



Challenges in Waste to Energy Technologies

Sherien Elagroudy, Ph.D.
*Assistant Professor of
Environmental Engineering
Ain Shams University
Cairo, Egypt*

iap

the global network of science academies



ACADEMIA
BRASILEIRA
DE CIÊNCIAS



Grand Challenges and Integrated Innovations:
Science for Poverty Eradication
and Sustainable Development

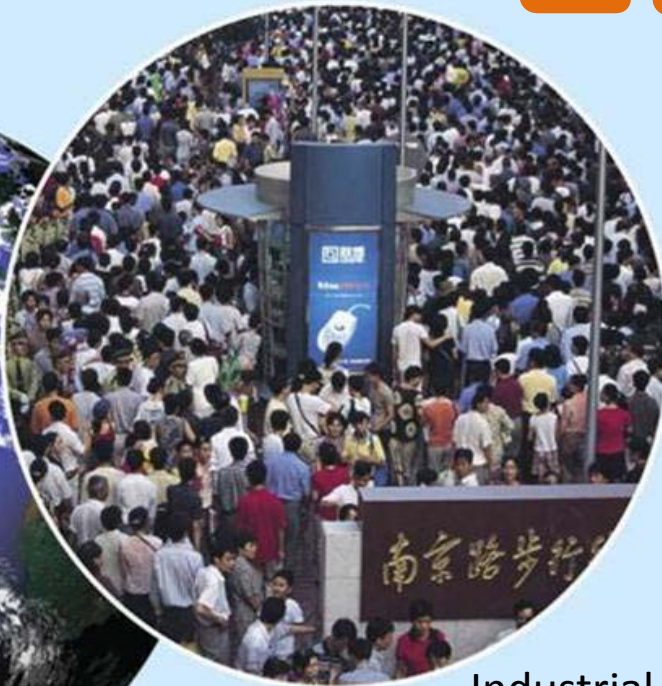
IAP Conference - Rio de Janeiro - 24-26 Feb 2011



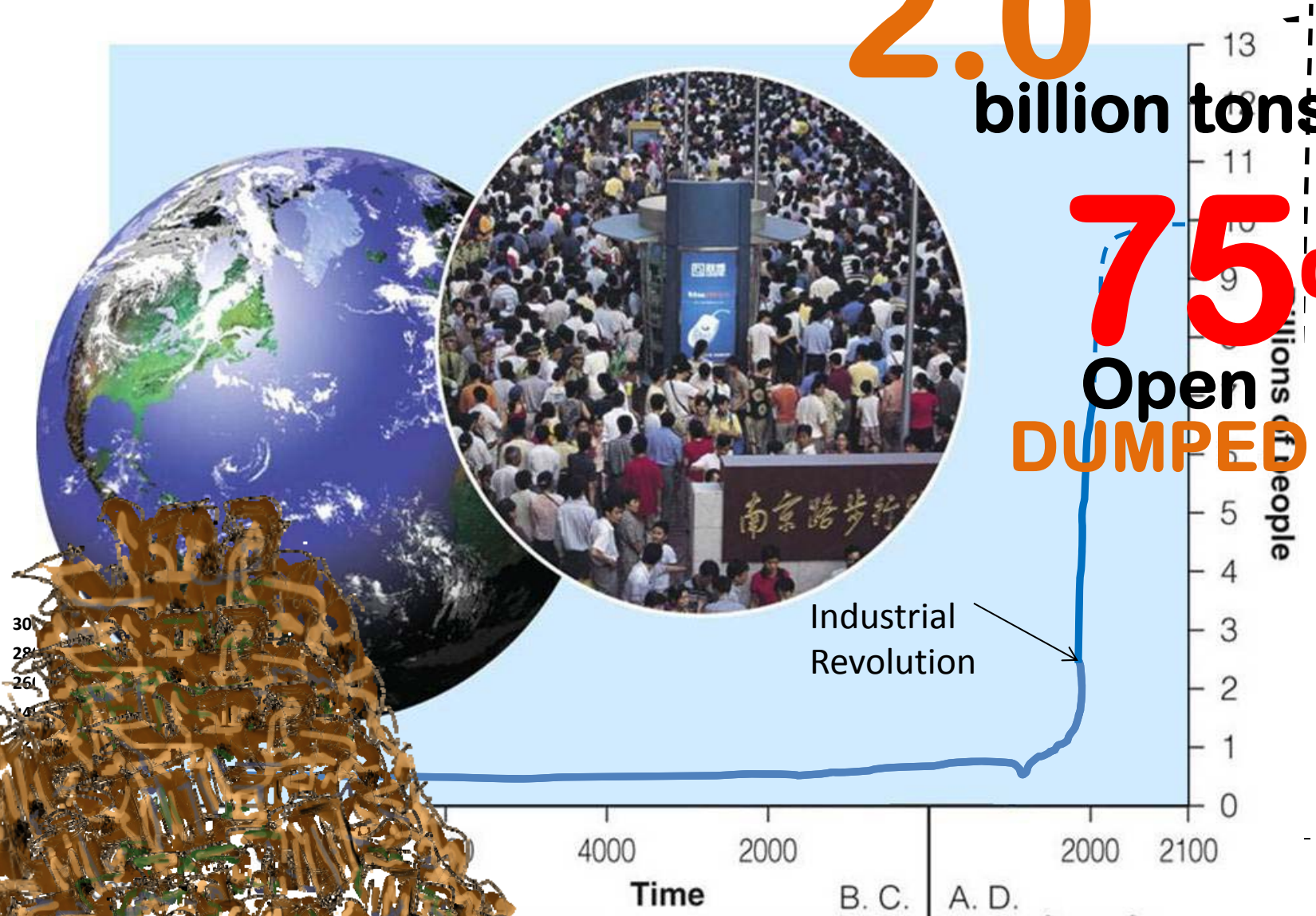
Faculty of Engineering
Ain Shams University
Cairo, Egypt

Collectively **2.0** billion tons

75% Open DUMPED



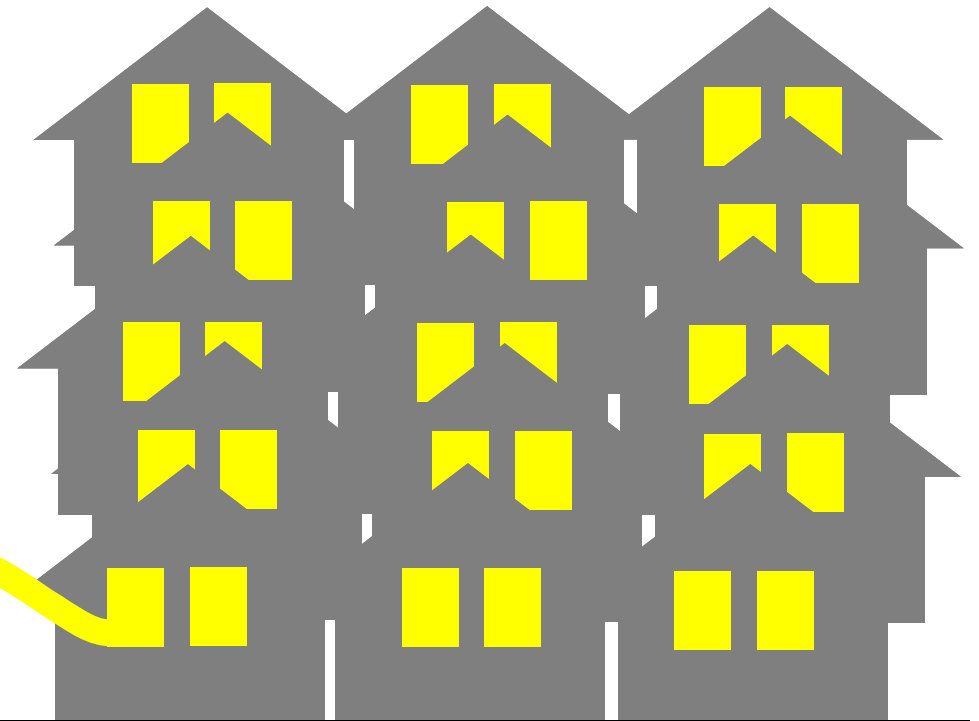
Industrial Revolution



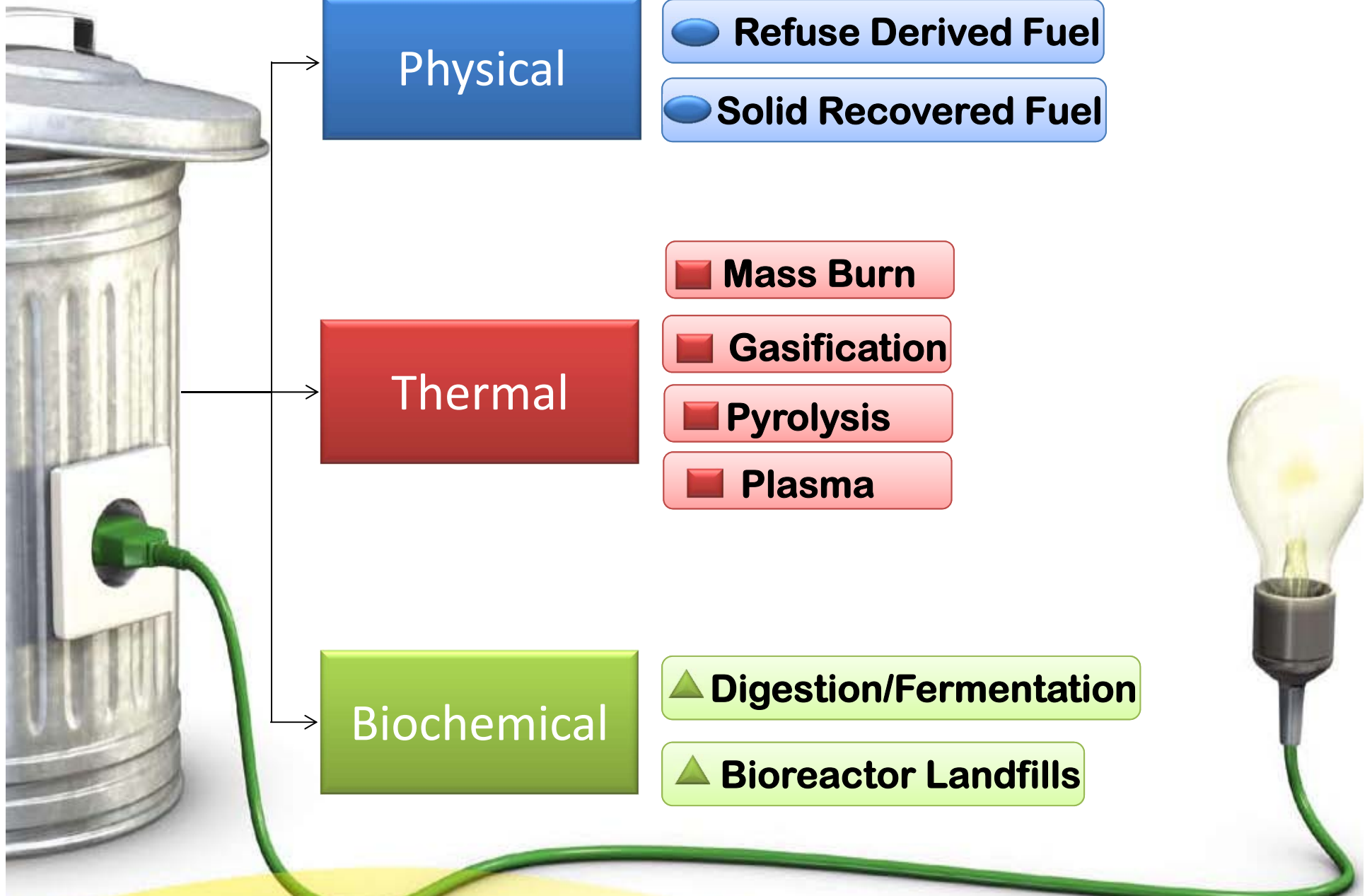
Municipal Solid Waste

Clean ENVIRONMENT

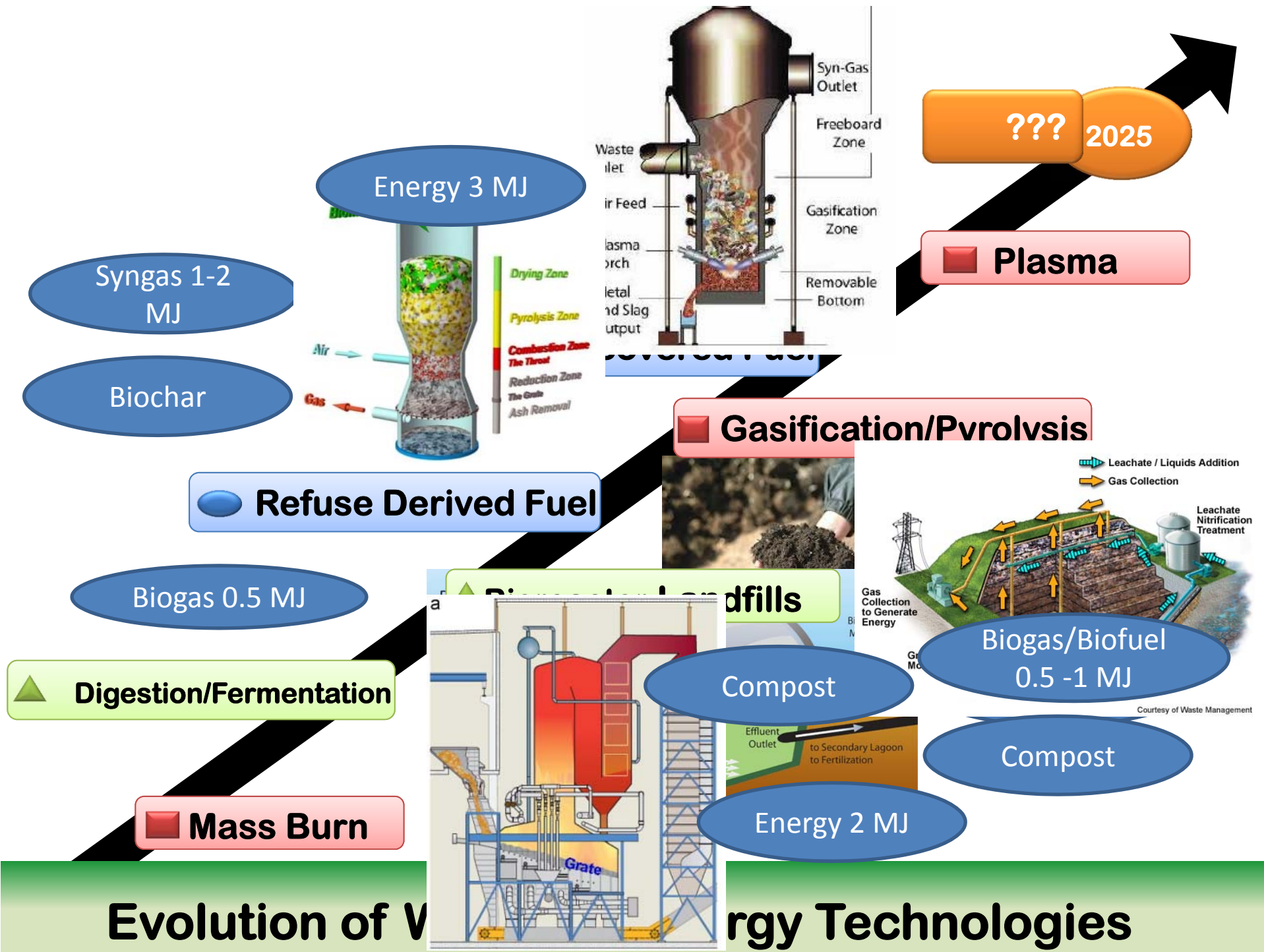
Kick Out THE TRASH **with in more ENERGY**

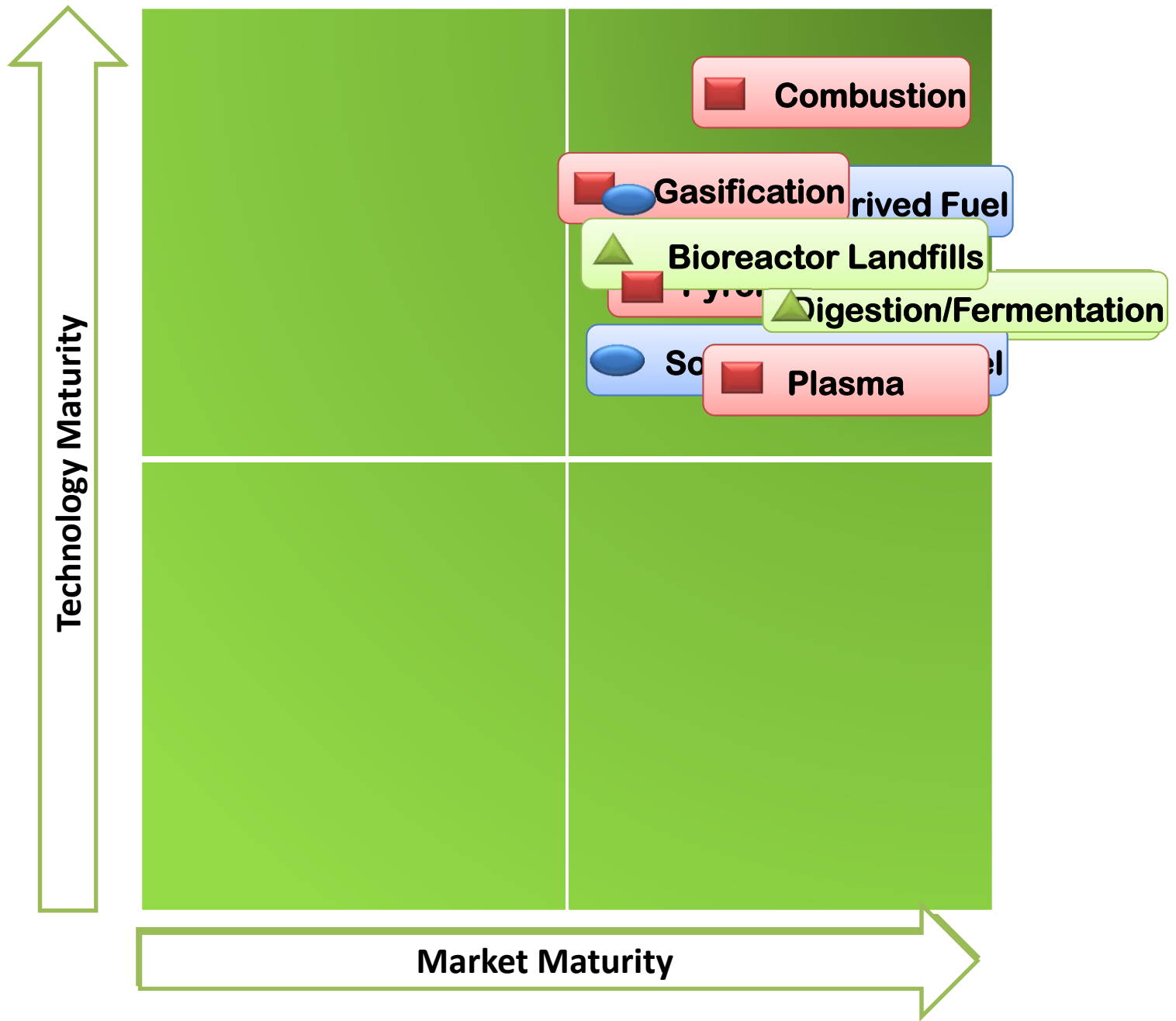


Grand Challenge



Waste to Energy Technologies







 Refuse Derived Fuel



 Solid Recovered Fuel



 Mass Burn



 Gasification



 Pyrolysis



 Plasma



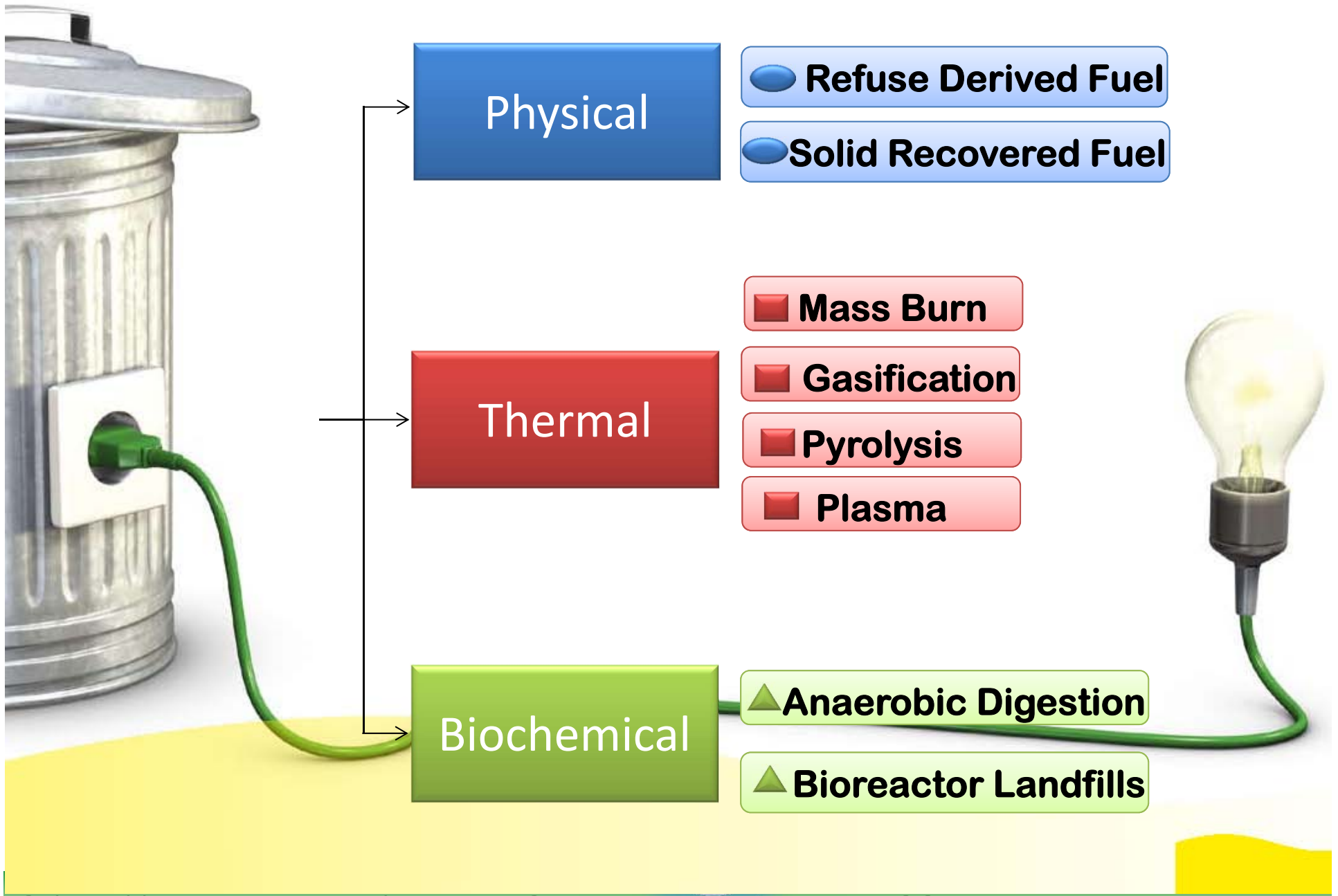
 Anaerobic Digestion



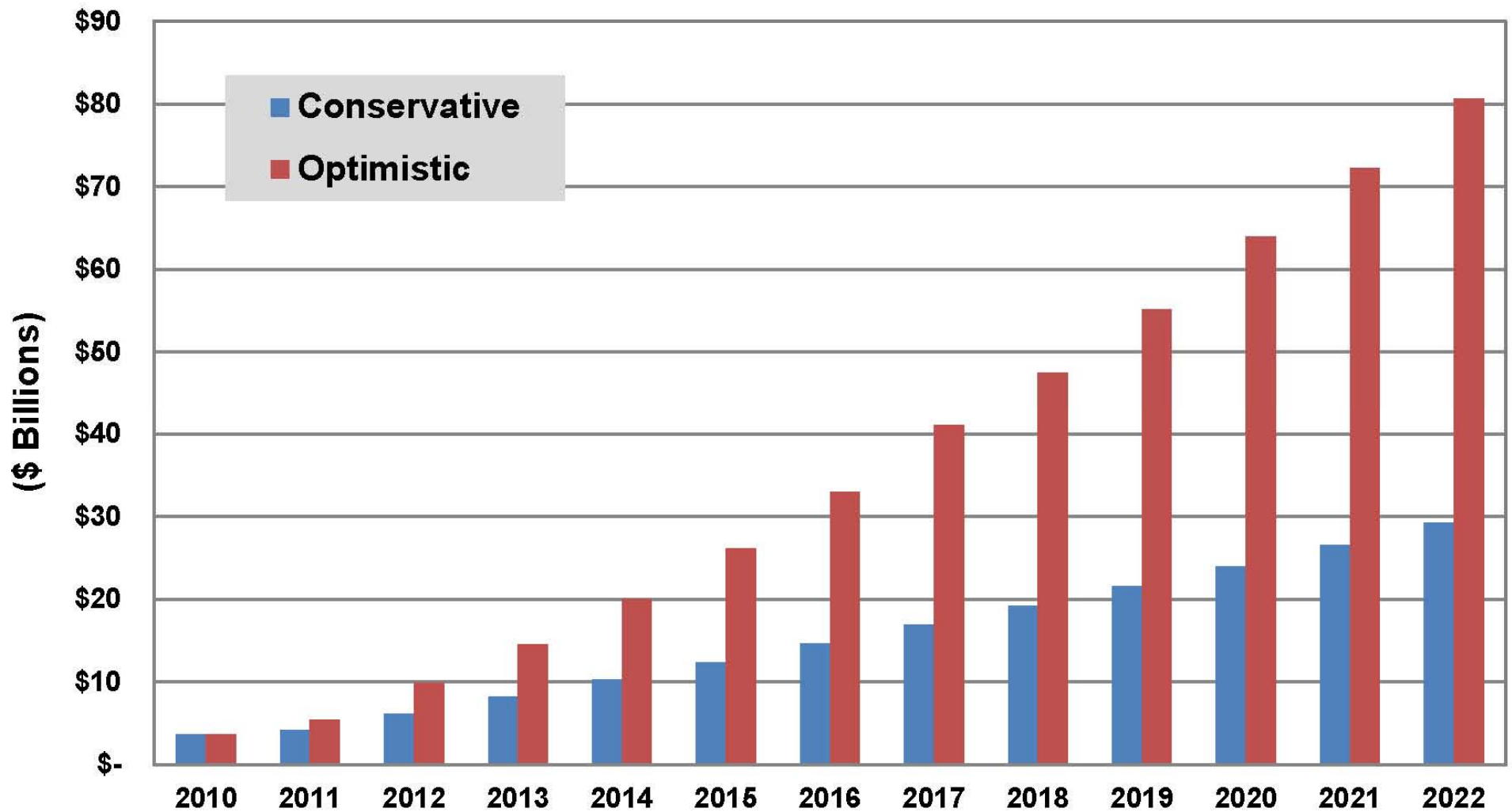
 Bioreactor Landfills



Challenge 1: Variable Feedstock



Challenge 2: Low Conversion Efficiency



Source: WhiteSource and Pike Research

Market Value



Egypt Solid Waste Management Center of Excellence





How can we trash-out waste, trash-in Energy with cleaning the environment in a cost-effective way?

Thank You