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 PowerShell as Administrator
   - Run: `Set-ExecutionPolicy -ExecutionPolicy RemoteSigned -Scope CurrentUser`
   - This allows virtual environment activation

5. **Download the project**:
   - Open PowerShell
   - Navigate where you want the project (e.g., `cd Desktop`)
   - Run: `git clone https://github.com/ahliana/OCP-CE-HR-Economics-Tool.git`
   - If you don't have Git: Download ZIP from GitHub and extract
   - You should see all files in the left Explorer panel

6. **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

7. **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) in your terminal prompt
```

8. **Install packages and register Jupyter kernel**:

```
# 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"
```

9. **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`

10. **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': 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

11. **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`
