

Please read the instructions, descriptions and questions below carefully and follow these steps:

1. Access the tool (<https://tool.thermos-project.eu>)
2. Watch [Exercise 3](https://www.youtube.com/watch?v=M8SmXb437Q0) clip we prepared for using the software
3. Complete the tasks step-by-step as outlined below

*Please make sure to fill in the answers in the dedicated “my answer” fields for each task.*

Once all “my answer” fields have been filled in, please check whether all your personal details (name, email and date of completion) are clearly stated and correct.

Once all information is in place, please save your document in PDF format adding your name to the title, thus: THERMOS Pathway D Exercise 3 – Your Name Surname” and send it to [info@thermos-project.eu](mailto:info@thermos-project.eu) and submit until 1 Dec 2020\*.

*\*Please note that submitting all three exercises before 1 Dec is required to receive a certificate.*

Trainer – Personal details (please complete before starting the exercise)

Name & Surname: ………........ ………………….

Email: ………………………………….

Date of completion: ………………………………….

# Modifying demands and paths

This exercise involves editing candidates as described in the accompanying [video](https://www.youtube.com/watch?v=M8SmXb437Q0). Please return to your original scenario from Exercise 1 (the network connecting pubs and churches) and answer the following questions:

Part 1: Modifying demands

**Question 1:**

Change the annual demand for each pub to be double its original value. What does this do to the network economics when you solve the problem? Why?

**My answer:**

**Question 2:**

Now change the peak demand for each pub to be double its original value. What does this do to the network economics when you solve the problem? Why?

**My answer:**

**Question 3:**

Now experiment with adding an annual capacity charge tariff for the pubs. What does this do to the network economics when you solve the problem? Why?

**My answer:**

Part 2: Modifying paths

**Question 4:**

Select the paths that the optimiser chose to use for the network in Exercise 1. They are likely to have been assigned the default ‘hard dig’ civil costs. Change these to ‘soft’ and resolve. What does this do to the resulting network?

**My answer:**

Part 3: Supply optimisation

**Question 5:**

Without changing anything, optimise the supply of the network and check the supply solution, solution summary page. Note down the plant technologies used, the total cost and the heat production.

Select all of the buildings within your network and set the heat profiles to flat. Optimise the supply and check the supply solution, solution summary page.

What has changed? Has the solution resulted in more plant or less? Has the solution resulted in more heat generation or less? Suggest reasons for the changes.

**My answer:**