



# Energy and Flexibility Modelling

## Hands-on 1

Please use the following citation for:

- **This exercise**

Cannone, Carla, Allington, Lucy, & Howells, Mark. (2021, March). Hands-on 1: Energy and Flexibility Modelling (Version 3.1.). Zenodo. <http://doi.org/10.5281/zenodo.4604532>

- **clicSAND Software**

Cannone, C., Allington, L., de Wet, N., Shivakumar, A., Goynes, P., Valderamma, C., & Howells, M. (2021, March 10). ClimateCompatibleGrowth/clicSAND: v1.1 (Version v1.1). Zenodo. <http://doi.org/10.5281/zenodo.4593100>

- **OSeMOSYS Google Forum**

Please sign up to the help Google forum [here](#). If you are stuck, please ask questions here. If you get ahead, please answer questions in the same forum. Please state that you are using the 'clicSAND' Interface.

- **Step-by-step explanatory video on Youtube**

A video recording of this exercise is available on the CCG Youtube channel at: [HO1 - Installation software SANDxOSeMOSYS](#)

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## Learning outcomes

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By the end of this exercise, you will learn how to:

- 1) Install clicSAND Software
- 2) Install glpk solver
- 3) Install .NET Runtime



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### Important requirement

Please make sure to set your regional settings to **English (United Kingdom)** using the following:

Settings -> Region -> Regional Settings -> **Current format: English (United Kingdom)**.

Then **restart** your computer.

This ensures that the Decimal (.) and Thousands (,) separators are compatible with clicSAND Software, the tool used in the Hands-On Exercises.

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## Install clicSAND Software

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Important requirement: Please make sure to set your regional settings to English (United Kingdom) using the following:

Settings -> Region -> Regional Settings -> Current format: English (United Kingdom).

Then restart your computer.

This ensures that the Decimal (.) and Thousands (,) separators are compatible with the tool used in the Hands On Exercises.

1. Download the installer by clicking this link [clicSANDinstaller.exe](#) (hosted on GitHub: [link](#)):



Latest release

v1.1

c130154

Compare

# v1.1

nickidw released this 5 days ago · 13 commits to main since this release

## clicSAND v1.1

Assets 3

 clicSANDinstaller.exe

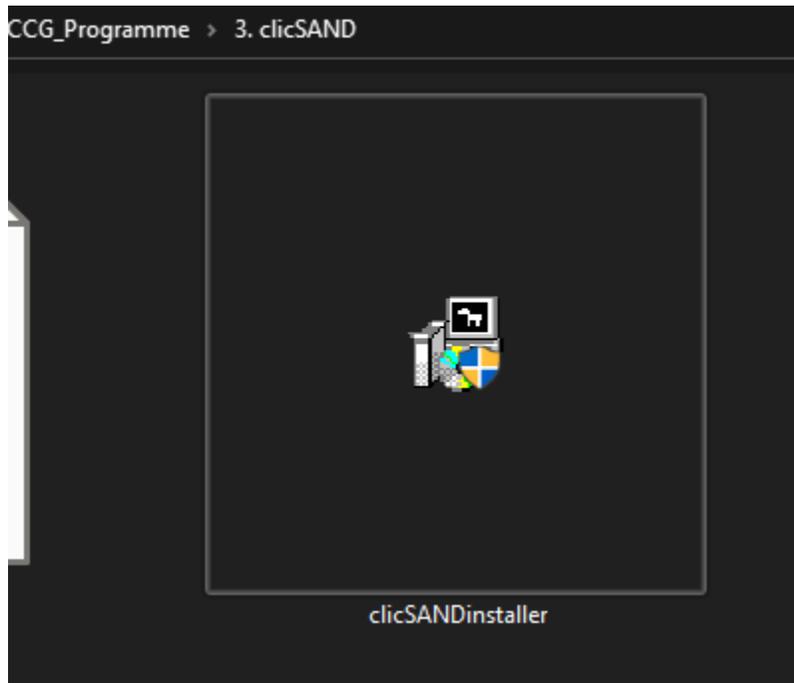
 Source code (zip)

 Source code (tar.gz)

2. If you see this message, click the small arrow and then click 'Keep'.



3. Double click on the installer once it has downloaded.



4. If you see this message, click 'more info' then 'run anyway'.



## Windows protected your PC

Microsoft Defender SmartScreen prevented an unrecognized app from starting. Running this app might put your PC at risk.

[More info](#)

**Don't run**



## Windows protected your PC

Microsoft Defender SmartScreen prevented an unrecognized app from starting. Running this app might put your PC at risk.

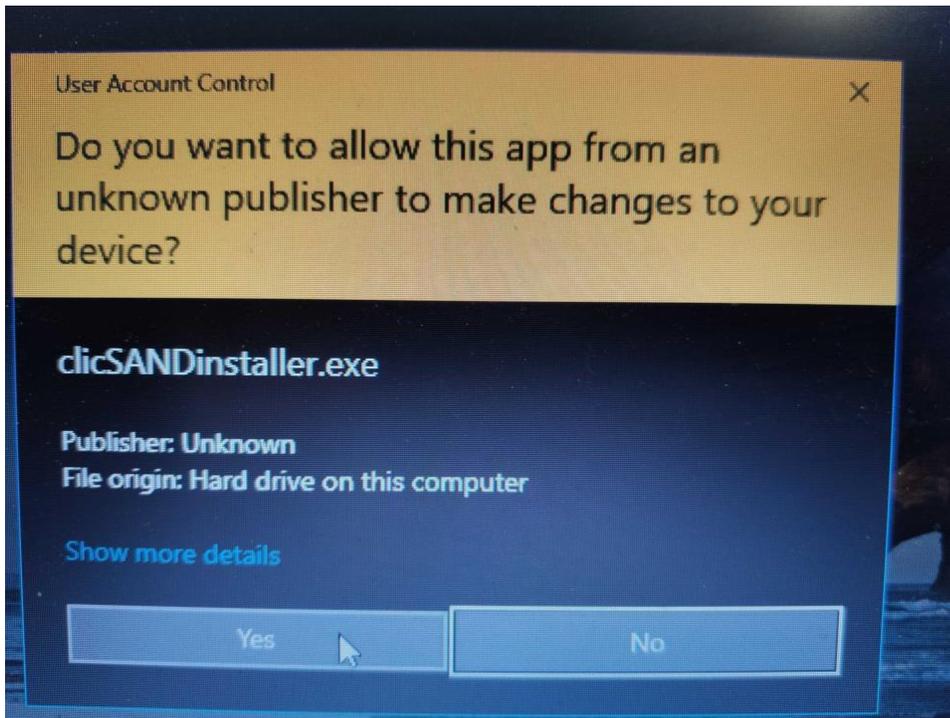
App: clicSANDinstaller.exe

Publisher: Unknown publisher

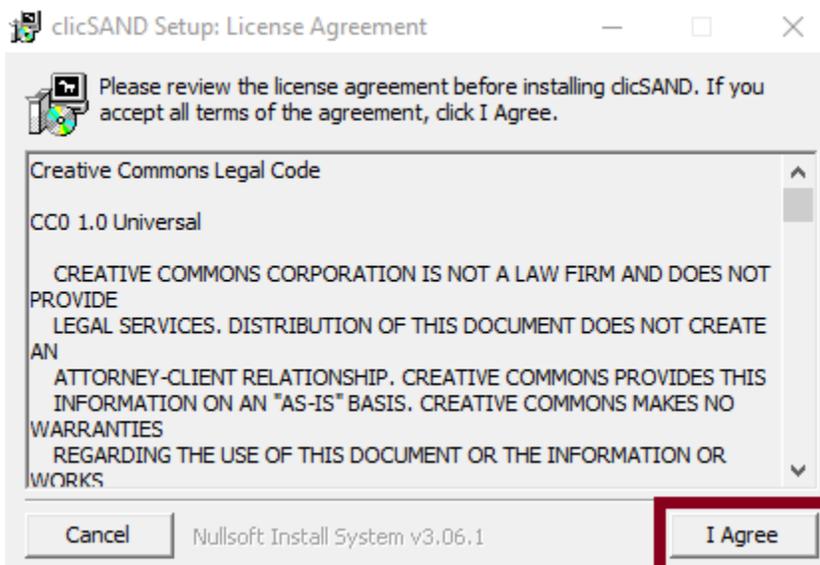
Run anyway

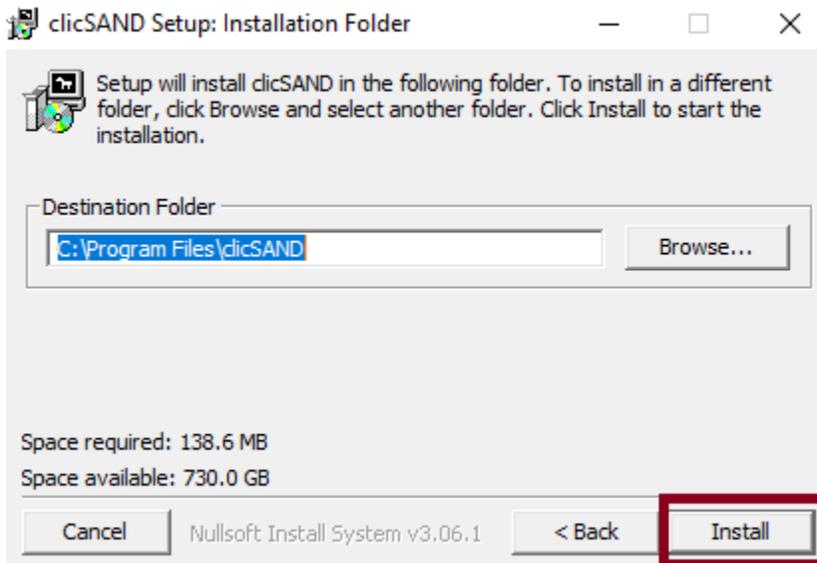
Don't run

5. Click 'yes' when asked if you want to allow the clicSAND software to make changes to your computer.

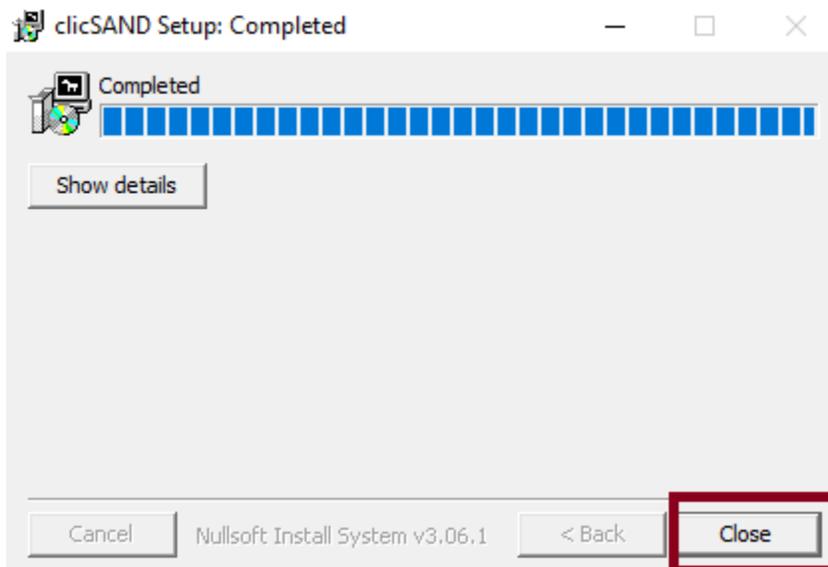


6. Read and agree to the license, then ensure the file path is to 'Program Files'. Then select 'Install'.

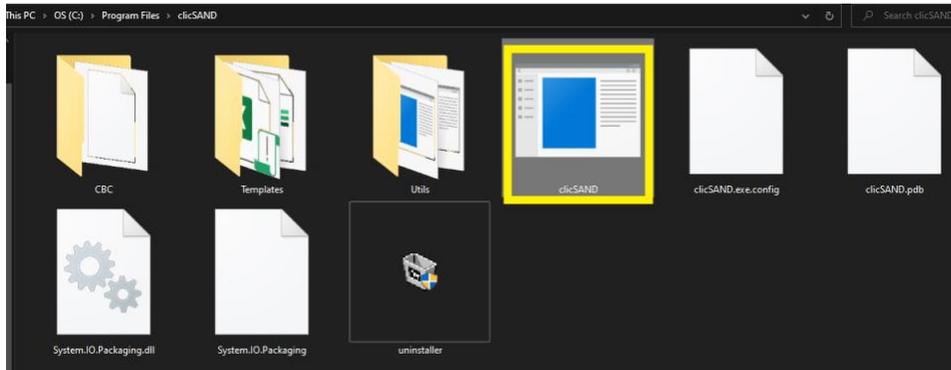




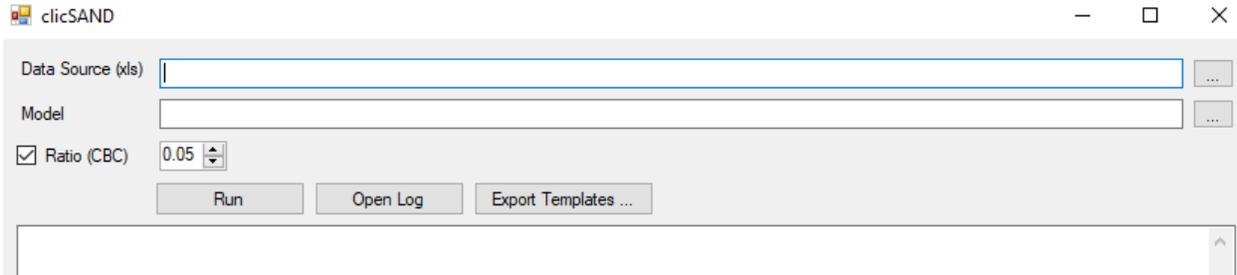
7. Click 'Close when completed.'



8. Open the folder and double-click on **clicSAND.exe**.



9. If everything goes as expected, you should be able to see the screen below. If you get an Antivirus Warning, click on 'See more' and 'Accept all' (**don't worry, there are no viruses in clicSAND**).



## Install .NET Runtime

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Download .NET Runtime at [this link](#).

## Install glpk Solver

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Install glpk solver following the guidelines provided [here](#).