Q3 2016. We have issued half the amount of credits in comparison to Q2 2016. This amount is back in-line with our issuance figures from the first quarter of this year. Retirement activity has been a little less this quarter, with over three-quarters of our credits retired.

Fig. 5*

1.3 million GS VERs retired in Q3 2016



1.7 million GS VERs issued in Q3 2016

*This graphic is for guidance only to give an indication of the market for Gold Standard credits. There may not be a direct correlation between retirements and issuances - i.e. retirements could have been made against projects issued in previous quarters.

Q3 2016 issuances + retirements

Table 1 shows how many emission reductions were issued this quarter compared to Q2 2016. In total, 110 projects issued 2.7 million carbon credits or validated A/R certificates in Q3 2016. The table also shows the VER retirements for the same period. Retirements ranged from organisations such as Microsoft Corporation, Qantas Airways and lastminute.com to city offsetting programmes such as for the [City of Fremantle](#) and events such as the World Future Energy Summit 2016.

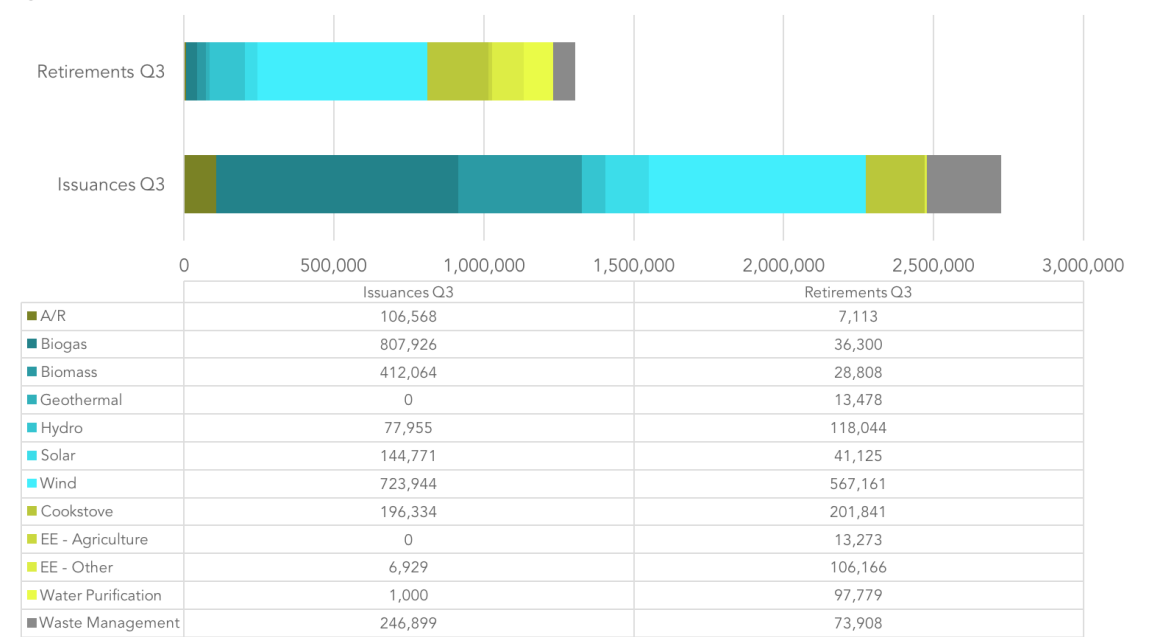
Table 1

	Q2 2016	Q3 2016	% Difference
Issued CERs	707,364	855,966	21%
issued VERs	3,869,568	1,761,856	-54%
Validated A/R VERs	74,636	106,568	43%
Total Issuances	4,651,568	2,724,390	-41%
Total VER Retirements	1,972,757	1,304,996	-34%

Q3 2016 issuance + retirement volumes by project type

Figure 6 tracks the issuance and retirement volumes by project type for Q3 2016. Nearly 100,000 tonnes of CO2 from water purification projects were retired compared to just 1,000 issued, indicating a good demand for this type of project. Cookstoves, hydro and geothermal projects also retired more credits than were issued this month.

Fig. 6



Q3 2016 retirement volumes by location

Table 2 provides some insight into which regions retired credits from which countries in Q3 2016. Projects based in Africa or Asia received the most retirements from organisations based in America and Europe.

Table 2

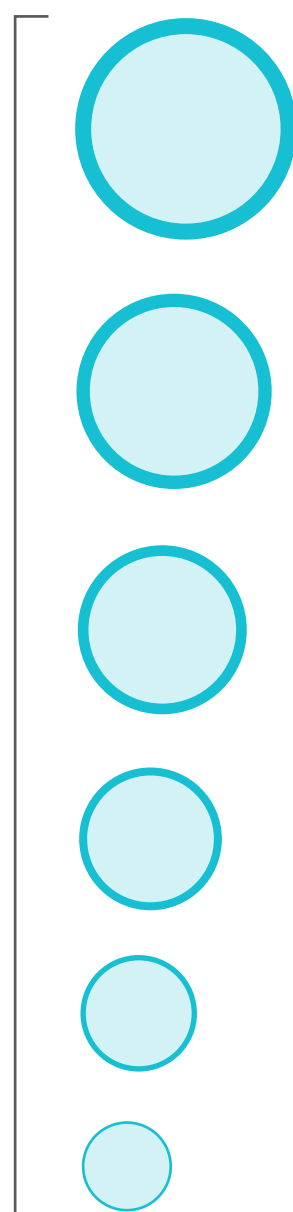
From ▼ To ➡	America	Asia	Europe	Oceania	Grand Total
Africa	93,985		165,040	464	259,489
America	53		10,398	100	10,551
Asia	5,399	1,368	975,977	51,360	1,034,104
Europe			500		500
Oceania			5	347	352
Grand Total	99,437	1,368	1,151,920	52,271	1,304,996

Q3 2016 issuance volumes by location

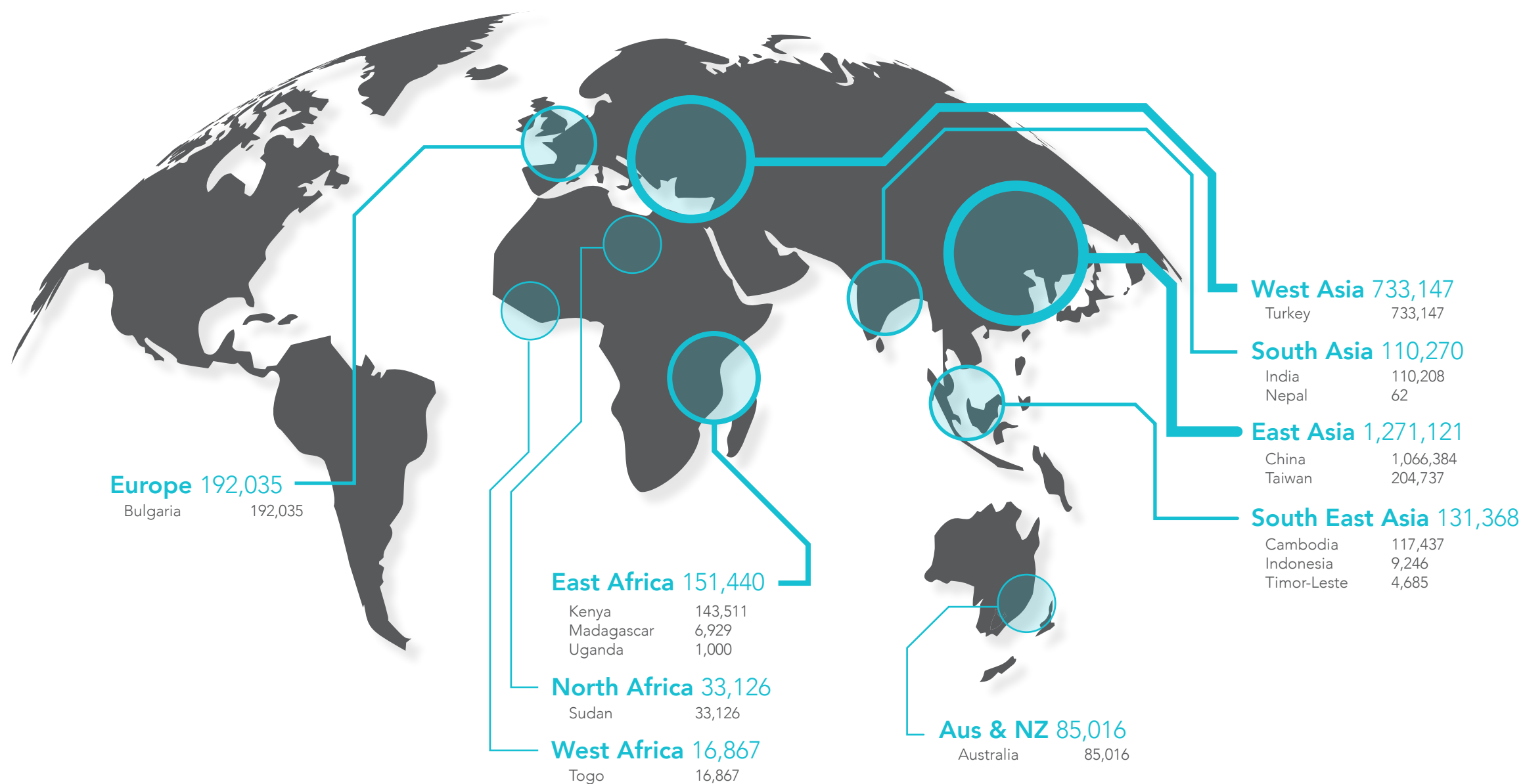
In Q3 2016 we issued carbon credits from projects based in 15 different countries around the world, this is on par with our issuance figures for the first quarter of this year. The graph below provides an overview of where these issuances took place.

Fig. 7

> 1 million



< 100 thousand

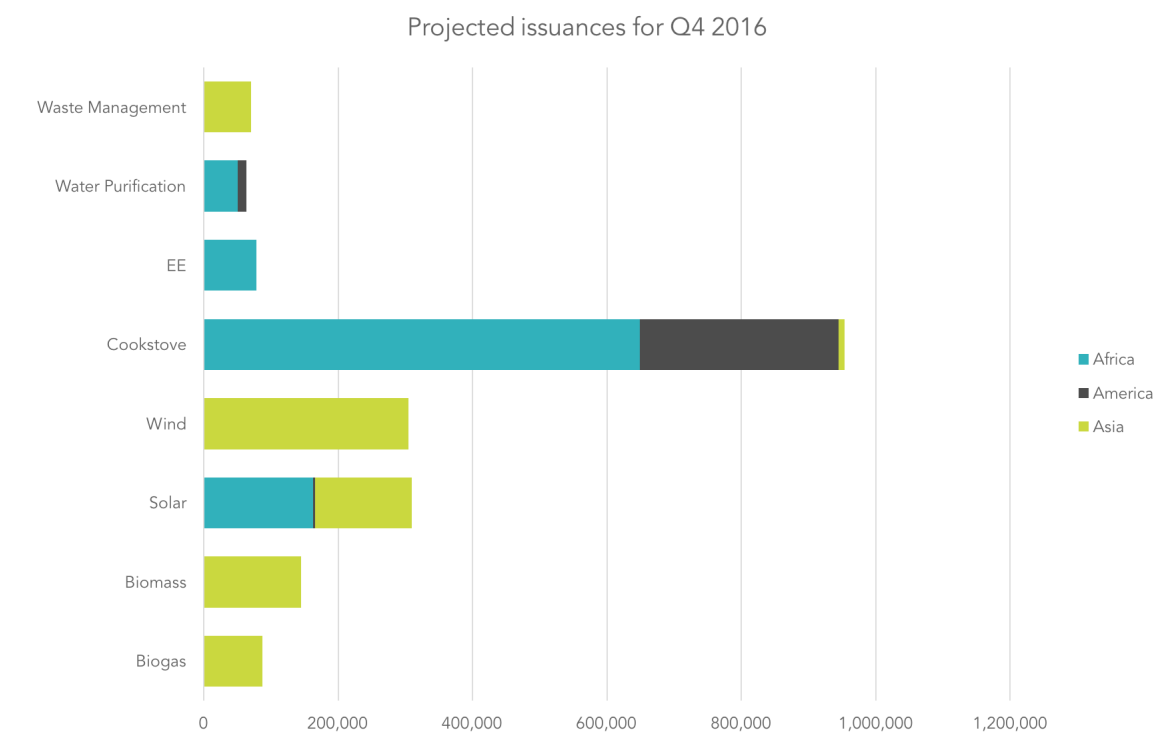




Gold Standard projections for Q4 2016

We issued 40% more credits than expected in Q3 2016, with biogas, biomass, hydro and wind projects all issuing more than projected. Water purification and waste management projects issued less than originally estimated. For the last quarter of the year, approximately 100 projects are expected to issue just over 2 million emission reductions, of which 47% are cookstoves, 16% solar and 15% wind. Figure 8 provides a breakdown of these activities by project type and location.

Fig. 8



Projected projects for Q4 2016

Table 3

Project Type ↓ Region →	Africa	America	Asia	Grand Total
Biogas			87,623	87,623
Biomass			144,825	144,825
Solar	163,057	2,922	143,645	309,624
Wind			304,468	304,468
Cookstove	648,679	296,000	8,692	953,371
EE	78,725			78,725
Water Purification	50,190	13,256		63,446
Waste Management			70,873	70,873
	940,651	312,178	760,126	2,012,955

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.