UNDERSTANDING OUR FOOTPRINT
OUTCOMES OF RSB'S MONITORING & EVALUATION SYSTEM IN 2020

RSB
Roundtable on Sustainable Biomaterials
www.rsb.org

RSB is committed to continuous monitoring, evaluation, and improvement of our standards and certification system. Since 2016, we have compiled our short and medium-term assessments into a public report – helping our stakeholders to engage with our work and understand how it contributes to the sustainable development of the bio-based and circular economy in communities worldwide. This year's report is the fifth of its kind, and continues to build upon a much-improved data collection process which ensures the accuracy of our reporting.

Executive Summary

2020 was a year like no other — for RSB and its operators, members, and partners around the world. In spite of this, commitment to sustainability remained strong, or even increased. While the year presented challenges to the market, with certified volumes dropping from 2019, RSB also saw healthy growth in the number of sites, workers, and overall hectares covered by an RSB certificate, reflecting enduring sustainability commitments in the face of difficult market conditions for many operators. This is reflected in continued support, and engagement with, RSB's projects and advisory services, where RSB's impact goes beyond individual operators.

RSB worked hard to support operators during the pandemic, by refining our approach to virtual audits, developing guidance and guides on certification to help operators prepare for their audits, and specifying RSB requirements for new feedstocks and processes.

RSB's overall impact goes beyond certification and the data recorded in the certification system. RSB`s activities in **certification, advisory services, and collaborative partnerships** all have a long-term impact on the transformation to a sustainable bio-based and circular economy by:

- ensuring sustainable feedstock production and processing practices;
- changing the way organisations do business by supporting them with RSB expertise grounded in the RSB Standard;
- influencing policy at local, regional, and global level; and
- supporting decision-making informed by the sustainability embedded in the RSB Standard.

RSB is a mission-driven organisation and our work on projects and solutions that will create real positive change enables us to ensure that our impact is long-term and global. In 2020, RSB's project work covered four continents and incorporated activities on policy mechanisms, regional technical assessments, support for the production of sustainable feedstock, and more.

RSB's Advisory Services are being used worldwide to embed best practice in diverse supply chains — often at the project design or pilot level. This is particularly meaningful, as RSB is able to support improved practices in many different sectors and regions in order to assist operators achieve RSB certification in the future. With

13 advisory services projects conducted during 2020, our team were able to provide hands-on sustainability expertise on five continents, with income from advisory services increasing by 26% from 2019.

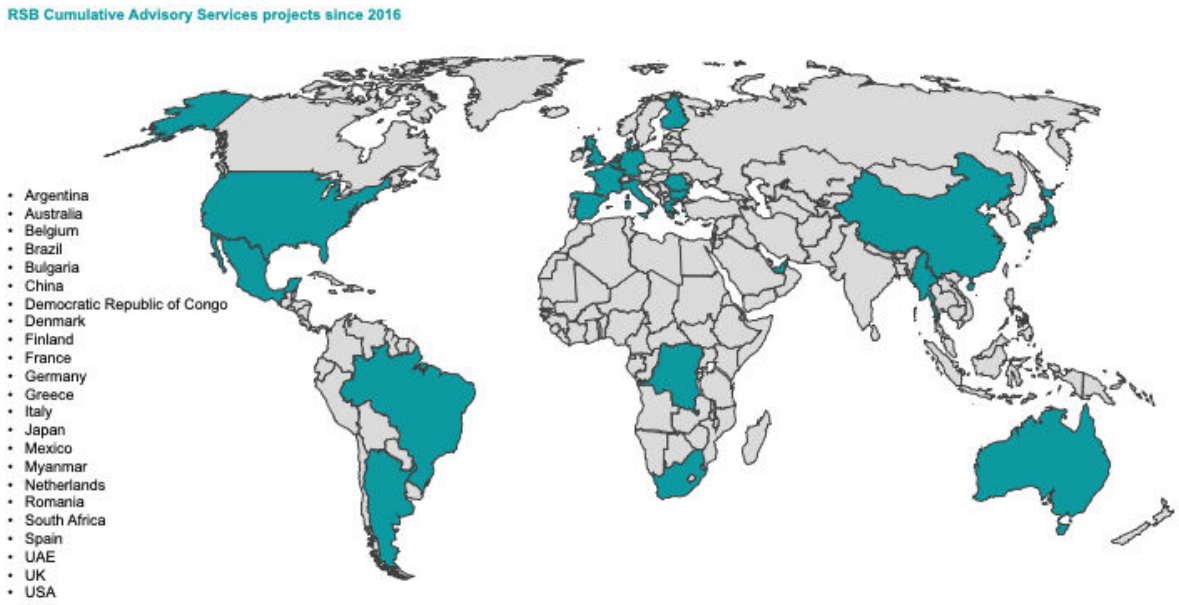

Figure 1: Locations of RSB Advisory Services projects since 2016

Looking to certification impacts, the volume of RSB-certified fuel produced in 2020 contributed to an emissions saving of **375,016 metric tons of CO_2eq**. Cumulatively, RSB-certified fuels have contributed to a total saving of 2,573,031 metric tons of CO_2eq emissions since 2012. These figures demonstrate that fuels can be produced both sustainably and with a significant positive impact on climate.

With nearly 50% of operators processing or trading waste and residues in their supply chains, RSB-certified products are significantly reducing pressure on agricultural land. Focusing on fuels produced from wastes and residues, RSB-certified fuels **have the potential to reduce pressure on the equivalent of over 190,696 hectares of agricultural land** (if the same volume of fuel had been produced from a dedicated oil crop) in 2020. This figure is comparable to almost the same area of total arable land available in Slovenia in 2018.[1]

[1] https://data.worldbank.org/indicator/AG.LND.ARBL.HA

The RSB Standard for Advanced Products, launched at the end of 2018, was implemented during 2019 and consolidated with new certificates in 2020. Six new certifications for the RSB Standard for Advanced Products were issued in 2020 and 10 were underway at the end of the year, with the market showing considerable enthusiasm towards the RSB certification — in particular for bio-attributed polymers and recycled polymers for packaging. Reflecting the growing importance of the materials market, RSB developed and launched new labels and logos for use on final products.

Within the RSB Principles & Criteria — applicable to farms and industrial units — we found that 20% of all non-conformities among operators were related to social aspects, and 38% to environmental aspects (including GHG emissions reduction requirements). By requiring that all non-conformities are dealt with within defined timeframes, RSB has a tangible impact on the social and environmental performance of biomass and industrial producers.

Overall, 2020 saw a varied year for the RSB system, with an increase in the number of sites, as well as growth in certified area. The outlook is broadly positive, covering the maturing market in the fuels sector and the new market in the chemicals and polymers sector. Emerging interest from other regions, such as biomass for energy in the Japanese market — who are increasingly seeking solutions for their sustainability commitment — should enable RSB to continue growing its certification system.

RSB's Standard and certification system continues to be recognised by global and national organisations — including governments, NGOs, and companies — as a best-in-class sustainability standard for the bio-based and circular economy. This is in large part due to the continuous improvements made by RSB and its member community towards ensuring their applicability in the real world.

Table of Contents

Introduction

Regular monitoring and evaluation of RSB's system outcomes enables RSB to continuously work on improving our standards and programmes.

The RSB Monitoring & Evaluation (M&E) System is designed to measure RSB's success in ensuring sustainable practices in bio-based and circular supply chains. RSB's approach recognises that certification is one part of a broad picture of impact covering outcomes from projects, programmes, advisory services, membership, and the certification system.

RSB monitors its performance by analysing data collected from its certification system, project reporting, and advisory services management system, as well as from stakeholders across these impact areas — through a set of indicators which cover environmental, social, and economic issues, along with the context in which operators work.

Covering the 2020 calendar year and employing continuous data collection methods, this report evaluated actual data on project type, advisory services outcomes, certified volumes produced, GHG emissions reduced, hectares covered, and workers protected in the scope of certification — as well as data about areas in which non-conformities have been identified. In recording and evaluating non-conformities, RSB is able to identify measurable improvements in operators' sustainability and management practices.

RSB also examines the cumulative totals of several indicators since measurement began. These cumulative totals demonstrate both the broad applicability of the RSB Standard by region as well as the diversity of feedstock and products.

About RSB's M&E System

RSB Standards and Programmes are applicable globally, to all types of bio-based or advanced fuels and products from bio-based feedstocks, as well as end-of-life products and production residues — including fossil waste.

RSB's M&E System not only collects actual data on volumes produced, hectares covered, and workers protected in the scope of certification, but also data about where non-conformities have been issued during the certification process. This information helps RSB to draw conclusions about the areas of change and the impacts of the RSB certification system. The results of this M&E reporting period feed into the organisational learning process and help RSB to analyse its evolving footprint in greater depth.

The impacts achieved by RSB-certified operators and other stakeholders implementing the RSB Standard are expected to bring social, environmental, and economic improvements with the certification cycle.

Results from the M&E System feed into the continuous improvement of the RSB Standard, including the policies, guidance, and tools of the certification system, as well as RSB's strategies and activities. Committed to transparency, RSB prepares M&E outcome reports annually and circulates these among RSB stakeholders for commentary and further improvements to the system.

Methodology

Data Collected

RSB monitors its performance by processing data collected among its certified operators and RSB records through a set of outcome indicators that cover environmental, social, and economic issues.

Methods to Collect

The data points required for the RSB M&E System are collected through ongoing certification processes. This data collection method allows the RSB Secretariat to continuously collect actual and third party verified data.

Interpretation and Evaluation

The results obtained through the aggregation of data from certified operators and RSB activities are interpreted and evaluated considering the expected outcomes.

Authors' Qualification

A multi-disciplinary team from the RSB Secretariat is involved in data collection, data analysis, and M&E reporting:

- George Deslandes, RSB Certification Officer (Corporate Responsibility and Sustainability Masters student at the University of London): data collection.
- Aurea Nardelli, RSB Certification Manager (Doctor in Forest Science): data aggregation, analysis and reporting.
- Elena Schmidt, RSB Executive Director (Master's degrees in Environmental and Political Sciences): data analysis and report review.
- Hannah Walker, RSB Marketing & Communications Manager (Bachelor's Degree in International Development and Geography): report content, narrative, design, and publication.

Internal and External Influencing Factors

Influencing factors are factors that influence the effectiveness of RSB activities, but that are out of the direct control of the organisation.

During 2020, the major influencing factor on RSB's activities and outcomes was the coronavirus pandemic. While this reduced the demand for fuel products, decreasing the reported volumes of sales of RSB-certified fuels and thus the amount of GHG reductions by those operators, anecdotal feedback suggests that the changes brought in by lockdowns and new ways of working cemented many companies' commitment to RSB and sustainability.

During RSB's virtual Assembly in October 2020, we polled our members and 96% said that while their organisation had had to change the way it does business in response to the crisis, 96% said that their organisational focus on social and environmental sustainability had increased or remained unchanged.

While the impact on RSB's certification figures (particularly for fuel products) was substantial, demand for RSB advisory services and project work continued to be strong — suggesting that these two areas of impact were less affected.

Potential Limitations Due to Data Uncertainty

Data used in the M&E for evaluating the areas of non-conformities are from the audit reports. Potential limitations are those inherent to any audit process and may be influenced by the sampling selected during the audit, the audit team experience, and

specific operations under development during the audit, among other factors. Data used in the M&E report are extracted from 100% of audit reports, covering all types of operators participating in the RSB system, as well as all CBs and auditors active in the period — reducing the risk of the sampling only covering a limited number of audit documents.

It is important to highlight that RSB's audit procedure requires a reasonable assurance level, meaning that the degree of confidence in the audit findings and certification statement provides a high but not absolute level of assurance regarding historical data and information.

Evaluation Objectives and Scope

Objectives

This report aims to evaluate the results obtained by RSB and evaluate them against the **outcome indicators**, as defined in RSB's Monitoring & Evaluation System.

Specific objectives of this report are to:

- Aggregate data from certified operators and RSB records in order to analyse it and draw conclusions;
- Evaluate RSB's achieved outcomes;
- Feed findings into RSB's general strategic discussions; and
- Comply with the ISEAL Impact Code.

Scope

This evaluation includes all operators certified by RSB, as well as all RSB activities during 2020. It was conducted internally by the RSB Secretariat staff, and is based on data collected by independent third party auditors. Production volumes were calculated for the period of 1 January 2020 to 31 December 2020.

Outcome Indicators

The outcome indicators that guide this report are made up of different data points, which guide our data collection and analysis. These indicators cover each of our Principles and help RSB to ensure that every aspect of the Standard is continuously measured and evaluated.

View the outcome indicators here.

Complying with the ISEAL Alliance Impact Code

The International Social and Environmental Accreditation and Labelling (ISEAL) Alliance lays out an Impact Code which all members of the alliance must comply with. This code specifies the requirements for the development and implementation of a Monitoring and Evaluation system by member Standards. The Impact Code is underpinned by five Credibility Principles, which are the foundation of our Monitoring & Evaluation System:

1. Sustainability
2. Improvement
3. Rigour
4. Transparency
5. Truthfulness

About the RSB Standard

12 Principles for Sustainable Production

The foundation of RSB's Standard is its 12 Principles which describe how to produce fuel, biomass, and material products from bio-based and recycled carbon, including fossil waste, in an environmentally, socially, and economically responsible way. Because of RSB's unique decision-making structure — based on consensus among all relevant stakeholders — the RSB Principles & Criteria are recognised as best-in-class for addressing key sustainability issues in a comprehensive way.

The RSB Principles & Criteria are based on a management and risk-oriented approach. Together with RSB's online tools and related guidance documents, the RSB Principles & Criteria help operators to identify and manage sustainability issues in a specific context and therefore reduce risks for operators, brand owners, and investors.

Structure of RSB's Certification Schemes

To support the applicability and uptake of RSB's approach to sustainability around the world, RSB has produced regulatory standards, adaptations, and voluntary modules in addition to its main Global scheme. These different 'certification schemes' support operators in different contexts to demonstrate compliance with the best-in-class sustainability outlined in RSB's 12 Principles & Criteria.

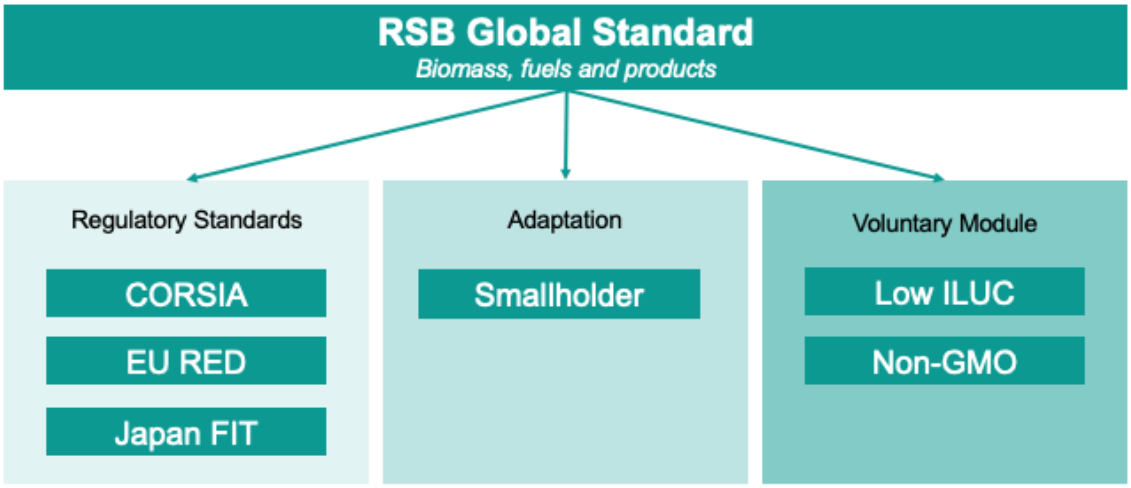

Figure 2: Structure of RSB certification schemes

Implementation of the RSB Standard

RSB recognises that the impact of its Standard goes beyond the realm of certification. Ensuring that RSB's approach to sustainability — widely recognised as the most robust, transparent, and trusted — is incorporated into global and national policy, procurement programmes, impact projects, and more, will support broad-based transition and transformation towards a sustainable bio-based and circular economy.

Implementing the RSB Standard is a journey with certification as one potential end point. This is why RSB reports on certification impacts as well as how the Standard supports outcomes in project work, how RSB Advisory Services are supporting partners to improve and develop new systems and approaches based on RSB's approach, and how the continuous improvement of the Standard via RSB's multi-stakeholder community is building partnerships, consensus, and understanding to further its impact.

RSB Projects

RSB is a mission-driven organisation, working to support, enable, and facilitate the transformation to a sustainable bio-based and circular economy. By working on projects and innovations that unlock practical solutions to challenges faced by policymakers, industry, and those communities most likely to be adversely impacted by this transition — at local, regional and global level — RSB's impact is increased.

Impact Through Projects

RSB's project work impacts three key areas:

- Advancing national and regional policy initiatives.
- Unlocking regional potential.
- Supporting sustainable feedstock production, processing, and trade.

Projects in 2020

In 2020, RSB continued to work in a range of partnerships to further advance the impact of the Standard — far beyond certification. During the year, RSB conducted project work on four continents (Africa, Asia, Europe, and South America).

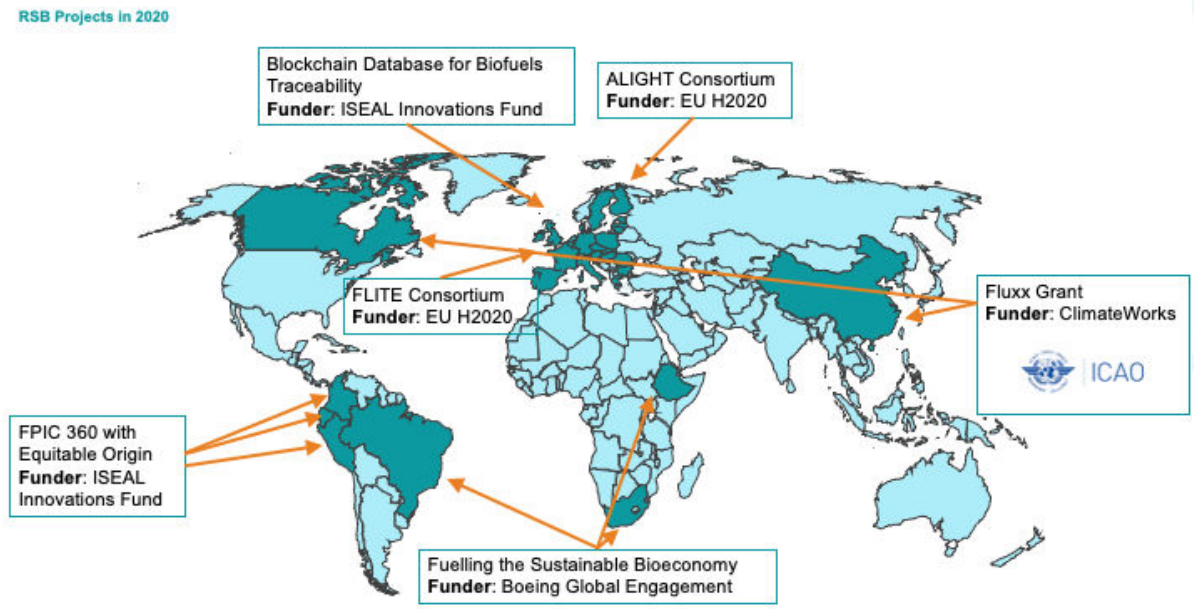

Figure 3: RSB Projects in 2020

Project work in 2020 included:

Fuelling the Sustainable Bioeconomy: a project powered by Boeing's Global Engagement Portfolio

Launched in 2019, *Fuelling the Sustainable Bioeconomy* is an RSB project, powered by Boeing's Global Engagement Portfolio. By supporting the development of Sustainable Aviation Fuel (SAF) — and the broader bioeconomy — based on the RSB Principles & Criteria, the project aims to help the aviation industry play a leading role in tackling the threat of climate change, creating jobs, stimulating economic growth, developing rural livelihoods, and protecting the environment. The year 2020 saw enormous progress in each country where the project is in operation. Highlights include:

a. Laying the groundwork for a SAF roadmap in Ethiopia

In Ethiopia, where the project is leading the development of a SAF roadmap while supporting the development of regional low carbon industry and exploring the economic growth and job creation potential of a local biofuel industry, 2020 saw RSB convening experts and expertise to advance this goal — by examining and uncovering strategies and scenarios for the future development of a sustainable biofuels industry in the country. In June 2020 we shared preliminary findings from this work.

b. Assessing feedstock potential in South Africa

In South Africa, where the project aims to help establish a low carbon economy to create jobs and stimulate economic growth, RSB worked with the South African Canegrowers Association (SA Canegrowers) to identify opportunities for South African sugarcane ethanol to access local and international biofuels markets, particularly for the production of Sustainable Aviation Fuels (SAF). Research conducted jointly by RSB and SA Canegrowers (an RSB member) confirms that South African sugarcane — a crop grown in significant quantities in the north eastern part of the country — provides a wholly viable feedstock for the production of SAF.

c. Partnering on feedstock development in Brazil

In Brazil, the project aims to assess SAF production routes from diversified feedstocks, develop regional supply chains and incentivise the socio-economic growth of smallholders, and support the overall development of the SAF sector. RSB is also working with Soleá, a Brazilian startup aiming to address global challenges in food, energy, and sustainability through the cultivation of macaúba.

Developing a SAF Roadmap in China with ClimateWorks Foundation

RSB is working with its member and partner MotionECO to initiate the development of a roadmap for SAF in China that will help guide growth in the country along a sustainable path. In 2020, this project identified key local and international

stakeholders and brought them together for a workshop to lay the groundwork for the development of a SAF roadmap as well as point out the next steps in advancing SAF production and uptake in China.

Assessing Blockchain Technology to Combat Fraud in Biofuel Supply Chains with ISEAL Innovation Fund

In 2020, RSB worked with member and partner Bioledger to research a blockchain database that could enable verifiable proof of origin, secure consignment creation, process simplification, audit efficiency, data integrity, and central governance for biofuel supply chains. During the year the approach was prototyped and trialled with project partners. The project was made possible by a grant from the ISEAL Innovations Fund, which is supported by the Swiss State Secretariat for Economic Affairs (SECO).

Case Study: Brazil

RSB has a long-term commitment to advancing the bio-based and circular economy in Brazil. RSB has worked on projects there since 2013, when the RSB Smallholder Standard was piloted on-site with a soybean cooperative, leading to the finalisation and approval of the standard. RSB has had fully certified operators, including smallholder groups, in the country since 2014.

During 2020, work in the country focused on developing SAF pathways that support local socio-economic development, reduce greenhouse gas emissions, and ensure the survival and regeneration of ecosystems.

2020: RSB's Work in Brazil		
Advancing national & regional policy initiatives	**Unlocking regional potential**	**Supporting sustainable feedstock production**
Launched development of a SAF calculator to evaluate the technical and economic feasibility of production routes.	Assessed the availability of waste and residues for SAF production in the country.	Worked with Soleá, a Brazilian startup that aims to address global challenges in food, energy and sustainability through the cultivation of macaúba.
Worked with the Brazilian Association of Bioinnovation (ABBI) to support public policy development and action on decarbonisation.		Engaged with Omega Green, the first commercial-scale facility in Latin America for SAF production, to encourage uptake of RSB certification.

RSB Advisory Services

Amplifying the impact of the RSB Standard by assisting partners to prepare for certification and implementing best practices described in the Standard, RSB has made a tangible impact in multiple areas.

Companies	Governments	Partners
Growing and embedding real sustainability in operations by: • assessing sustainability risks in operations and investment decisions; • assessing availability of sustainable feedstock and alternative fuels as a basis for alternative fuel strategies; • providing input on sustainability strategies; and • assisting with preparations for RSB certification.	Integrating sustainability into legislative approaches.	Developing platforms for stakeholders from across industry, civil society, and government to work together.

Since 2016, through its advisory services, RSB has assisted 32 organisations — representing eight sectors in 23 countries — to improve their practices on the ground. Some of these projects will lead to RSB certification, while others, like the development of RSB indicators in various regions, remove barriers for other operators.

There were 13 Advisory Services projects active in 2020, covering 10 countries and six sectors: Shipping, Ground Transport, Energy, Aviation, Chemicals & Polymers and Retail.

Through these 13 projects, our experts were able to provide hands-on sustainability expertise on the ground on five continents, with income from advisory services increasing by 26% from 2019.

Through training for implementation of RSB standards, analysis of sustainability standards or management practices in the supply chain, development of sustainable sourcing protocols — and more — we have assisted the organisations and companies we work with to navigate the new challenges and opportunities presented by the development of a sustainable circular and bio-based economy.

- **Countries that we worked in:** Argentina, China, Denmark, Japan, Myanmar, the Netherlands, and the US.
- **Type of services we offered**: Certification preparation and training, sustainability protocols, GHG emission calculation, gap analysis, and supply chain mapping

From these projects, four resulted in new RSB certifications or new applications in 2020, and six in improvements to sustainability strategy, policies and/or practices.

RSB Certification

Key Indicators

Year on year changes

Indicators	2019	2020
Percentage of operators processing or trading waste and residue materials	56%	46%
Total amount of RSB-certified products (fuel and advanced products) sold by the certified operators (metric tons)	432,620	274,303
Amount of alternative fuel produced by certified operators (metric tons)	322,375	218,971
Savings on CO2 emissions from fuel (metric tons)	582,202	375,016
Workers protected	4841	7052
Certified cultivated area (hectares)	16,841	18,898

Cumulative Totals:

Number of certificates since 2012	48
Number of countries since 2012	42
Number of feedstocks since 2012	25

Diversity

RSB is a feedstock-agnostic standard which can certify complete supply chains, as well as novel biomass and bio-based or advanced material technologies, including fossil-based waste and end-of-life materials. As such, RSB's system can include oil and sugar-based biofuels, cellulosic ethanol and chemicals, renewable diesel and alternative fuels for aviation, bio-based and advanced plastics, lubricants, and other chemicals. In 2020, 18 different types of feedstock were covered by current certificates — an increase from the 15 covered in 2019.

The total number of feedstocks that have been certified by RSB since 2012 is 25. This diversity highlights RSB's applicability for a wide range of feedstocks and means that operators with a variety of feedstocks, processes, and products can demonstrate their sustainability within a single certification system.

Feedstocks that have been certified by RSB since 2012 include:

Crop / plantations-based feedstock	Wastes & residues feedstocks	Intermediary products used as raw materials in RSB certified supply chains
Camelina	CO flue gases	Renewable naphtha
Carinata	Crude glycerin	Bio-attributed Ethylene
Coconut	Starch from industrial wastewater	Bio-attributed Benzene
Corn	Tall oil	Bio-attributed Styrene
Hybrid poplar	Tallow and other animal fat residues	Bio-attributed polymers
Jatropha curcas	Used cooking oil (UCO)	Polymers with recycled content
Macaúba (*Acrocomia aculeata*)	Grease trap oil	
Sugar cane	Molasses (C-grade)	
Solaris (tobacco)	Waste plastics	
	Gliricidia tree sticks	

Certification Types

In 2020, 33% of all of RSB's certifications were to the EU RED Standard (RED I), while 67% of certifications were to the Global Standard.

RSB's EU RED certification consists of a set of RSB standards documents recognised by the European Commission for certifying biomass and biofuels as compliant with the requirements of the EU RED (European Renewable Energy Directive on the promotion of the use of energy from renewable sources).

The RSB Global Standard includes fuels for the non-EU market, as well as non-energy products ("Advanced Products").

Waste and Residues

Due to the important role of wastes and residues in the circular economy, RSB began to monitor the specific volume of these feedstocks amongst our operators in 2018. In 2020, 46% of certified operators were direct processing or trading end-of-life products and/or production residues. When the advanced products that use intermediary chemicals or polymers originally produced from wastes or residues are also considered, this percentage increases to 71% — a continued growth that highlights both the applicability of the RSB system to this type of feedstock and the importance of waste and residue materials in achieving sustainable growth in a multitude of markets.

By producing fuels or raw materials for advanced products from wastes and residues, certified operators are able to significantly reduce pressure on agricultural land and natural resources. The 221,970 metric tons of RSB-certified products generated from wastes in 2020 would have required the equivalent of 190,696 hectares of agricultural land if the same volume been produced from a dedicated oil crop (e.g., biodiesel from rapeseed plantations).

RSB has defined a credible approach for using waste and residue material for fuels and products, and is supporting participating operators in entering this developing market with clear sustainability and traceability objectives.

Diversity of Product Types

The diverse feedstocks in the RSB certification system in 2020 were used to produce a variety of products to be used across industry sectors — from aviation to road transport, chemicals, and packaging. Some products (the chemicals listed below) are sold as raw materials into other certified supply chains to be used in intermediary and final products.

- Epichlorohydrin
- Renewable naphtha
- Renewable diesel
- Ethanol
- Biodiesel
- Biogasoline
- Biogas
- Ethylene
- Propylene
- Butadiene
- Benzene

- Toluene
- Polyethylene (HDPE and LDPE)
- PVC (polyvinyl chloride)
- Polypropylene
- Styrene and polystyrene
- Steam/heat (utilities for other industry)
- Sustainable Aviation Fuel (SAF)
- Vinyl flooring
- Packaging using bio-attributed and recycled polymers

Operator Coverage

The RSB M&E System measures certified operators, operational sites included in the scope of certification, and countries of operation. RSB saw an increase in the number of industrial sites and trade offices covered by the certification system from new certifications during 2020 — with much of this attributed to uptake of the RSB Advanced Product Standard by industrial operators.

	Certificates	Industrial Sites & Trade Offices*	Farms	Countries
October 2014	17	23	166	14
December 2016	20	49	472	18
December 2017	23	58	464	19
December 2018	18	44	291	20
December 2019	18	52	101	20
December 2020	24	110	171	36

* excludes “points of origin” for wastes and residues.

Understanding Uptake of the Standard

The increase in the number of sites and countries from 2019 to 2020 was driven by the high number of new Advanced Products certificates issued in 2020 (six) along with the expansion of current certificates covering multiple industrial sites and a number of trading offices and distributors within the certification scopes.

The number of farms increased as a result of the new certificates issued, including biomass producers and an extension of the scope of existing certificates to include additional farms under RSB certification.

The certification termination rate in 2020 was 4.2%, with 2020 being the first year that RSB measured the retention of operators in the certification system.

In 2020, the average longevity of RSB certificates was two years and four months. The oldest certificates (renewed through successful re-certification cycles) were first issued in 2012.

Since 2012, RSB has issued 48 certifications for Operators with sites or trading offices in 42 different countries for 25 different feedstocks.

GHG Emissions

In 2020, RSB-certified operators sold **221,970 metric tons of alternative fuels**.

The volume of RSB-certified fuels sold in 2020 decreased by 31% when compared with 2019. This was driven by internal factors like company prioritisation and external factors such as decreased demand for certain products and the impact of coronavirus lockdowns on operator workflows. This included:

- The termination of the certification of a big fuel producer in 2020 (an internal decision made by the operator).
- The impact of the coronavirus pandemic which resulted in a decreased demand for fuels — leading to reduced production and sales of certified fuels.
- Participating Operators, faced with new working conditions as a result of the pandemic (such as staff working from home), found it more challenging than usual to close non-conformities raised during audits. This resulted in the temporary suspension of the certificate of one of RSB's largest fuel producers.

All operators comply fully with RSB's Principle 3 on Greenhouse Gas (GHG) emissions, meaning the produced amount of RSB-certified alternative fuels corresponds to an **emissions reduction of 375,016 metric tons CO2eq.** This figure represents a year-on-year decrease in the volume of emissions avoided — for the first time since RSB began to collect this data in 2016. The emissions saved are directly proportionate to the volume of fuels produced, which has dropped in 2020 due to the external factor explained above.

The GHG emissions avoided through fuel produced by RSB-certified operators in 2020 are equivalent to the emissions of almost 1480 flights between London and Tokyo.

Avoided GHG emissions in 2020 were equivalent to 1480 flights from London to Tokyo. A reduction on previous years, based on the 31% decrease explained above.

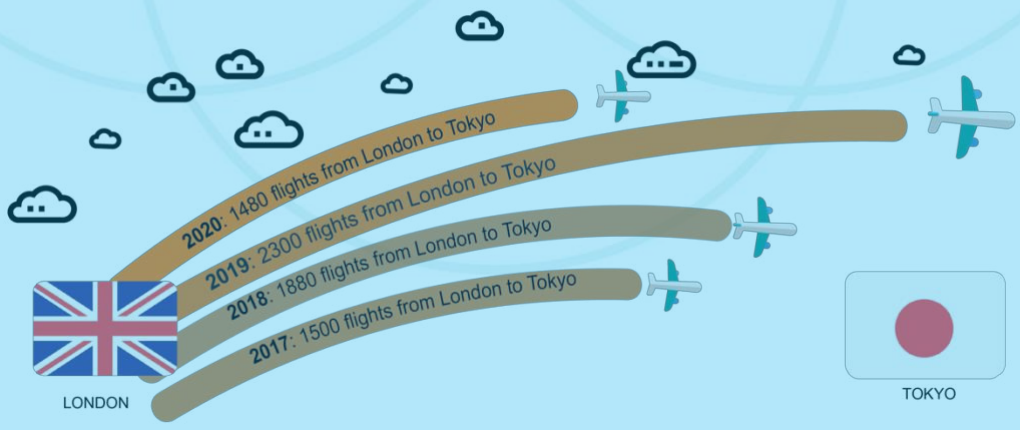

Figure 4: GHG emissions avoided as flights from London to Tokyo

Since 2012, RSB-certified operators have produced GHG emissions savings of 2,573,031 metric tons of CO2eq — equivalent to a large container ship making 75 trips around the equator[2].

[2] Based on a large container ship (average cargo capacity = 68,600 tonnes) with a CO2 efficiency of 12.5 gCO2/tonne-km (Source: 2nd IMO GHG study: http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Documents/SecondIMOGHGStudy2009.pdf)

Environmental and Social Aspects

18,898 hectares of cultivated land is protected by RSB certification — an increase from 2019's 16,841 hectares.[3]

On this land, responsible and sustainable practices are implemented as per RSB's Principles & Criteria:

- Soil erosion reduction and soil conservation practices
- Improvement of soil quality
- Water management
- Protection of conservation values

RSB Certification ensures that **7052 workers are protected by our requirements** for human and labour rights, including:

- Freedom of association
- No slave labour or forced labour
- No child labour
- No discrimination
- Minimum wage
- Safety and health
- Grievance mechanisms for workers

[3] *A note on calculations: in previous years the number has indicated the total area of the farmland within the operation (including non-farmed areas). Since 2018, this calculation is based only upon cultivated lands where the RSB Principles have been implemented.*

Non-Conformities

A non-conformity can be raised during an RSB assessment when the auditors find that an operator is not conforming with an RSB requirement. Once identified, the operator is given time to correct the issue. Depending on the severity of the non-conformity, the operator will be allowed between three and 12 months in which to reach conformity.

The requirement that all non-conformities must be closed by certified operators in the defined timeframes means that RSB has a direct impact on improving the social and environmental performance of these operators and driving the implementation of good practices at farms and industrial facilities.

An analysis of valid certificates in 2020 found the following regarding non-conformities raised during RSB audits[4] against the RSB Principles & Criteria:

- 38% of the non-conformities were related to Environmental requirements (GHG reduction, conservation, soil, and water and air).
- 20% of the non-conformities were related to Social requirements (labour and human rights, rural development, food security, and land rights).
- 25% of the non-conformities were related to RSB's requirement for Planning, Monitoring, and Continuous Improvement under Principle 2.
- The remaining non-conformities were related to legal, technical, and other requirements.

This distribution of the types of non-conformities remains much the same as in previous years and indicates the key areas where RSB continues to have a tangible impact in ensuring improvement.

[4] Number of non-conformities and observations raised during the main and surveillance audits, considering the certificate validity period.

Planning, Monitoring, and Continuous Improvement

RSB is committed to achieving positive impacts across the entire bio-based and circular supply chain. By supporting operators and auditors with tools and guidance to identify risks and non-conformities, RSB is helping to deliver measurable improvements in sustainability.

RSB's Principle 2 on Planning, Monitoring, and Continuous Improvement has been specifically developed to support operators in making ongoing improvements to their operations. Principle 2 requires that: "Sustainable operations are planned, implemented, and continuously improved through an open, transparent, and consultative impact assessment and management process and an economic viability analysis".

RSB observed that 25% of total non-conformities in the RSB system were related to Principle 2.

By supporting operators in continuously measuring and improving their sustainability performance, through our unique sustainability management system that helps operators to achieve and maintain their certifications, RSB is able to ensure a measurably positive impact for our operators — and to reduce risks for brands, investors, and the rest of the value chain.

This management system ensures that operators:

- undertake an impact assessment process regarding their social and environmental impacts and risks, and ensure sustainability through the development of effective and efficient implementation, mitigation, monitoring, and evaluation plans;
- implement good practices for stakeholder engagement and consultation;
- implement and maintain a transparent and easily accessible grievance mechanism for directly affected local communities; and
- make adequate resources available to ensure compliance with the RSB Standard.

Sustainability at Industrial Sites

In addition to Principle 2, RSB's other **sustainability principles** are applied at industrial sites. With the growing uptake of waste-based production (where primary production may not require sustainability certification), this is particularly important as RSB ensures that working conditions, health and safety, and air quality — as well as GHG emission reductions — are assured **in the industrial setting**.

Non-conformities at industrial sites in 2020:

29% Principle 2 on Planning, Monitoring and Continuous Improvement
15% Principle 3 on Greenhouse Gases
22% Principle 4 on Human & Labour Rights[5]
5% Principle 10 on Air Quality

This indicates that RSB's system was able to contribute to improving the implementation of Human and Labour Rights at industrial site level in 2020.

By supporting industrial sites in resolving issues related to these RSB Principles and encouraging industry to improve sustainability using the RSB framework, a tangible improvement is assured.

[5] Specifically, the main source of Human & Labour Rights non-conformities are related to training, use of protective equipment and the implementation of health & safety policy.

Evolution of the RSB Standard

RSB is committed to maintaining its position as the most innovative standard for operators looking to demonstrate their commitment to credible sustainability.

Importantly, continuous improvement extends to RSB's own standards, which are evolving to best reflect the needs of operators around the world — in many different contexts and considering new sustainability challenges.

RSB Membership

Work to update the Standard is led by the RSB Secretariat, with the direct involvement of RSB's multi-stakeholder community of members. Ensuring that the voices of civil society and business are given an equal footing is vital for ensuring the credibility and practicality of the RSB Standard. This continuous improvement of the Standard continues to build partnerships, consensus, and understanding to further the impact of this uniquely robust approach.

By the end of 2020, RSB had 100 members.
New members joining RSB in 2020 were:

- Bioledger Ltd.
- Boom Technology, Inc.
- Celtic Renewables Ltd.
- INEOS Europe AG
- Kisii University, Kenya
- Nuseed Ltd.
- SA Canegrowers Association
- Saipol (Groupe Avril)
- Soleá Brasil
- Stahl Holdings b.v.
- Tasma Bioenergy Pte. Ltd.
- Tensei Ltd.
- United Airlines, Inc.
- WESAF Group
- Xpansiv CBL Holding Group (XCHG)

Standard Developments in 2020

In order to support uptake in regulated markets, RSB employs several adaptations that enable operators to use the RSB standard for proving compliance with both

RSB's sustainability requirements and regulatory requirements specific to their region or industry.

In 2020, RSB submitted its updated EU RED Standard for approval against the recast requirements of the European Union's Renewable Energy Directive (RED II).

During the year we also applied for and received formal recognition by ICAO (International Civil Aviation Organisation) of our Standard adaptations for the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) scheme for aviation decarbonisation, and for Japan's Feed-in-Tariff (FIT) requirements for the incentivised production of renewable energy from biomass.

RSB also updated its Procedure on Communications and Claims to launch updated logos and labels for certified operators and members, reflecting imminent requirements for clear on-product labelling.

In 2020, the RSB Board adopted new versions of the RSB Procedure for Risk Management and RSB Risk Assessment Tool for a one-year pilot. This process aimed to ensure that the procedure and tool are fit for purpose in achieving their aims of identifying and addressing the risks of participating operators when implementing RSB requirements; supporting Participating Operators, Certification Bodies and the RSB Secretariat in focusing on those areas of implementation which add risk; increasing auditing efficiency and simplifying the auditing process; allowing for flexibility in auditing requirements based on risk levels; and enhancing the stability and integrity of the RSB certification system.

RSB also initiated a General Standards Working Group in 2020. This group aims to provide ongoing feedback and support to the RSB Standards team, with a focus on inputting to the annual standards work plan; inputting to core standards revisions and new developments; and examining feedback from RSB system users as well as results from certification oversight. The General Standards Working Group has also been leading work among RSB members on a Standard Amendment for Woody Biomass to reflect both the growing demand for woody and wood-derived biomass for electricity, heat, and fuel production and increasing concerns around its climate and ecosystem impact. Finalisation of RSB's approach is expected in 2021.

Continuous Improvements to the RSB System

Ensuring the clarity and usability of the RSB Standard for all operators in all circumstances is a key goal of RSB and is essential to supporting its ongoing impact.

During 2020, RSB provided general improvements to the RSB system, as well as specific guidance that reflected the challenges presented by the global coronavirus pandemic.

These included:

- Guidance on remote audits and updates to audit schedules — to account for travel and other restrictions put in place globally to contain the coronavirus pandemic.
- The launch of new on-product logos and labels for use on consumer-facing products, reflecting the growing uptake of the RSB Standard for materials.
- New handbooks on the Advanced Products Standard to provide a simple overview of the requirements of the system for advanced product producers and supply chain companies.
- Improvements to the RSB website, providing a simplified step-by-step guide for all operators to getting certified.

Public Recognition

Four new public recommendations/endorsements for RSB were registered in 2020.

Endorsement and Recommendations:

- **ATAG's Waypoint 2050 report** on balancing aviation growth with tackling the climate emergency, in which they identify joining RSB as the easiest action that can be taken by the aviation industry today to help accelerate an energy transition.
- **SURVIVAL, Canopy's Action Plan for Saving Forests and Climate** recommends RSB Certification for agricultural fibre products in order to ensure sustainable removals, maintainance of soil carbon, and overall social and environmental sustainability.
- **The Bioplastics Feedstock Alliance (BFA)** recommends the RSB methodology for determining wastes and residues, as described in the Advanced Fuels and Advanced Products Standards.
- In their new report, "**Can I recycle this?** A global mapping and assessment of standards, labels and claims on plastics packaging", **UNEP and Consumers International** recognise RSB as the only label for bioplastics packaging that is reliable and addresses feedstock sustainability.

Conclusions

Through the continuous monitoring and evaluation of our work, RSB is able to identify areas for improvement and key trends that support us as we shape our best-in-class Standard and many other activities that are helping to drive a sustainable economy.

In spite of a challenging year as a result of the coronavirus pandemic, RSB continued to grow and evolve. By quickly moving to support operators impacted by the pandemic with guidance for evaluating case-by-case of remote audit requests, certification uptake registered strong growth.

By providing a practical and credible approach to sustainability, the RSB system supports operators in using the certification process as a mechanism for resolving any social and environmental challenges in their operations — as evidenced through the resolution of non-conformities.

A range of solutions beyond certification ensure that RSB is creating real impact around the world by supporting the continuous improvement of social and environmental practices. These are underpinned by a strong portfolio of project and advisory services work. With a clear footprint of services delivered on every continent, RSB is able to build best practice on the ground through certification, policy support, advice, sustainable supply chain development, market engagement and communications, partnerships, and much more.

The number of feedstocks in the RSB system continues to grow, reflecting the breadth and applicability of the RSB Standard. This growth is particularly strong for wastes and residues, as more and more companies look to utilise these feedstocks and contribute to the circular economy. The impact is clear when looking at the amount of agricultural land that would have been required to produce the volume of product that RSB has certified from waste and residue streams in 2020: 190,696 hectares.

Uptake of the RSB Standard remains strong and retention levels for existing certificates is high. RSB registered growth across all sites in 2020: farms, industrial sites and offices, and the countries represented in the system. Reflecting the challenges to the industry in 2020 as a result of the pandemic, RSB saw a drop in the

volume of fuels sold and the resultant emissions avoided to pre-2017 levels. Looking forward, RSB's position in the fuels market looks strong, with recognition by ICAO for CORSIA certification in December 2020 and RSB's submission to the European Union for the recast requirements of the Renewable Energy Directive (RED) likely to drive demand.

Beyond fuels, biomass for heat and power represents an exciting new market for RSB. In April 2020, Japan's Ministry for Economy, Trade and Industry (METI) recognised RSB's adaptation of its standard to enable biomass producers and traders to demonstrate compliance with the sustainability and traceability requirements of RSB and unlock access to Japan's Feed in Tariff (FIT) system. This led to strong interest in RSB in the Japanese market, with RSB's team engaged with many companies in Japan and beyond, leading to six certification applications in 2020 and the roll out of two advisory services contracts.

The demand for RSB certification for materials continued to grow rapidly in 2020 and our team engaged thoroughly with the chemicals and polymers sector in particular to support these companies in understanding the power of the RSB approach and its applicability for the sector, as well as prepare for certification. This resulted in 11 certification applications from the materials sector and five new certificates issued (including two scope extensions).

In order to ensure the system remains a practical tool for its users, RSB worked hard in 2020 to improve its usability and support users in better understanding the system. This included updates to the RSB website, new booklets and guidance for users, webinars for system users, and more — steps that were rewarded with positive feedback from users and a growing list of RSB operators. This is a process that does not stop: RSB is committed to the continuous improvement of its systems to ensure its ongoing applicability, credibility, and practicality for those committing to sustainability.

CONTACT DETAILS

If you would you like to learn more about RSB's approach to monitoring and evaluation of our impacts or make comments on this report, please contact *info@rsb.org*

Elena Schmidt
Executive Director
Lead: Shipping
elena.schmidt@rsb.org

Nicola Noponen
Standards Director
Lead: Chemicals & Polymers
nicola.noponen@rsb.org

Aurea Nardelli, PhD
Certification Manager & Technical Advisor
aurea.nardelli@rsb.org

George Deslandes
Certification Officer
george.deslandes@rsb.org

Arianna Baldo
Lead: Aviation
arianna.baldo@rsb.org

Carolina Grassi
Business Development Lead - Latin America
Lead: Ground Transport
carolina.grassi@rsb.org

Tina Gyane
Finance & Administration Manager
tina.gyane@rsb.org

Hannah Walker
Marketing & Communications Manager
Lead: Textiles & Fibres
hannah.walker@rsb.org

Simone P. Souza
Project and Business Development Analyst
simone.souza@rsb.org

Yitatek K. Yitbarek
Project Manager - Ethiopia
Lead: Energy
yitatek.yitbarek@rsb.org