

# Making packaging material more sustainable


Welcome to our next generation  
sustainable solution.

**QIRA**





# Packaging sector: Helping to reduce the waste problem



QIRA can be applied in a variety of applications in the packaging industry as a bio-based solution. In close collaboration with us, material producers are setting new benchmarks in terms of quality and performance, while driving progress across the whole industry.

# With QIRA a large variety of materials can become more sustainable



Paper cup coatings



Food packaging



Agricultural films



Hotmelt adhesives



# Being more sustainable has never been so easy.

Packaging material consumption has been soaring over the past decades and has contributed to a global waste problem. Many packaging producers and brands are taking action to create sustainable alternatives that are recyclable and biodegradable.

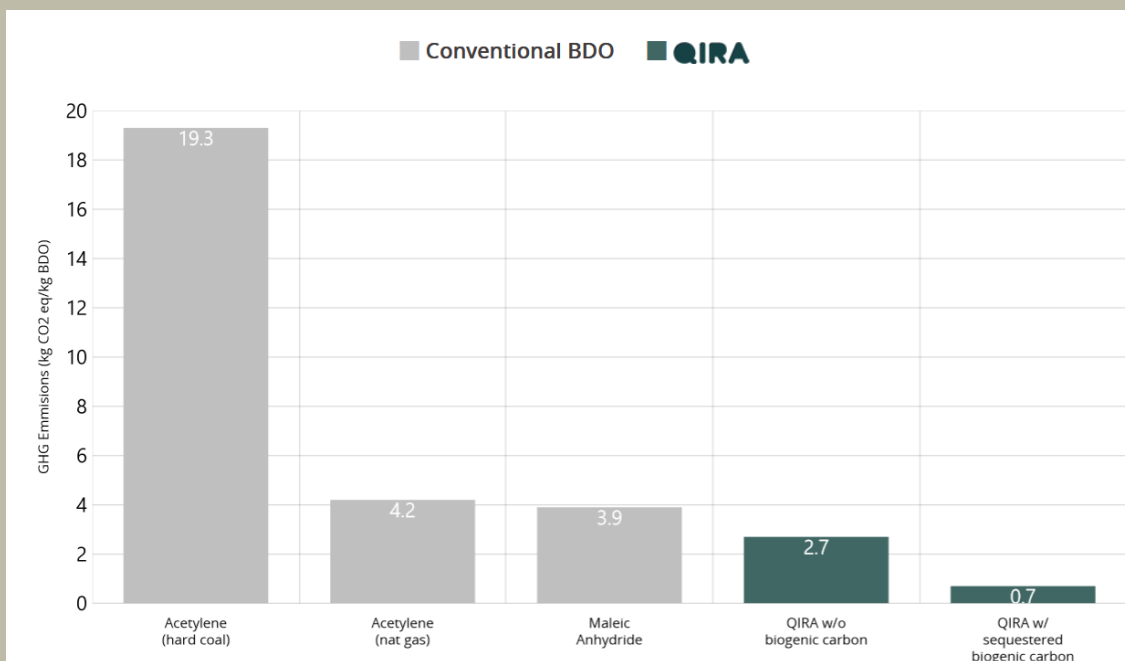
Biodegradable packaging solutions are great, but shouldn't they also be bio-based and contribute to a circular economy? QIRA significantly increases the bio-content of biodegradable plastics like PBS and PBAT.

# Reduced CO<sub>2</sub> footprint

Due to its unique manufacturing process and use of renewable plants, like corn, QIRA can lower a product's CO<sub>2</sub> footprint compared to products made with conventional BDO.

As QIRA can be used in a variety of industries, such as fashion, automotive, packaging and elec-

tronics, it can play an important role in making our planet more sustainable. We continue working with our supply chain partners to further improve QIRA's CO<sub>2</sub> footprint with the goal of becoming "net-zero" or even carbon negative.



**Disclaimer:** This information is based on preliminary evaluations and is provided for informational purposes only. Specific results for fossil-based products may vary. QIRA (bio-based BDO) GHG calculated based on site-specific data in North America and engineering design from 2021. QIRA (bio-based BDO) results are from an external commissioned study. Conventional BDO results were calculated internally using IPCC 100a method and data from EcoInvent database version 3, assuming production in China. The information in these graphs are based on publicly available sources and unpublished data and is believed to be true and accurate, however, Qore does not guarantee or make any warrant of accuracy or completeness.

# Specification

QIRA has the same specification as conventional 1,4-butanediol. To guarantee the same quality of material, producers must ensure that the specification of their raw materials are within a defined range. BDO is globally specified by its

purity, moisture content, color and appearance. QIRA offers the same or even higher quality than fossil-fuel based BDOs and therefore can be used as a direct replacement.

	QIRA (bio-based BDO)	Conventional BDO
Assay (wt % 1,4-butanediol)	> 99.5	≥ 99.5
Water (ppm)	< 500	< 500
Color (APHA)	< 10	< 10
Appearance	Clear, free of visible matter	Clear, free of visible matter

QIRA: The following test methods are used: GC, DIN 51777 and DIN EN 1557

# QIRA

**Please get in touch  
with us**

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