# **Grocery Bags**

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## **Background & Motivation**

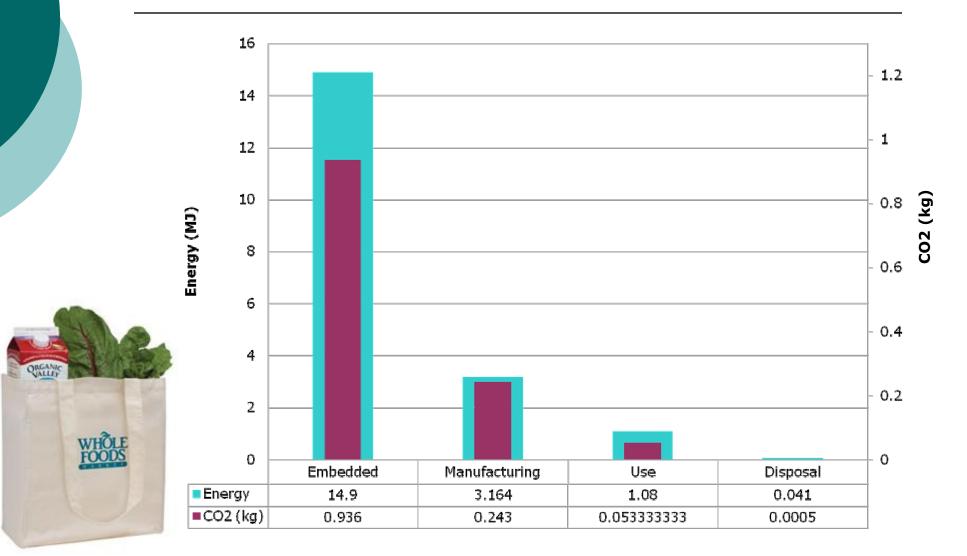
- Many different types of grocery bags:
  - Reusable Cotton
  - Reusable Polypropylene
  - Paper
  - HDPE
  - PLA



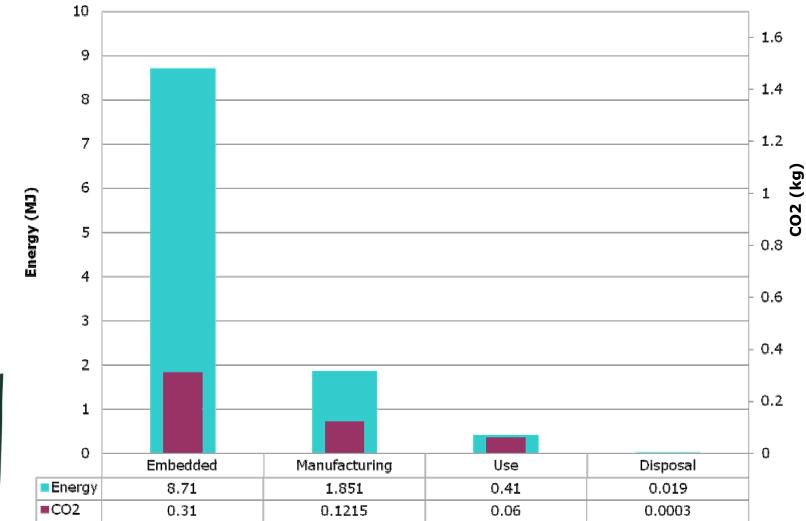
Comparison based on bag volume

What is the environmental cost (energy,  $CO_2$ ) of using different types of grocery bags?

### **Reusable Cotton Bags**

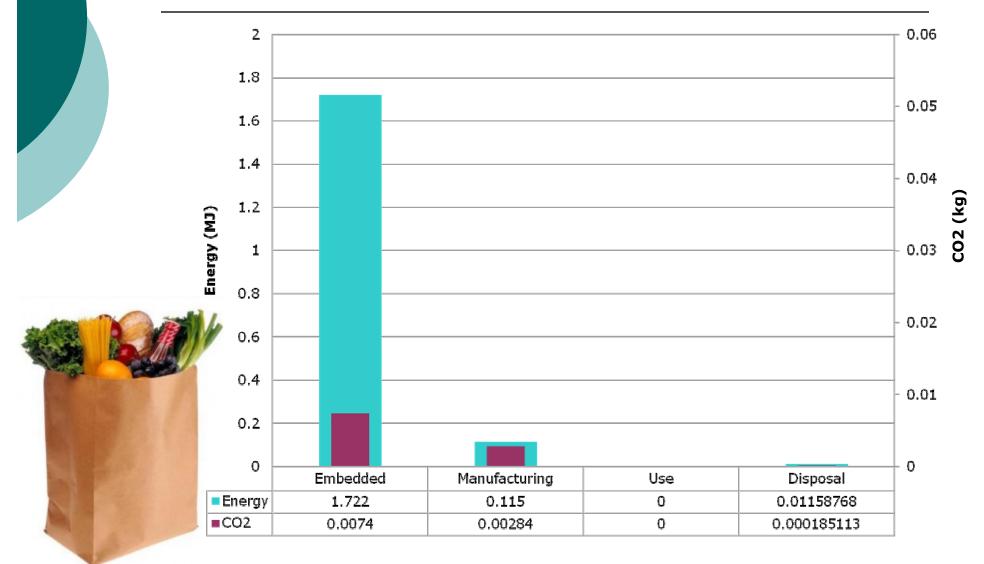


## Reusable Polypropylene (PP) Bags

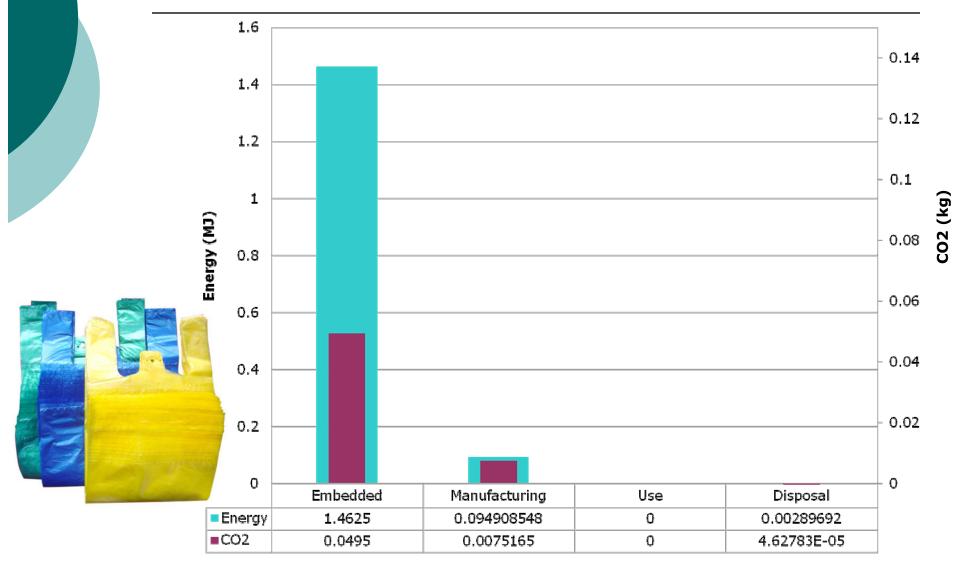




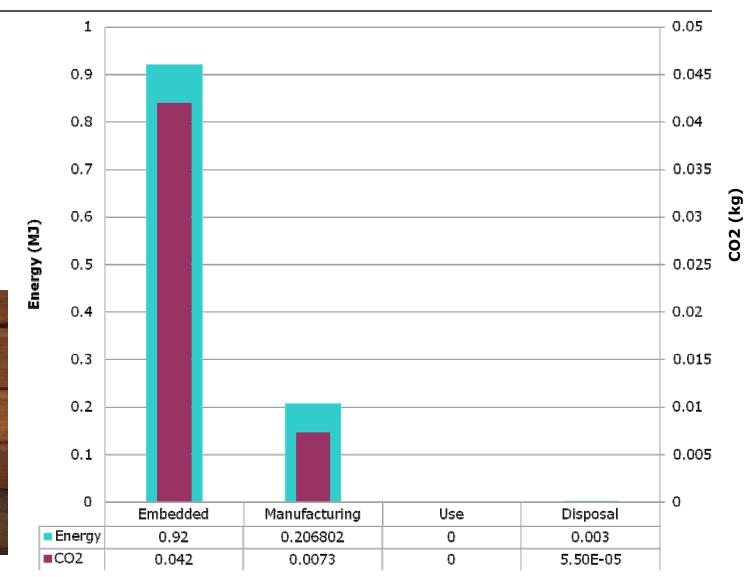




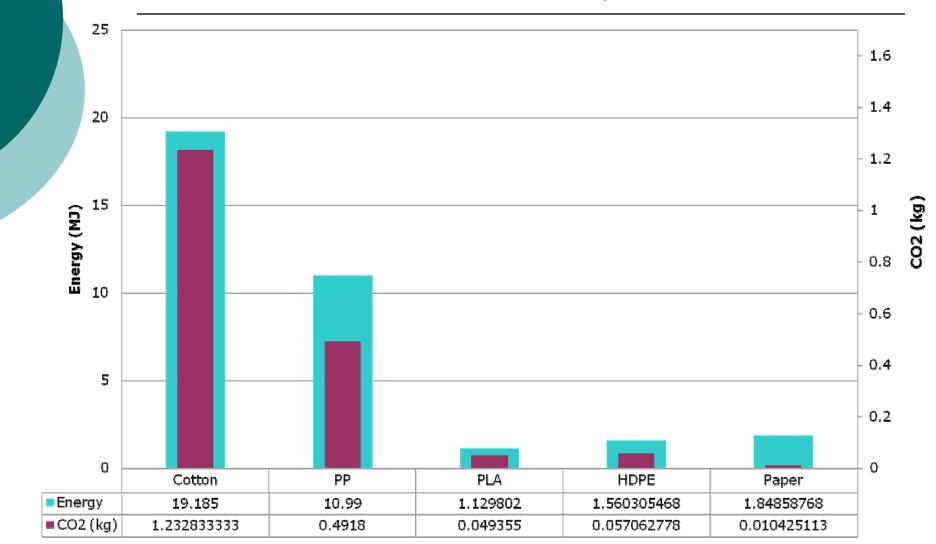
#### High Density Polyethylene (HDPE) Bags

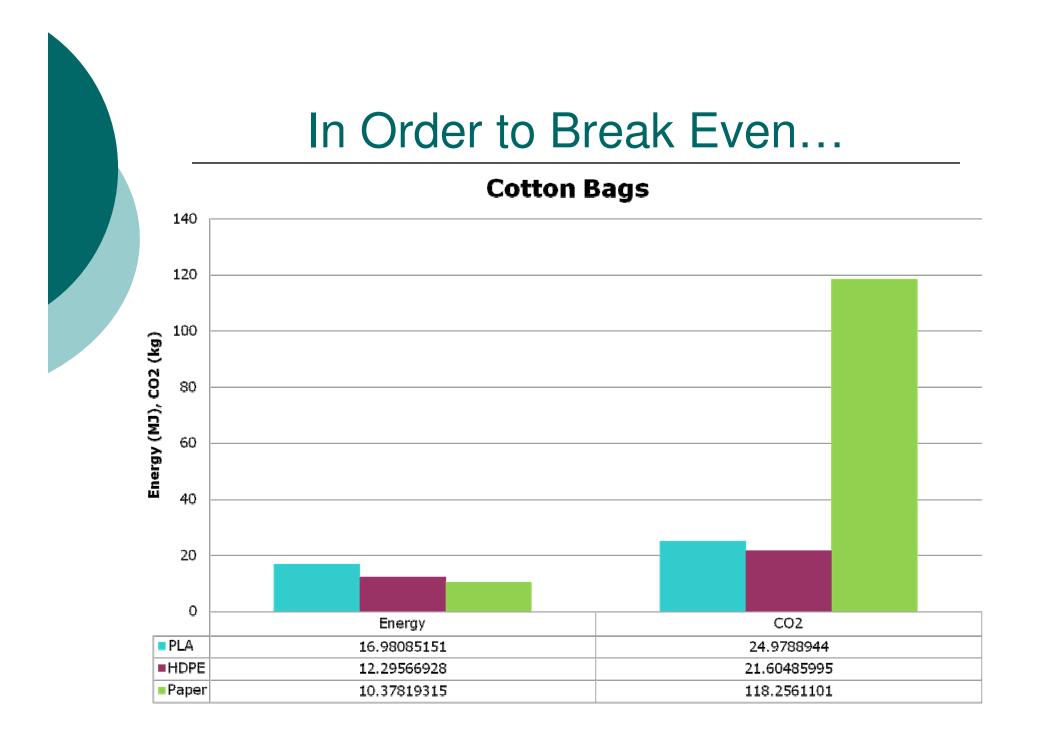


#### Polylactic Acid (PLA) Bags

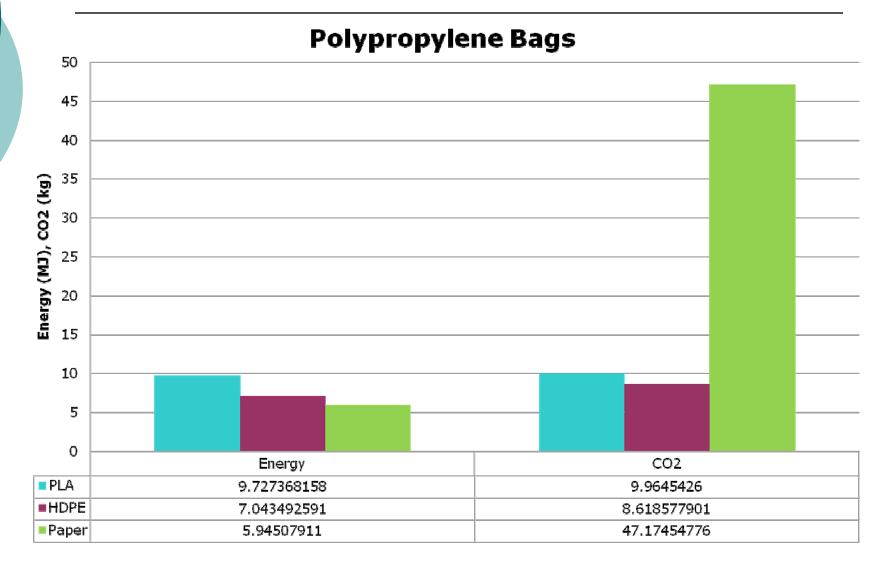


#### Summary

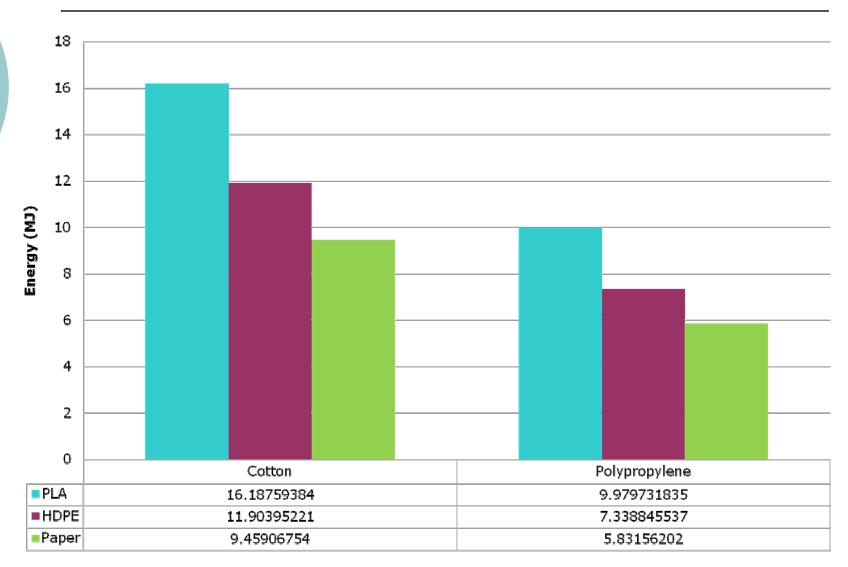




#### In Order to Break Even...



### What about Recycling?



### Conclusions

- Polypropylene is the best (most environmentally friendly) grocery bag to use.
- In order to break even (energetically) with disposable grocery bags, polypropylene bags need to be used 5 10 times.
  - If not reused, cotton and polypropylene bags are even worse than disposable bags.
- It's easy to make a huge impact on the environment on a daily basis!



### Questions?