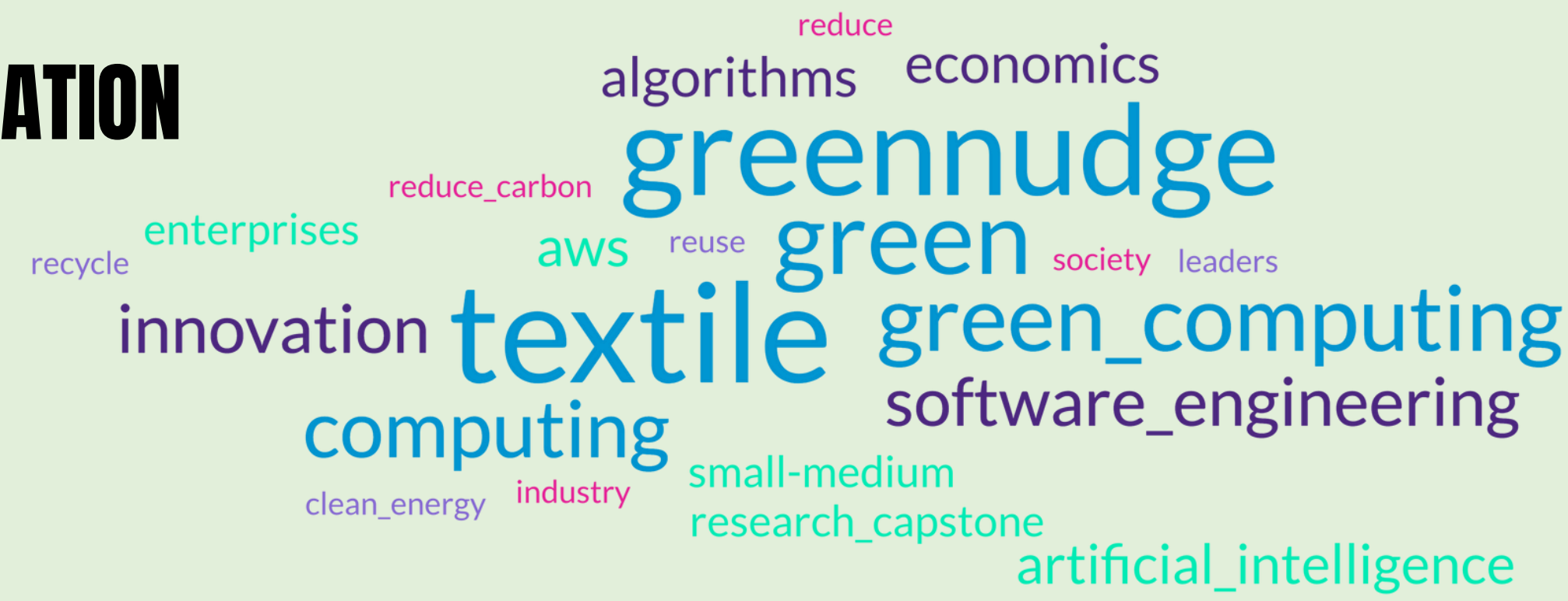
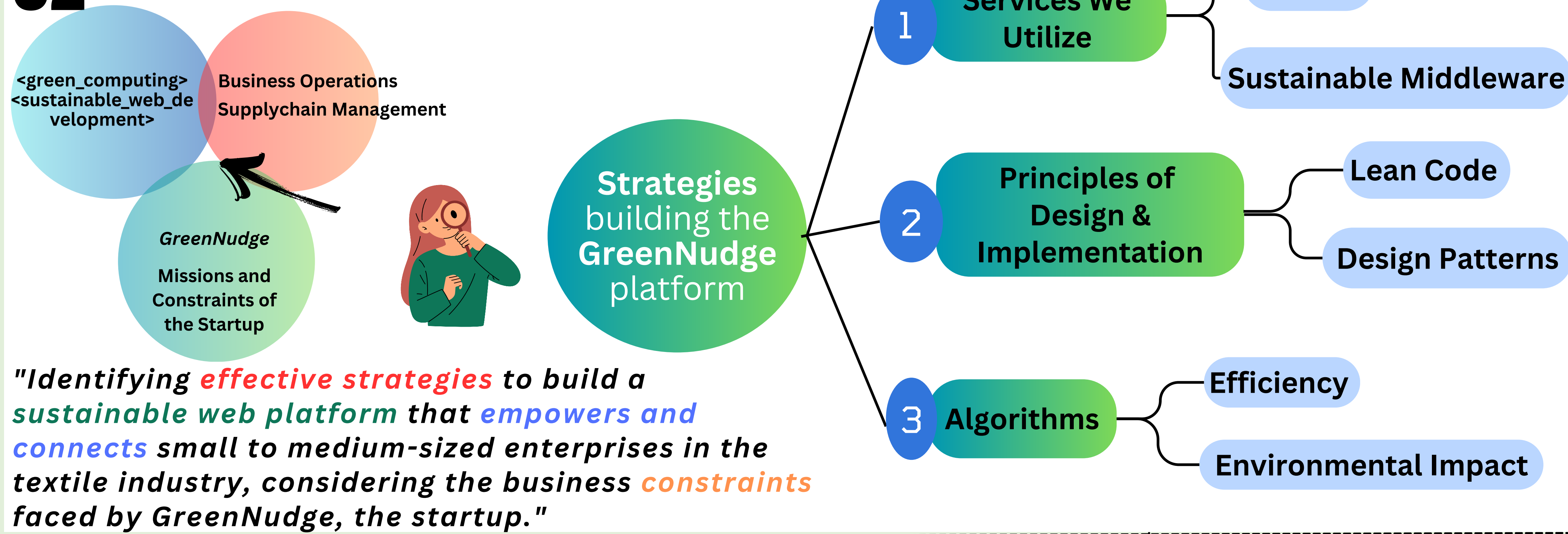


## 01 MOTIVATION

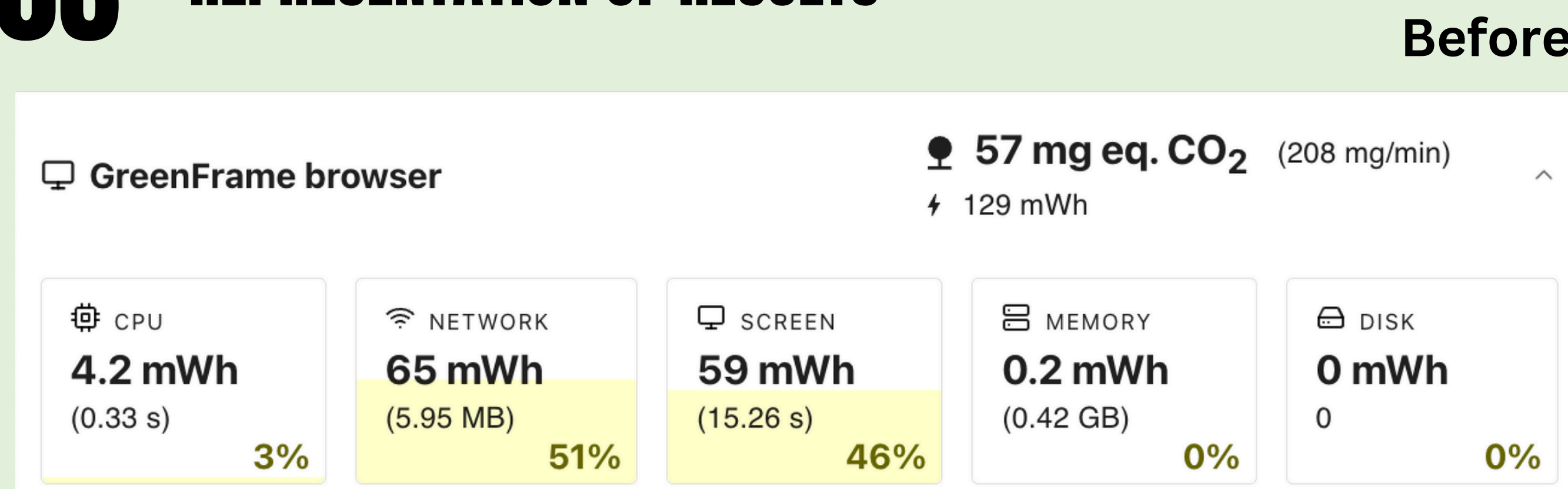


- **Textile industry** produces **10%** of global carbon emissions and **20%** of wastewater
- **Tech sector's** 2-3% of greenhouse gas emissions grows **12%** annually.
- GreenNudge offers SMEs a **sustainable digital solution** that **minimizes their carbon footprint**.

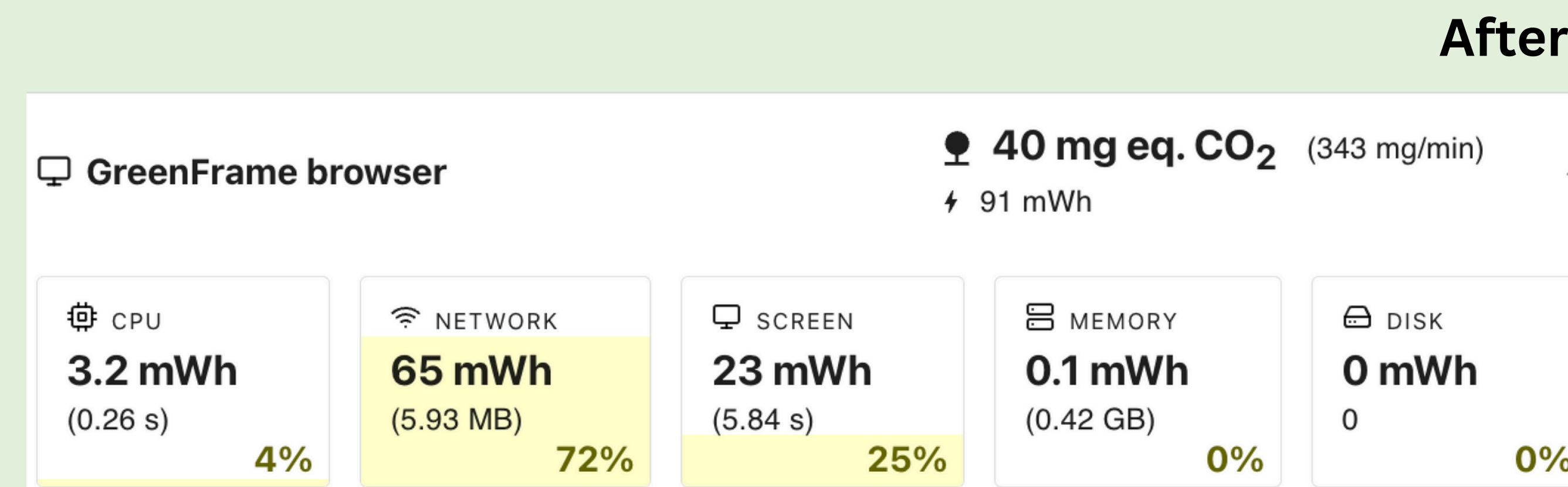
## 02 PROPOSED SOLUTION



## 03 REPRESENTATION OF RESULTS



VS



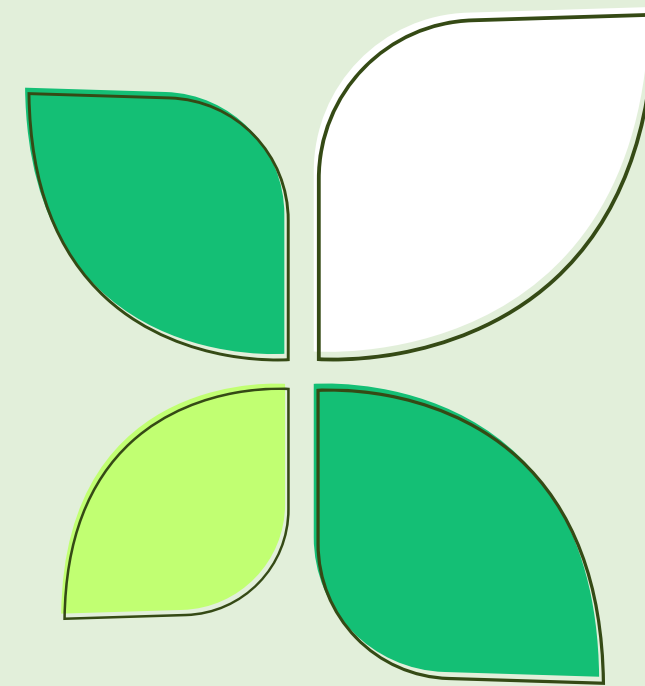
### Code-Level

- Tool Used: CO2.js
- 337.677 grams CO<sub>2</sub> per GB
- Data Transfer: 1GB = CO<sub>2</sub> of driving 1 mile.



### Middleware

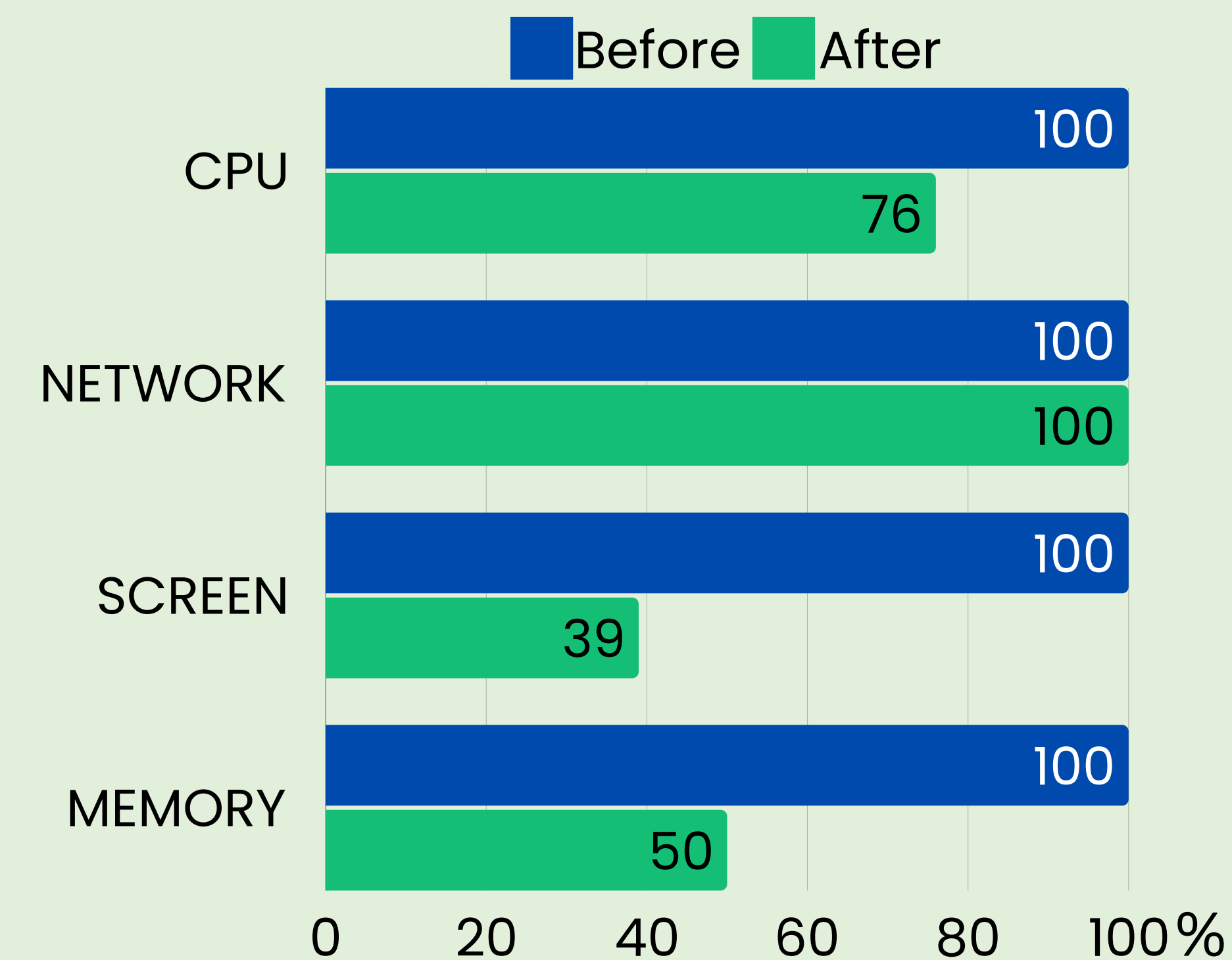
- Tool Used: PowerAPI
- Total Energy Consumption: 350mWh/min for API middleware tasks
- API Tasks: Energy = 6 hours of an LED bulb.



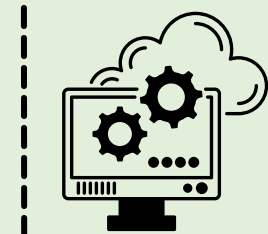
### Cloud Infrastructure & Code-Level

- Tool Used: GreenFrame, AWS Carbon Footprint
- Results:
  - 40 mg eq. CO<sub>2</sub>;
  - 91 mWh energy;
  - Network: 65 mWh (72%);
  - Screen: 23 mWh (25%);
  - CPU: 3.2mWh (4%).
- User Journey: CO<sub>2</sub> = 1 phone charge.

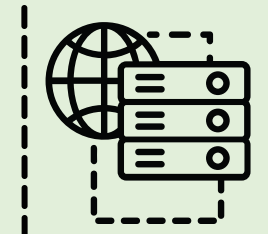
### Normalized Relative Ratios: Before vs After



## 04 FUTURE WORK



Explore Additional AWS services



Integrate AI-Based Monitoring



Conduct User Studies

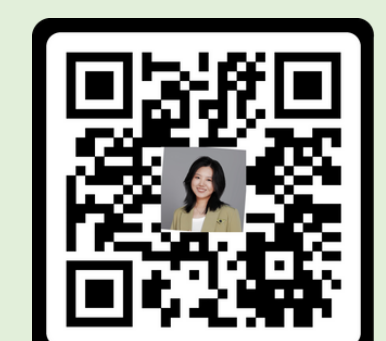
## PROJECT & TEAM LINKS



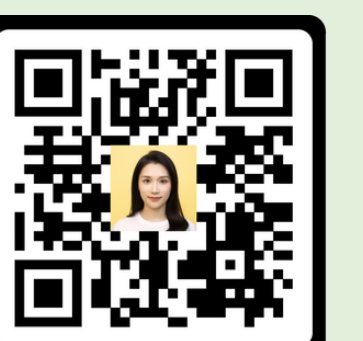
Hatty He



Cathy Fu



Yuning Mu



Emma Wang



Our GitHub