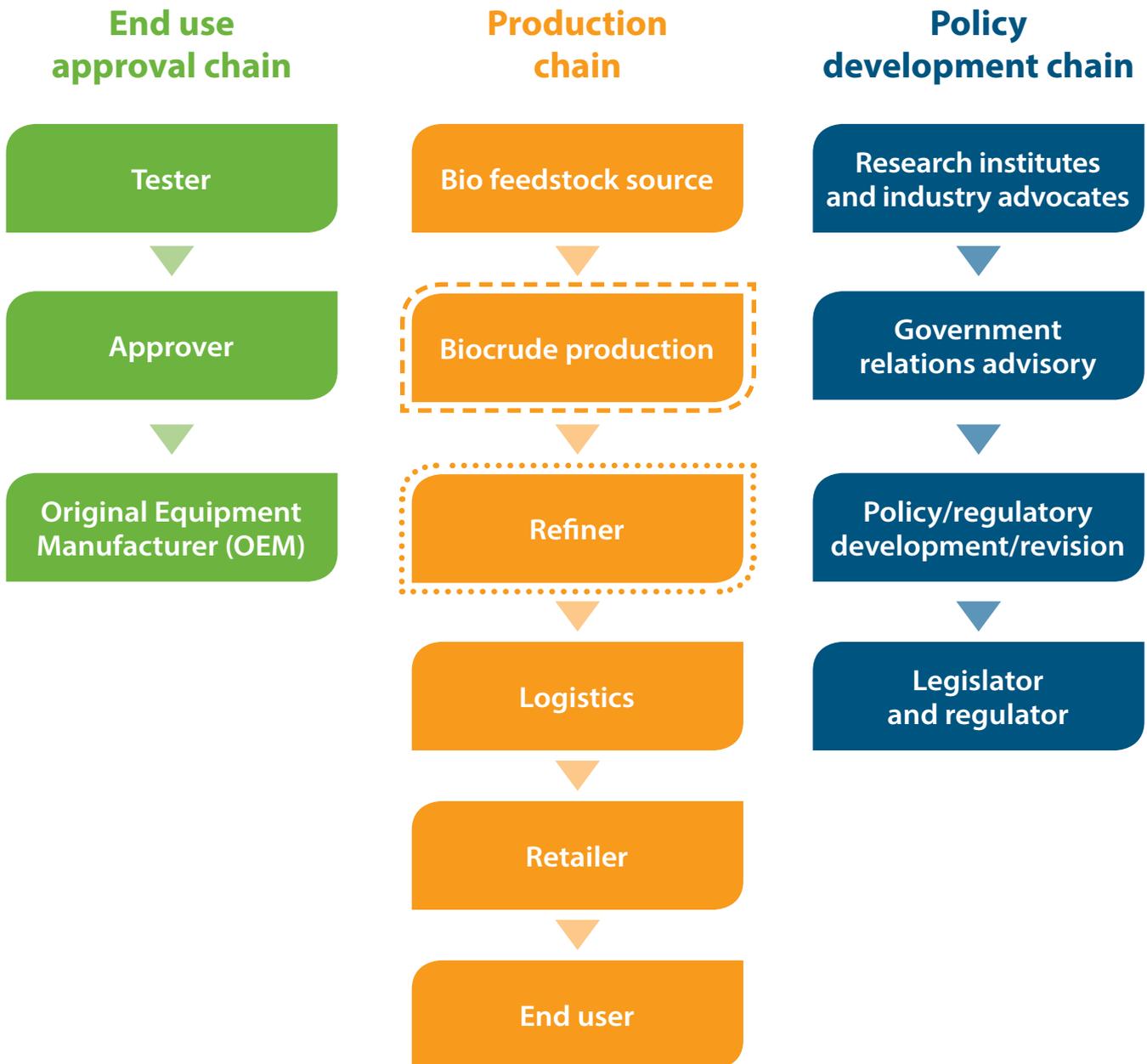


Renewable Fuels Value Chains



----- Northern Oil Advanced Biofuels Processing Plant (but ultimately third parties)

..... Northern Oil Refinery

A renewable fuels industry in Australia is more than just refining. It needs input from universities, governments, fleet owners, the agricultural sector and more. A renewable fuels industry will provide a wide range of opportunities across the value chains. Where can you contribute?

End use approval chain

Tester

An external body that tests the properties of biofuel against criteria determined by approvers. A tester will review the oil's basic fuel properties to ensure it conforms with minimum standards.

Approver

A body that approves fuel for use in specific applications, for example the Department of Environment and Energy. An approver will assess in-depth, long term testing to ensure that the biofuel continues to meet its required specifications and purpose.

Original Equipment Manufacturer (OEM)

An entity that has supplied an engine or motor asset to an end user. These companies generally set rules on what fuels can be burnt in their engines without affecting warranties. An OEM may do long term testing to ensure the biofuel is not detrimental to their engine.

Production chain

Bio feedstock source

A person/group that has access to a feedstock that can be supplied for economic conversion into crude.

Biocrude generation

An individual, company or joint venture that converts raw feedstocks into stabilised biocrude. This may be done by the raw feedstock producer, on behalf of the raw feedstock producer or separate from the raw feedstock producer.

Refiner

A refiner refines biocrude through to a drop-in fuel that can be used neat or as a blend in a conventional diesel engine.

Logistics

Logistics specialists and wholesalers move and sell large amounts of fuel. This includes the transport of fuel from the refiner, its storage, and its sale to major consumers (eg trucking fleets).

Retailer

A retailer holds small volumes of fuel for sale to or use by individual end users or single consumers.

End user

Any person that uses biofuels for their car, truck, ship or plane.

Policy development chain

Research institutes and industry advocates

Intellectual property (IP) owners, universities and research institutions, industry associations and individuals with expertise and knowledge of the biofuels sector. Sector leaders in thinking and advocacy.

Government relations advisory

Specialists who understand the systems and processes of government, who assist the knowledge holders and IP developers to prepare themselves for engagement with government.

Policy/regulatory development/revision

Specialists who translate the ideas and thinking of knowledge holders and IP developers into a language understood by government. May assist in drafting new policy or policy changes, or amendments to legislation, and manage the engagement process with government.

Legislator and regulator

The agencies of government that make and amend laws and regulations – the final arbiters on whether or not a biofuel process can proceed or end product (renewable fuel) can be sold.

