

# Environmental-Friendliness of Buildings in New York

## Authors

---

- **Yu-Sian Lin**
  -  [yslin0114](#)
  - Department of Civil Engineering, University of Illinois
- **Yueh-Ti**
  -  [none](#)
  - Department of Civil Engineering, University of Illinois
- **Minjiang Zhu**
  -  [Minjiang-Zhu](#)
  - Department of Something, University of Illinois
- **Chengyou Yue**
  -  [TensorYue](#)
  - Department of Civil Engineering, University of Illinois

# Abstract

---

Abstract is here!

## Basic formatting

---

**Bold text**

**Semi-bold text**

Centered text

Right-aligned text

*Italic text*

Combined *italics* and **bold**

~~Strikethrough~~

1. Ordered list item
2. Ordered list item
  - a. Sub-item
  - b. Sub-item
    - i. Sub-sub-item
3. Ordered list item
  - a. Sub-item

- List item
- List item
- List item

subscript: H<sub>2</sub>O is a liquid

superscript: 2<sup>10</sup> is 1024.

[unicode superscripts](#)<sup>0123456789</sup>

[unicode subscripts](#)<sub>0123456789</sub>

A long paragraph of text. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Putting each sentence on its own line has numerous benefits with regard to [editing](#) and [version control](#).

Line break without starting a new paragraph by putting two spaces at end of line.

## Document organization

---

Document section headings:

# Heading 1

## Heading 2

---

### Heading 3

#### Heading 4

##### Heading 5

###### Heading 6

**A heading centered on its own printed page**

Horizontal rule:

---

Heading 1's are recommended to be reserved for the title of the manuscript.

Heading 2's are recommended for broad sections such as *Abstract*, *Methods*, *Conclusion*, etc.

Heading 3's and Heading 4's are recommended for sub-sections.

## Links

---

Bare URL link: <https://manubot.org>

[Long link with lots of words and stuff and junk and bleep and blah and stuff and other stuff and more stuff yeah](#)

[Link with text](#)

[Link with hover text](#)

[Link by reference](#)

## Citations

---

Citation by DOI [[1](#)].

Citation by PubMed Central ID [[2](#)].

Citation by PubMed ID [[3](#)].

Citation by Wikidata ID [[4](#)].

Citation by ISBN [[5](#)].

Citation by URL [[6](#)].

Citation by alias [[7](#)].

Multiple citations can be put inside the same set of brackets [[1](#),[5](#),[7](#)]. Manubot plugins provide easier, more convenient visualization of and navigation between citations [[2](#),[3](#),[7](#),[8](#)].

Citation tags (i.e. aliases) can be defined in their own paragraphs using Markdown's reference link syntax:

## Referencing figures, tables, equations

---

Figure [1](#)

Figure [2](#)

Figure [3](#)

Figure [4](#)

Table [1](#)

Equation [1](#)

Equation [2](#)

## Quotes and code

---

Quoted text

Quoted block of text

Two roads diverged in a wood, and I—  
I took the one less traveled by,  
And that has made all the difference.

Code `in the middle` of normal text, aka `inline code`.

Code block with Python syntax highlighting:

```
from manubot.cite.doi import expand_short_doi

def test_expand_short_doi():
    doi = expand_short_doi("10/c3bp")
    # a string too long to fit within page:
    assert doi == "10.25313/2524-2695-2018-3-vliyanie-enhansera-copia-i-
        insulyatora-gypsy-na-sintez-ernk-modifikatsii-hromatina-i-
        svyazyvanie-insulyatornyh-belkov-vtransfetsirovannyh-geneticheskikh-
        konstruktsiyah"
```

Code block with no syntax highlighting:

```
Exporting HTML manuscript
Exporting DOCX manuscript
Exporting PDF manuscript
```

## Figures

---



**Figure 1: A square image at actual size and with a bottom caption.** Loaded from the latest version of image on GitHub.



**Figure 2: An image too wide to fit within page at full size.** Loaded from a specific (hashed) version of the image on GitHub.



**Figure 3: A tall image with a specified height.** Loaded from a specific (hashed) version of the image on GitHub.



**Figure 4: A vector `.svg` image loaded from GitHub.** The parameter `sanitize=true` is necessary to properly load SVGs hosted via GitHub URLs. White background specified to serve as a backdrop for transparent sections of the image.

## Tables

**Table 1:** A table with a top caption and specified relative column widths.

<i>Bowling Scores</i>	Jane	John	Alice	Bob
Game 1	150	187	210	105
Game 2	98	202	197	102
Game 3	123	180	238	134

**Table 2:** A table too wide to fit within page.

	Digits 1-33	Digits 34-66	Digits 67-99	Ref.
pi	3.14159265358979323846264338327950	288419716939937510582097494459230	781640628620899862803482534211706	<a href="#">piday.org</a>
e	2.71828182845904523536028747135266	249775724709369995957496696762772	407663035354759457138217852516642	<a href="#">nasa.gov</a>

**Table 3:** A table with merged cells using the `attributes` plugin.



	Colors	
Size	Text Color	Background Color
big	blue	orange
small	black	white

## Equations

A LaTeX equation:

$$\int_0^\infty e^{-x^2} dx = \frac{\sqrt{\pi}}{2} \tag{1}$$

An equation too long to fit within page:

$$x = a + b + c + d + e + f + g + h + i + j + k + l + m + n + o + p + q + r + s + t + u + v + w + x + y + z + 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 \tag{2}$$

## Special

**⚠ WARNING** *The following features are only supported and intended for `.html` and `.pdf` exports. Journals are not likely to support them, and they may not display correctly when converted to other formats such as `.docx`.*

LINK STYLED AS A BUTTON

Adding arbitrary HTML attributes to an element using Pandoc's attribute syntax:

Manubot Manubot Manubot Manubot Manubot. Manubot Manubot Manubot Manubot. Manubot Manubot Manubot. Manubot Manubot. Manubot.

Adding arbitrary HTML attributes to an element with the Manubot `attributes` plugin (more flexible than Pandoc's method in terms of which elements you can add attributes to):

Manubot Manubot Manubot Manubot Manubot. Manubot Manubot Manubot Manubot. Manubot Manubot Manubot. Manubot Manubot. Manubot.

Available background colors for text, images, code, banners, etc:

white lightgrey grey darkgrey black lightred lightyellow lightgreen lightblue lightpurple red orange yellow green blue purple

Using the [Font Awesome](#) icon set:

✓ ? ★ 🔔 ✖ …

### **Light Grey Banner**

useful for *general information* - [manubot.org](https://manubot.org)

### **Blue Banner**

useful for *important information* - [manubot.org](https://manubot.org)

### **Light Red Banner**

useful for *warnings* - [manubot.org](https://manubot.org)

---

Source: Kaggle / NYC Mayor's Office of Climate & Environmental Justice Data Format: CSV File Content: The dataset contains information on properties regarding its basic information, indices used for evaluating energy efficiency, types of energy used in the property, and greenhouse gas (GHG) emissions.

---

#### Attributes:

Property name: name of the property. Borough: borough for the property. Primary property use type: main property usage (ex: office, housing, hotel). Gross floor area (GFA) for primary use type: property area for main use in square ft. Secondary property use type: secondary property usage (ex: office, housing, hotel). Gross floor area (GFA) for secondary use type: property area for secondary use in square ft. Year built: the year the property is built. If it has gone through a complete renovation, the renovation year can be the built year. Occupancy: percentage of the property GFA that is occupied and operational.

Energy metered areas: areas within the property that is covered by energy meters. Water metered areas: areas within the property that is covered by water meters. ENERGY STAR Score: a score based on energy usage. Source energy use intensity(EUI): EUI calculated from the energy source, in kBtu/ft<sup>2</sup>, where kBtu is thousand British thermal units. Weather normalized source EUI: EUI normalized for weather. Weather normalized site electricity intensity: weather normalized site electricity intensity per GFA. Weather normalized site natural gas intensity: weather normalized site natural gas intensity per GFA.

Fuel oil: annual fuel oil used, in kBtu. Diesel: annual diesel used, in kBtu. Natural gas: annual natural gas used, in kBtu. Electricity: annual electricity used, in kBtu. Water: annual water use, in kGal.

Direct GHG emission: annual direct GHG emission emitted from the property, in tons of carbon dioxide equivalent. Indirect GHG emission: annual indirect GHG emission emitted from the property, in tons of carbon dioxide equivalent. Total GHG emission: sum of direct and indirect GHG emissions in tons of carbon dioxide equivalent.

---

#### Proposal:

We plan to develop a model that can predict a property's environmental friendliness based on its GHG emission and energy efficiency. Types of energy used can affect the GHG emission of a property. Weather, property age, floor area, and so on can affect energy efficiency. We will start by finding the

correlation between energy sources and GHG emissions. We will then evaluate both GHG emission and energy efficiency indices to obtain the extent of the environmental friendliness of a property.

# References

---

1. **Sci-Hub provides access to nearly all scholarly literature**  
Daniel S Himmelstein, Ariel Rodriguez Romero, Jacob G Levernier, Thomas Anthony Munro, Stephen Reid McLaughlin, Bastian Greshake Tzovaras, Casey S Greene  
*eLife* (2018-03-01) <https://doi.org/ckcj>  
DOI: [10.7554/elife.32822](https://doi.org/10.7554/elife.32822) · PMID: [29424689](https://pubmed.ncbi.nlm.nih.gov/29424689/) · PMCID: [PMC5832410](https://pubmed.ncbi.nlm.nih.gov/PMC5832410/)
2. **Reproducibility of computational workflows is automated using continuous analysis**  
Brett K Beaulieu-Jones, Casey S Greene  
*Nature biotechnology* (2017-04) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6103790/>  
DOI: [10.1038/nbt.3780](https://doi.org/10.1038/nbt.3780) · PMID: [28288103](https://pubmed.ncbi.nlm.nih.gov/28288103/) · PMCID: [PMC6103790](https://pubmed.ncbi.nlm.nih.gov/PMC6103790/)
3. **Bitcoin for the biological literature.**  
Douglas Heaven  
*Nature* (2019-02) <https://www.ncbi.nlm.nih.gov/pubmed/30718888>  
DOI: [10.1038/d41586-019-00447-9](https://doi.org/10.1038/d41586-019-00447-9) · PMID: [30718888](https://pubmed.ncbi.nlm.nih.gov/30718888/)
4. **Plan S: Accelerating the transition to full and immediate Open Access to scientific publications**  
cOAlition S  
(2018-09-04) <https://www.wikidata.org/wiki/Q56458321>
5. **Open access**  
Peter Suber  
*MIT Press* (2012)  
ISBN: 9780262517638
6. **Open collaborative writing with Manubot**  
Daniel S Himmelstein, Vincent Rubinetti, David R Slochower, Dongbo Hu, Venkat S Malladi, Casey S Greene, Anthony Gitter  
*Manubot* (2020-05-25) <https://greenelab.github.io/meta-review/>
7. **Opportunities and obstacles for deep learning in biology and medicine**  
Travers Ching, Daniel S Himmelstein, Brett K Beaulieu-Jones, Alexandr A Kalinin, Brian T Do, Gregory P Way, Enrico Ferrero, Paul-Michael Agapow, Michael Zietz, Michael M Hoffman, ... Casey S Greene  
*Journal of The Royal Society Interface* (2018-04) <https://doi.org/gddkhn>  
DOI: [10.1098/rsif.2017.0387](https://doi.org/10.1098/rsif.2017.0387) · PMID: [29618526](https://pubmed.ncbi.nlm.nih.gov/29618526/) · PMCID: [PMC5938574](https://pubmed.ncbi.nlm.nih.gov/PMC5938574/)
8. **Open collaborative writing with Manubot**  
Daniel S Himmelstein, Vincent Rubinetti, David R Slochower, Dongbo Hu, Venkat S Malladi, Casey S Greene, Anthony Gitter  
*PLOS Computational Biology* (2019-06-24) <https://doi.org/c7np>  
DOI: [10.1371/journal.pcbi.1007128](https://doi.org/10.1371/journal.pcbi.1007128) · PMID: [31233491](https://pubmed.ncbi.nlm.nih.gov/31233491/) · PMCID: [PMC6611653](https://pubmed.ncbi.nlm.nih.gov/PMC6611653/)