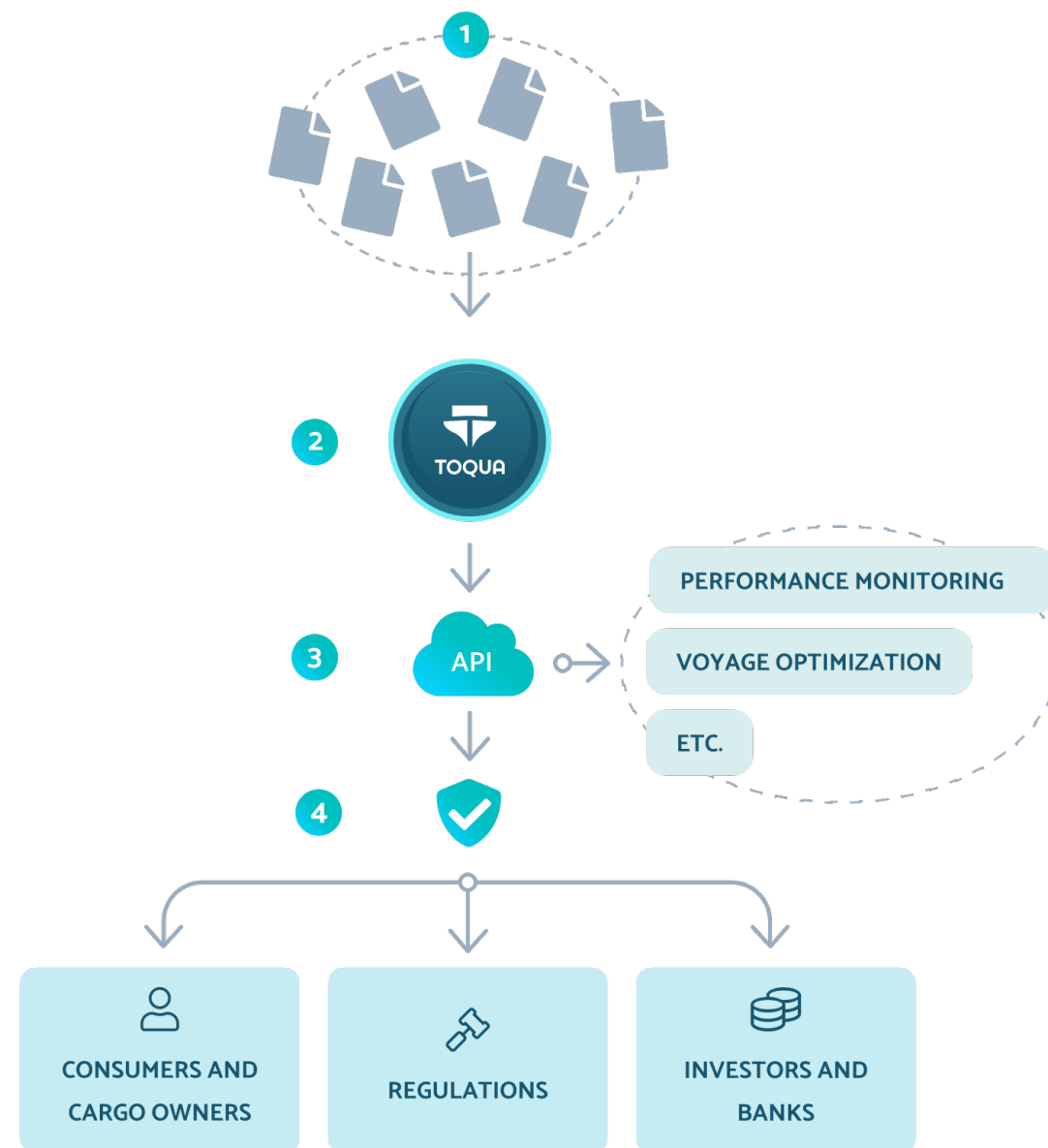


# MARITIME WEATHER ROUTING

International shipping is responsible for 80-90% of the global trade and remains the most fuel- and cost-efficient mode of transport. Moreover, shipping has a significant role in climate change. The pressure to decarbonize asks for the use of new technology, ship designs, alternative fuels and operational adjustments. In light of new technology, voyage optimization or **weather routing** has gained attention as a way to drive down the fuel consumption and minimize the operating costs in shipping. Weather routing could achieve a 2-4% reduction in fuel consumption and associated GHG emissions.



# MARITIME WEATHER ROUTING

To reap the benefits from routing, three aspects should be taken into account: the routing algorithm, the weather forecast and the ship performance models. In this challenge, we focus on the **routing problem** given as input a weather forecast and associated ship performance prediction on a regular grid. The optimal path needs to be planned for a given start and destination with an estimated fuel consumption per grid cell.

