

Heat Reuse Tool - Setup Guide

Google Colab

Complete Setup

1. **Go to Colab:** <https://colab.research.google.com>
 - Sign in with your Google account
 - Click **File** → **New notebook**
2. **Copy this code** into the first cell and run it (Shift+Enter):

```
# Complete Heat Reuse Tool setup and run
!git clone https://github.com/ahliana/OCP-CE-HR-Economics-Tool.git
%cd OCP-CE-HR-Economics-Tool
!pip install -q pandas numpy matplotlib ipywidgets
from google.colab import output
output.enable_custom_widget_manager()

# Now run the actual tool
import sys, os
sys.path.insert(0, f"{os.getcwd()}/python")
import autostart
```

3. **Use the tool** - you'll see 4 dropdowns and a Calculate button. Select values and click Calculate!

Notes

- Tool runs in Google's cloud
- Results are temporary - download before closing

VSCode

Complete Setup

1. **Install Python:** Go to python.org/downloads
 - Download Python 3.8 or newer
 - **Windows:** Check "Add Python to PATH" during install
 - **Test:** Open PowerShell, type `python --version`
2. **Install VSCode:** Go to code.visualstudio.com
 - Download and install with default settings

- Launch VSCode

3. Install VSCode extensions:

- Open VSCode
- Go to Extensions (left sidebar, square icon)
- Search and install: "Python" (by Microsoft)
- Search and install: "Jupyter" (by Microsoft)

4. Fix PowerShell execution policy (Windows only):

- Open VSCode terminal: View → Terminal (this should open a PowerShell Terminal at the bottom of VSCode)
- Run this command: `Set-ExecutionPolicy -ExecutionPolicy RemoteSigned -Scope CurrentUser`
- This allows virtual environment activation

5. Install Git

- Go to: <https://git-scm.com/download/win>
- Install with default settings
- Test: Open VS Code terminal and type `git --version`
-
- Add Git to PATH for current session

```
$env:PATH += ";C:\Program Files\Git\cmd;C:\Program Files\Git\bin"  
[Environment]::SetEnvironmentVariable("PATH", $env:PATH + ";C:\Program  
Files\Git\cmd;C:\Program Files\Git\bin", "User")
```

6. Download the project:

- If VSCode terminal is not still open, open it: View → Terminal (this should open a PowerShell Terminal at the bottom of VSCode)
- Create a directory `md C:\Code`
- Navigate to the directory where you want the project `cd C:\Code`
- Run: `git clone https://github.com/ahliana/OCP-CE-HR-Economics-Tool.git`

7. Open project in VSCode:

- In VSCode: File → Open Folder
- Select the `OCP-CE-HR-Economics-Tool` folder
- You should see all files in the left Explorer panel

8. Create virtual environment:

- Open VSCode terminal: View → Terminal (this should open a PowerShell Terminal at the bottom of VSCode)
- Run these commands:

```
##### WINDOWS #####
## PowerShell - Create virtual environment
python -m venv .venv
## Activate it
.\.venv\Scripts\Activate.ps1
---

##### MAC/LINUX #####
## PowerShell - Create virtual environment
python3 -m venv .venv
## Activate it
source .venv/bin/activate

# You should see (.venv) at the left in your terminal prompt
```

9. Install packages and register Jupyter kernel:

- Open VSCode terminal: View → Terminal (this should open a PowerShell Terminal at the bottom of VSCode)

```
# Windows PowerShell - Install packages
pip install -r requirements.txt

# Register Jupyter kernel (CRITICAL STEP!)
python -m ipykernel install --user --name=heat-reuse-tool --display-name="Heat Reuse Tool"
```

10. Configure VSCode Python interpreter:

- After creating the `.venv`, VSCode may show a popup: "We noticed a new environment has been created. Do you want to select it for the workspace folder?"
- **Click "Yes"** - this automatically configures VSCode to use your virtual environment
- If you need to do it manually:
 1. Press `Ctrl+Shift+P`
 2. Type: "Python: Select Interpreter"
 3. Choose the interpreter from your `.venv` folder: `.\venv\Scripts\python.exe`

11. Open and run the notebook:

- Click on `Interactive Analysis Tool.ipynb` in Explorer
- **CRITICAL:** When VSCode shows "Select Kernel" dialog at the top:
 - Click "Python Environments..." (NOT "Existing Jupyter Server")
 - Look for your virtual environment with `.venv` in the path

- Example: `Python 3.13.2 (.venv)`
`C:\...\OCP_HeatReuseTool\.venv\Scripts\python.exe`
- Click on the `.venv` option
- **Verify kernel selection:** Look at top-right corner - should show "Python 3.13.2 (.venv)"
- Run the cells to see your interface

12. Test the setup:

- In VSCode terminal with virtual environment activated: `(.venv)` should be visible
- Run: `python tools/setup/verify_setup.py`
- **Success:** Should show "9/9 checks passed"

Notes

- Uses PowerShell terminal in VSCode on Windows
- Jupyter kernel registration is essential for proper notebook functionality
- Select correct Python interpreter (.venv) when prompted

Troubleshooting

If virtual environment activation fails:

```
# Fix PowerShell execution policy
Set-ExecutionPolicy -ExecutionPolicy RemoteSigned -Scope CurrentUser

# Then try activation again
.\.venv\Scripts\Activate.ps1
```

If kernel not showing in notebook:

- Ensure you ran the ipykernel install command
- Restart VSCode
- Check that you selected the .venv interpreter

If packages not found:

- Verify virtual environment is activated (`(.venv)` in prompt)
 - Verify you selected the correct kernel in the notebook
 - Re-run: `pip install -r requirements.txt`
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