

# 11th Hour Racing Team IMOCA 60 Sustainable Design & Build Report - 2021 -

## SCENARIO ANALYSIS - ENERGY



Supporting the main report,  
this document compares the environmental impacts  
associated with the choice of renewable energy at manufacturing sites

Measurements used are  
kWh (kilowatt hours), Greenhouse gas (tCO<sub>2</sub>e) or (kgCO<sub>2</sub>e)

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### DISCLAIMER

The team's LCA results were calculated using MarineShift360. Backed by 11th Hour Racing as Founding Sponsor, MarineShift360 is a purpose-built marine industry life cycle assessment tool. MarineShift360 is an ISO 14040:2006 & ISO 14044:2006 compliant and certified life cycle assessment tool. LCA results herein are calculated using MarineShift360, which is under development and is currently in beta stage. No statements regarding accuracy are made and results may change over time as the development of MarineShift360 continues.

## Objective

To understand the impact of renewable electricity choices across the 11-2 ready to sail study.

When looking for improvement tracks, an obvious one is to understand the reductions that can be made when switching energy inputs to be from renewable sources. In terms of feasibility, it is often one of the most straightforward changes a business can make to reduce their impacts significantly without needing to make any changes to their operations.

## Study

Design & Build of an IMOCA (11-2), launched and 'ready-to-sail'

- Base scenario: 100% renewable energy by all component manufacturers
- Actual build: All electricity inputs selected as per supplier input data
- 100% EU Grid: 100% average EU grid by all component manufacturers

## Discussion

Compared to the EU average, applying 100% renewable energy across all builders and manufacturers of the boat launched and ready to sail reduces greenhouse gas emissions by 210 tCO<sub>2</sub>e, or 32% of the total footprint of the build.

**Table: Comparing GHG impacts of different electricity sources to build an IMOCA, calculated with MarineShift360 beta software on September 1, 2021**

Electricity	Total tCO <sub>2</sub> e	Improvement from EU average tCO <sub>2</sub> e	% improvement from EU average baseline
100% EU grid scenario	651	n/a	n/a
Actual build	553	-98	-15%
100% renewable scenario	441	-210	-32%

## Actual construction 11.2

Built in France, 11th Hour Racing team's IMOCA 11.2 benefited from the low energy impact of the French average for most suppliers, and a 100% renewable energy tariff for CDK Technologies, this gave a 98 tCO<sub>2</sub>e (15%) reduction compared to the EU average.

## Recommendations

- Ensure manufacturing energy needs are sourced from 100% renewable energy tariffs
- Make renewable energy a key point of discussion across your supply chain, and sourcing contracts