

# 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. <u>http://doi.org/10.5281/zenodo.4604532</u>

### • 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. <u>http://doi.org/10.5281/zenodo.4593100</u>

#### OSeMOSYS Google Forum

Please sign up to the help Google forum <u>here</u>. 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.

### Learning outcomes

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

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



#### 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.

## Install clicSAND Software

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 <u>clicSANDinstaller.exe</u> (hosted on GitHub: <u>link</u>):

Climate Compatible Growth	
Latest release v1.1 -O- c130154 Compare -	v1.1 rickidw released this 5 days ago · 13 commits to main since this release clicSAND v1.1
	<ul> <li>Assets 3</li> <li>ClicSANDinstaller.exe</li> <li>Source code (zip)</li> <li>Source code (tar.gz)</li> </ul>

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.

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.

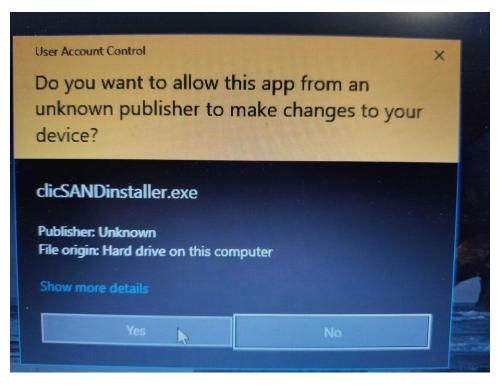
App:	clicSANDinstaller.exe		
Publisher:	Unknown publisher		

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

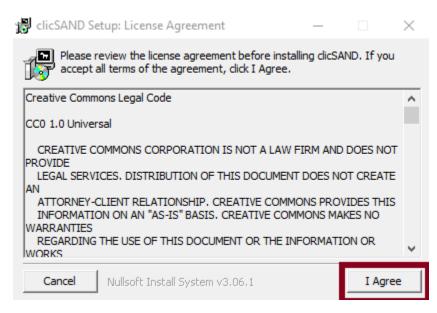
Run anyway

Don't run





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





👸 clicSAND Se	tup: Installation Folder	_		$\times$
folder, c	ill install clicSAND in the following fol lick Browse and select another folde on.	lder. To install in er. Click Install t	a differer o start the	nt :
Destination Fo	lder			
C:\Program f	Files\dicSAND		Browse	
Space required: Space available:	730.0 GB			
Cancel	Nullsoft Install System v3.06.1	< Back	Insta	
7. Click '	Close when completed.			
👸 clicSAND Se	etup: Completed	_		$\times$
Show details				

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



This PC $\rightarrow$ OS (C:) $\rightarrow$ Program Files $\rightarrow$ clicSAI	ND				✓ ひ Search clicSAND
csc	Implates		eicSAND	clicSAND.exe.config	clicSAND.pdb
System.IO.Packaging.dll	System JO.Packaging	uninstaller			

 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).

🖶 clicSAND		—	$\times$
Data Source (xls)	[		
Model			
Ratio (CBC)	0.05 🚖		
	Run Open Log Export Templates		
			^

# Install .NET Runtime

Download .NET Runtime at this link.

# Install glpk Solver

Install glpk solver following the guidelines provided <u>here</u>.