

R&D GREET 2[®]: Vehicle/Material Cycle

Let's introduce R&D GREET 2: Vehicle /Material Cycle Analysis. This worksheet will help you harness the R&D GREET 2 model in any case/scenario.

R&D GREET 2 vs R&D GREET 1

What makes R&D GREET 2 different from R&D GREET 1?

Answer here

How do you sync the results between R&D GREET 1 and R&D GREET 2?

Answer here

R&D GREET navigation

How do you navigate to different worksheets in R&D GREET 2?

What is the main way to navigate through R&D GREET 2?

Answer here

Explore the tabs in R&D GREET 2

Excluding the inputs and results tabs, describe the categories of tabs available in R&D GREET 2.

Answer here



Main tabs in R&D GREET 2

Which tabs would you commonly use to run a simulation in R&D GREET 2?

When running a simulation, where would you find LDV outputs?

Answer here

Where would you find the general settings in R&D GREET 2 to alter a pathway for the battery of an electric vehicle?

Answer here

Where would you search to adjust more-specified simulation battery settings modeled in R&D GREET 2?

Answer here

Model default gasoline

Using the default settings, model a 2017 spark-ignition internal combustion engine (SI ICE) vehicle fueled by gasoline in R&D GREET 2. All other settings should be set as default.

WTP and WTW GHG Emissions

What are the well-to-pump (WTP) GHG emissions and well-to-wheels (WTW) GHG emissions for an SI ICE vehicle shown in R&D GREET 2 and R&D GREET 1?

- 1 WTP GHG emissions in R&D GREET 2 =
- 2 WTW GHG emissions in R&D GREET 2 =
- 3 WTP GHG emissions and WTW GHG emissions in R&D GREET 1 =



Compare BEVs and ICEVs

How do battery electric vehicles (BEVs) compare to internal combustion engine vehicles (ICEVs) on a vehicle cycle (and life cycle) perspective?

Model a SUV BEV

Model a 2022 SUV BEV using an NMC622 battery in R&D GREET. All other settings should be set as default.

What is the default range for a BEV?

Range =

What is the relative fuel economy for this SUV BEV compared to a baseline SI vehicle using gasoline modeled in R&D GREET?

Relative fuel economy =

What are the cradle-to-grave (C2G) GHG emissions in g CO₂e/mile?

C2G GHG emissions =

What are the GHG emissions from producing the vehicle in g CO₂e/mile?

GHG emissions =

Model a SUV ICEV

Model a 2022 SUV ICEV using gasoline in R&D GREET. All other settings should be set as default.

What are the cradle-to-grave (C2G) GHG emissions in g CO₂e/mile?

C2G GHG emissions =





What are the GHG emissions from producing the vehicle in g CO₂e/mile?

GHG emissions =

Alter the vehicle materials

How do the opportunities for emission mitigation for the production of major vehicle materials (such as steel and aluminum) affect the vehicle-cycle impacts of vehicles (EVs and ICEVs)?

Model a car BEV made with recycled steel

Model a 2022 car BEV made with 100% recycled steel and virgin aluminum produced with 100% hydropower electricity. All other settings should be set as default.

What is the default share of virgin steel modeled in R&D GREET 2?

Answer here

What are the vehicle cycle GHG emissions for the BEV in g CO₂e/mile?

Vehicle cycle GHG emissions =

Model a SUV ICEV made with recycled steel

Model a 2022 SUV ICEV using gasoline made with 100% recycled steel and virgin aluminum produced with 100% hydropower electricity. All other settings should be set as default.

What are the vehicle cycle GHG emissions for the ICEV in g CO₂e/mile?

Vehicle cycle GHG emissions =

