

# Explore alternative energy carriers (e.g., hydrogen, ammonia) including supply chains

1. Define new scenario with hydrogen (SMR and FC) and ammonia as alternative fuels and scope supply chain
2. Define data needs and find/assume values
3. Add final demand, technologies, input and output, costs for scenario

# Disaggregation of transportation modes

1. Develop scenarios for long-haul distance transportation (e.g., shipping, aviation)
2. Estimate transport-work increase between South-Africa  $\leftrightarrow$  Globe
3. Establish technology assumptions in terms of energy efficiency gain, diffusion and cost
4. Embed energy demand estimations for transportation

## Run scenario and investigate:

1. Total primary energy production
2. Resulting energy mix (with new alternative carriers)
3. Increase in total fuel cost for transportation
4. Emissions associated with the new fuel mix compared to baseline