

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

#### • clicSAND Software

Cannone, C., Allington, L., De Wet, N., Shivakumar, A., Goyns, P., Valderrama, C., Howells, M. (2021). clicSAND [computer software]. <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

# Install clicSAND Software

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.

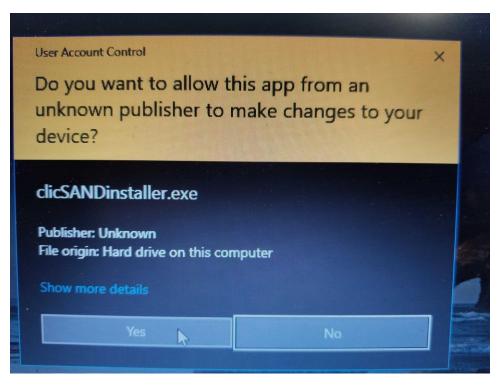
App:	clicSANDinstaller.exe
Publisher:	Unknown publisher

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

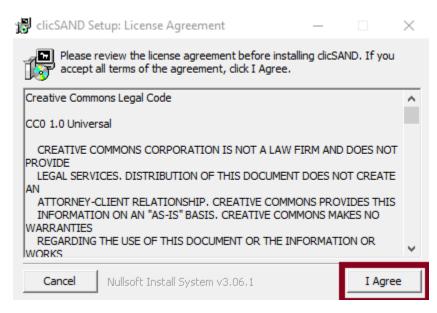
Run anyway

Don't run





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





👸 clicSAND Setu	p: Installation Folder	_		<
	nstall clicSAND in the following fol k Browse and select another folde			
Destination Fold	er			
C:\Program File	es\clicSAND		Browse	
Space required: 13 Space available: 7				
Cancel	Vullsoft Install System v3.06.1	< Back	Install	
7. Click 'C PclicSAND Setu	lose when completed.	_		×
Completed				Π
Show details				
Cancel	Nullsoft Install System v3.06.1	< Back	Close	

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 here.