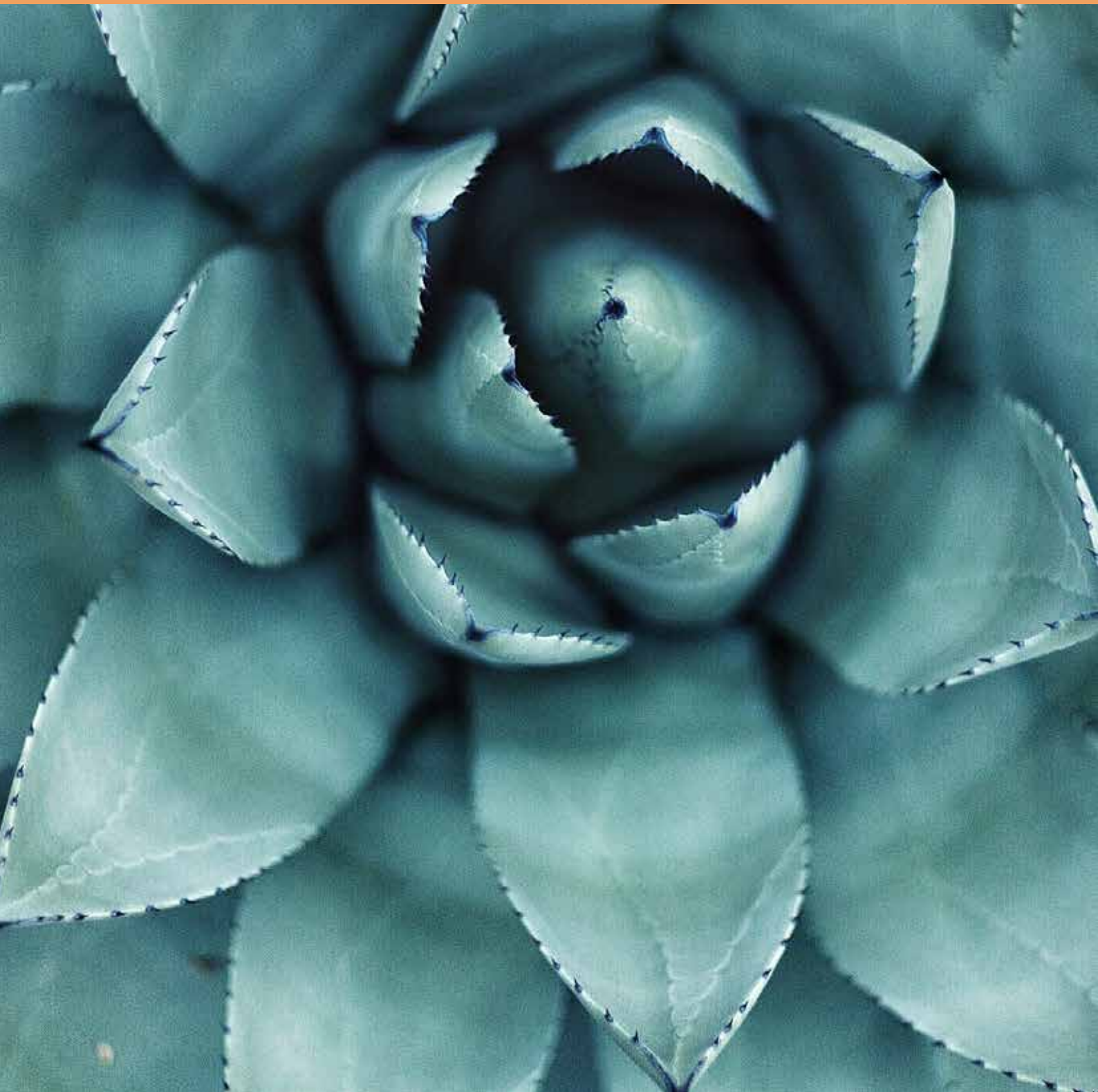


UNDERSTANDING OUR FOOTPRINT



RSB
Roundtable on
Sustainable Biomaterials
www.rsb.org

Outcomes of RSB's Monitoring & Evaluation System in 2017



EXECUTIVE SUMMARY

RSB is committed to the continuous monitoring, evaluation and improvement of our standard and certification system. Since 2016 we have been compiling our short and medium-term assessments into a public report to help our stakeholders understand our work and how it is contributing to the sustainable development of the bioeconomy in communities worldwide. This year's report is bolstered by a much improved data collection process that is helping to ensure the accuracy of our reporting.

2017's results confirmed the continued growth in the diversity of feedstocks in the RSB's feedstock agnostic system and, of particular note, the important role of waste and residue materials. With 48% of operators using waste and residues in their supply chains, RSB certified products are significantly reducing pressure on agricultural land. The types of RSB certified products has not changed significantly since 2016, although the share of aviation biofuel has increased to 11% of all certificates.

The growth of the system has been most notable for sites – rather than operators – highlighting the practicality of the RSB Standard, which allows operators to use the same certification process for many different production sites and partnerships with other companies under the same management system.

The 212,790 MT of biofuels produced by RSB certified operators equals a saving of 406,365 MT in CO₂ emissions – corresponding to 1500 one-way flights from London to Tokyo! In 2017, the number of workers protected by RSB's requirements on human and labour rights almost tripled to 5339 from 1941 in the year before.

We found that 23% of all non-conformities among operators were related to social aspects of the Standard, while 40% were environmental. By requiring that all non-conformities are dealt with within defined timeframes, RSB is having a tangible impact on social and environmental performance.

Overall, 2017 has seen considerable growth in our system and, as is also reflected in the development of other areas of RSB's work, the increasing relevance of our work in developing a bioeconomy based on real impact and true sustainability.

INTRODUCTION

The regular monitoring and evaluation of RSB certification outcomes enables us to continuously work to improve our Standard and certification system. This Monitoring & Evaluation Report presents data from our operators, evaluates outcomes, and provides a basis for the strategic development of the RSB Standard – and the organisation as a whole.

The RSB Monitoring & Evaluation (M&E) System is designed to measure RSB's success in ensuring sustainable practices in biomass supply chains. The RSB monitors its performance by processing data collected among its certified operators and other stakeholders through a set of indicators, which cover environmental, social and economic issues and the context in which operators work.

The results are compared to the outcome indicators, as defined in RSB's Monitoring & Evaluation System which describes the short-term, mid-term and long-term effects the RSB is expected to have in terms of contributing to developing a sustainable bio-based economy.

Covering the 2017 calendar year and employing continuous data collection methods, this report evaluated actual data on volumes produced, GHG emissions reduced, hectares covered and workers 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 practices.

Continuous Improvement through Monitoring & Evaluation

The RSB M&E System is applicable globally and to all types of biomass and derivatives. The sustainability impacts achieved by RSB certified operators and other stakeholders implementing the RSB Standard are expected to bring social, environmental and economic improvements over a short, medium or long term. RSB performance monitoring is based on a set of outcome indicators, data collection methods and data management, evaluation processes, stakeholder involvement and transparency.

Results from the M&E system feed into the continuous improvement of the RSB Standard, Policies, Guidance and Tools of the certification system, as well the RSB strategies and activities. Committed to transparency, the RSB prepares M&E Outcome reports annually and circulates these amongst RSB stakeholders for comments and further improvements to the system.

EVALUATION OBJECTIVES AND SCOPE

Objectives

This Outcome Evaluation Report aims to evaluate the results obtained by the RSB and compare them to 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 this information and draw conclusions
- Evaluate achieved outcomes of the RSB
- Feed into general strategic discussions at the RSB
- Comply with the ISEAL Impact Code

Scope

This Outcome Evaluation includes all operators certified by the RSB and all RSB activities as of December 2017. The evaluation was conducted internally by RSB Secretariat staff and is based on data collected by independent third-party auditors. Production volumes were calculated for the balancing period of 1 January 2017 - 31 December 2017.

Outcome Indicators

The outcome indicators which guide this report are made up of 42 different datapoints, which guide our data collection and analysis. These 42 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](#).

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 & 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

METHODOLOGICAL APPROACH



Data Collected

The RSB monitors its performance by processing data collected among its certified operators & RSB records through a set of outcome indicators, which 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.

DATA COLLECTION

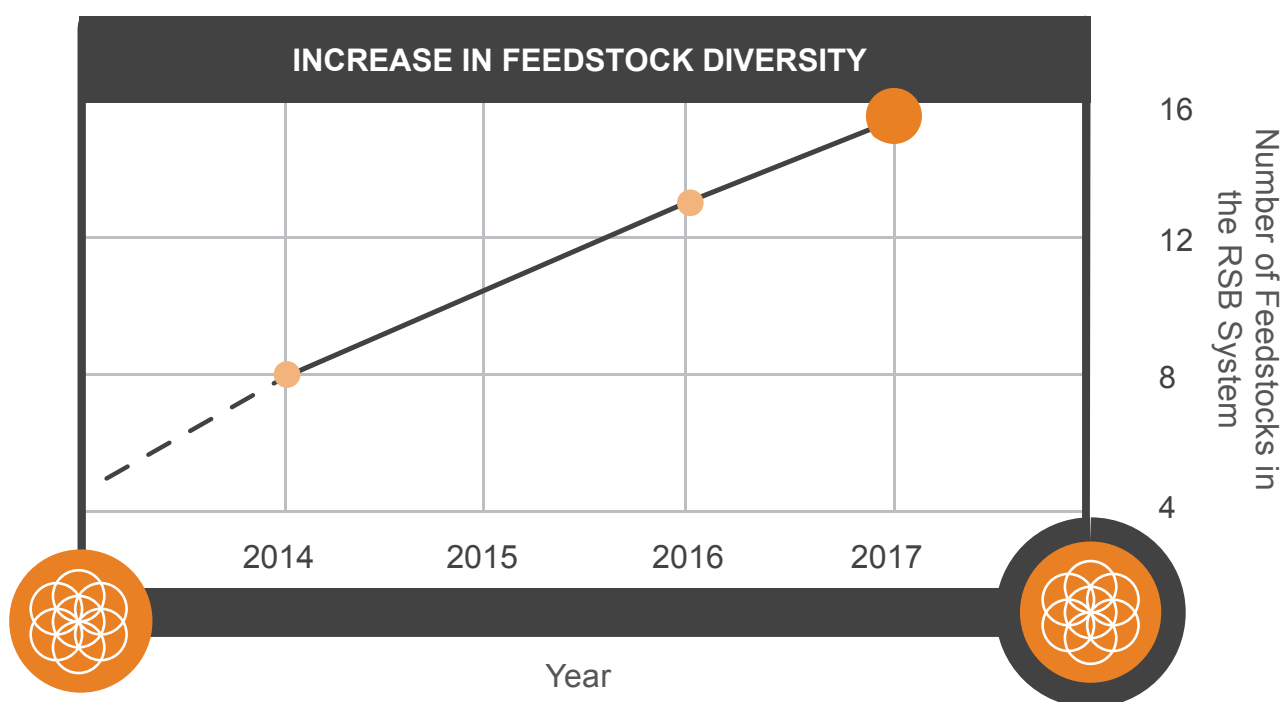
The RSB collected data continuously in 2017.

Since 2016, RSB has changed the data collection system to continuously collect data through the certification process. This change improved the availability of actual verified third-party data considerably. Not only does the RSB M&E System now collect actual data on volumes produced, hectares covered and workers in the scope of certification but also data about areas in which non-conformities have been issued. 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 will feed into the organisational learning process and will help to analyse the areas of change in greater depth, in order to gain more knowledge about the impacts of RSB's work.

UPTAKE OF THE RSB STANDARD

Diversity

RSB is a feedstock agnostic standard which can certify complete supply chains, as well as novel biomass and biomaterial technologies such as oil and sugar based biofuels, cellulosic ethanol and chemicals, renewable diesel and alternative fuels for aviation, bioplastics, bio-lubricants and other bio-based chemicals. In 2017 feedstock diversity grew by 23%, from 13 to 16 feedstocks represented. This diversity highlights RSB's applicability for a wide range of feedstocks and it also means that operators with a variety of feedstocks, facilities and operations only need to use one certification system.



*Feedstocks included in the RSB System in 2017 are (new feedstocks in 2017 in **bold**):*
Wheat starch, sugarcane, used cooking oil, yellow grease, carinata, waste CO gas, energy tobacco, camelina, glycerol, coconut, gliricidia, macauba, industrial waste, **tall oil, tallow and grease trap oil**.

Certification Types

In 2017, 65% of all RSB Certifications were to the EU RED Standard, while 35% of certificates were to the Global Standard.



UPTAKE OF THE RSB STANDARD

In response to the important role of wastes & residues in the bioeconomy, in 2017 RSB began to monitor the specific role of these feedstocks among our operators. 48% of Certified Operators are using wastes and/or by-products in their biomaterials or biofuels supply chains

By producing biofuels from wastes and residues, certified operators are able to significantly reduce pressure on agricultural land. The volume of RSB certified biofuels produced from wastes in 2017 would have required the equivalent of 175,000 hectares of agricultural land, had the same volume been produced from a dedicated crop (e.g. biodiesel from rapeseed plantations).

These materials are becoming a crucial part of the feedstock mix and their use reduces the pressure on land and natural resources. The RSB has defined a credible approach for using waste and residual material for advanced fuels production and is supporting participating operators to enter this developing market with clear sustainability and traceability objectives.

175,000
HECTARES

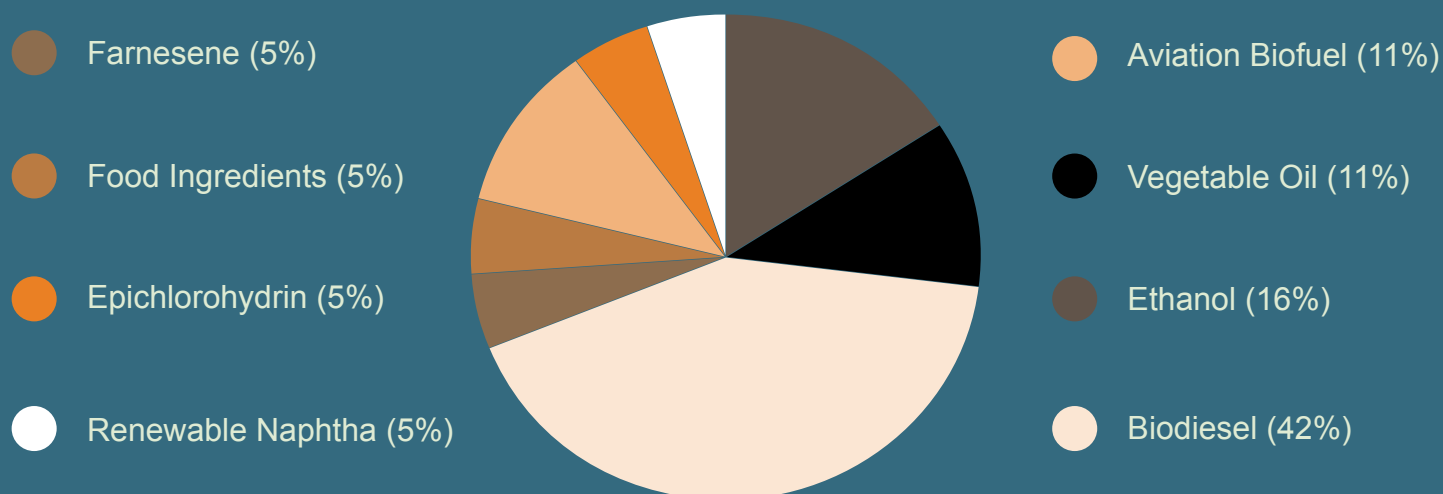


Reduction in agricultural
land use

**THROUGH PRODUCTION
FROM WASTE & RESIDUES**



DIVERSITY OF PRODUCT TYPES



In 2017 we welcomed an additional aviation biofuel producer, certified at a commercial scale and the first RSB operator of this kind in the Americas.

GROWTH OF THE RSB STANDARD

The RSB M&E System measures certified operators, operational sites included in the scope of certification and countries of operation. Since the last outcome report, the RSB saw growth in most categories:

Outcome Report	Operators	Industrial Sites & Trade Offices	Farms	Countries
October 2014	17	23	166	14
December 2016	20	49	472	18
December 2017	23	58	464	19

The number of industrial sites & trade offices grew quite significantly in 2017 while there was incremental growth in total operators certified. A unique characteristic of the RSB standard is that it allows operators to define the scope of certification according to their own management structure. Operators can include multiple sites and other companies in their scope of certification if the overall implementation of the RSB standards is ensured by their management system. The small drop in the number of certified farms is indicative of the need for greater market access for producers – farms that have not re-certified in 2017 have already implemented improved sustainability and land practices and are considered *certification ready*.

GHG Emissions

RSB-CERTIFIED OPERATORS PRODUCED

212,790 MT of biofuels

All operators fully comply with the RSB Principle 3 on Greenhouse Gas emissions, meaning the produced amount of RSB certified biofuels

CORRESPONDS TO AN EMISSIONS REDUCTION OF

406,365 MT of CO_{2eq}

A NOTE ON CALCULATIONS:

We calculate the reduction in GHG emissions by using the average emission rate of CO₂ eq that would be released by fossil fuel-based transportation activities.



The avoided GHG emissions through RSB certified operators in 2017 correspond to the emissions of almost **1500 flights between London & Tokyo**.

1 kg of jetfuel releases 3,15 kg of CO₂ - a London-Tokyo trip consumes 80MT of fuel and releases 254 MT of CO₂
(Source: ICAO Carbon Emissions Calculator)



The GHG emissions avoided by RSB certified operators are equal to the emissions of **19.3 billion cups of coffee!**

The carbon footprint of one cup of coffee is 21g CO_{2eq}
(Source: The Guardian)

Since RSB's beginning (2012)

TOTAL EMISSIONS OF

1,138,661 MT of CO_{2eq}

were prevented

Environmental & Social Aspects



54,240
hectares of land
is protected by RSB
certification

This 2000 hectare drop from 2016 (56,785 ha) is due to the decrease in cultivation area of some operators. This land is considered *certification ready*, having previously implemented RSB's Standard.

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

- *Soil erosion reduction and soil conservation practices; improvement of soil quality*
- *Water management*
- *Protection of conservation values*



5339
workers
are covered by
RSB certification

The number of workers covered by RSB certification has nearly tripled from 2016 (1941 workers). This increase is due to the growth in RSB-certified industrial sites & trade offices.

RSB Certification ensures workers are protected by our requirements on 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 mechanism for workers*

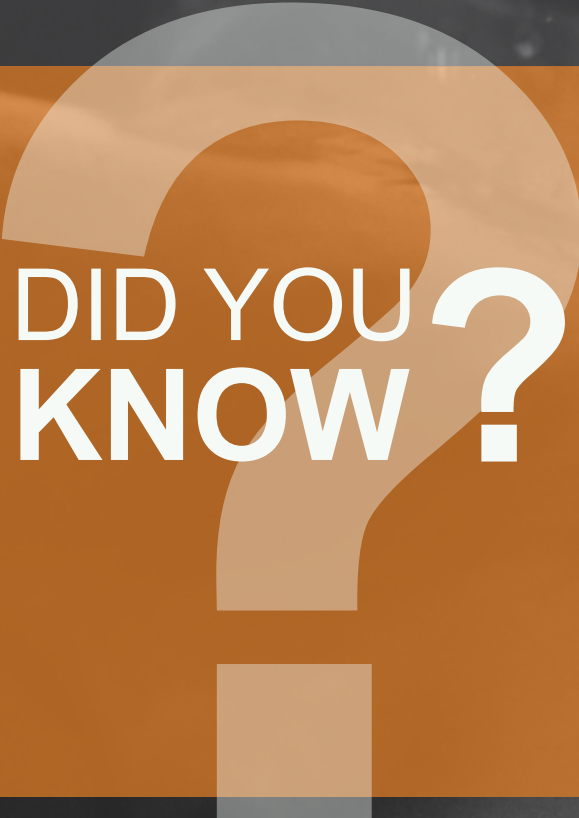
NON-CONFORMITIES

A non-conformity may be raised during an RSB assessment when the auditors find an operator is not conforming with an RSB requirement. Once identified, the operator is given time and guidance to correct the issue. Depending on the severity of the non-conformity, the operator will be allowed between three and twelve months in which to reach compliance. By requiring that all NCs must be closed by certified operators in the defined timeframes, this means 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 other facilities.

An analysis of valid Certificates in 2017 found that non-conformities (NC) raised during RSB audits against the RSB Principles & Criteria indicated that:

- 50.5% of the NCs refer to **Environmental requirements** (GHG Reduction, Conservation, Soil, Water and Air)
- 22.8% of the NCs refer to **Social requirements** (Labour and human rights, rural development, food security and land rights.)
- 5.7% of the NCs refer to **Legal requirements** (Legality)

The remaining 21% of NCs refer to RSB's requirement for Planning, Monitoring & Continuous Improvement under Principle 2.



**DID YOU
KNOW?**

The RSB is the only standard for biofuels and biomaterials that guarantees that sustainability in industrial facilities is covered - meaning that RSB auditors also verify the compliance of industrial units.

In practice, this means that RSB certified facilities ensure that human and labour rights are protected, that water pollution is monitored and that processing units are compliant with all aspects of our Standard.

A HOLISTIC MANAGEMENT APPROACH

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

RSB 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 21% of the total NCs were related to the Principle 2.

By supporting operators to continuously measure and improve 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 to assess 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;
- make adequate resources available to ensure compliance with the RSB Standard.



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CONCLUSIONS

Through the continuous monitoring and evaluation of our work, RSB is able to identify not only areas for improvement, but also the key trends and patterns that will help us to shape our best-in-class Standard to support the development of a truly sustainable bioeconomy.

We found that 65% of all certifications used our EU RED Standard. This indicates the continued importance of the EU as a market for biofuels of all types. RSB continues to work at a policy level to support the development of the 2nd Renewable Energy Directive (RED II) and to help the EU realise its bioeconomy strategy, in order to support the EU as a market for RSB-certified products.

RSB has continued to grow in the aviation fuel sector, with 11% of RSB operators producing fuel for the sector and the first certification of a commercial biofuel refinery in the USA. Further supporting the sustainable development of the sector, RSB provides technical expertise to the UN ICAO Alternative Fuels Task Force to guide the work and development of the CORSIA regulations. Working with Boeing and other partners, RSB is also supporting the growth of sustainable aviation at a regional level in Africa.

The use of waste & residues as feedstocks is a major trend and RSB is emerging as a leader in developing credible solutions for operators and other stakeholders who are identifying the value in waste, residues and end-of-life materials. Refining our indicators to reflect the shift from conventional crops – in fields – to wastes & residues – in factories – has required RSB to focus increasingly on traceability and sustainability in industrial facilities.

RSB continues to provide truly holistic support to the emerging sustainable bioeconomy. This is highlighted in the expanding scope of our services beyond certification to include advisory services, policy and regulation support, partnerships and more to a great and growing number of organisations – from airlines, to consumer brands, to producers, non-profits and industrial manufacturers. We are committed to our vision of a truly sustainable bioeconomy and, by working with partners across the value chain, we are maximising our impacts.



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Unlock new opportunities for your business today!

Work with RSB's expert advisory services to help
your business grow and thrive in the bioeconomy

The Roundtable on Sustainable Biomaterials (RSB) is a global, multi stakeholder independent organisation that drives the development of a new world bioeconomy through sustainability solutions, certification, innovation, and collaborative partnerships.

It provides tools and solutions that mitigates business risk, contributes to achieving the UN's Sustainable Development Goals and has the world's most trusted, peer reviewed, global certification standard for sustainable biomaterials, biofuels and biomass production.

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Contact Us

If you have comments or questions, please feel free to contact us.
We appreciate your feedback as well as suggestions for improvement.

Roundtable on Sustainable Biomaterials (RSB)
Impact Hub Geneva
Rue Fendt 1, 1201 Geneva | Switzerland
Tel: +41 22 534 90 50
Email: info@rsb.org
www.rsb.org



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Roundtable on
Sustainable Biomaterials
www.rsb.org