



Upland Road

Transforming Tomorrow, Today

**SMART Solutions™ for Solid
Waste - ECOS**

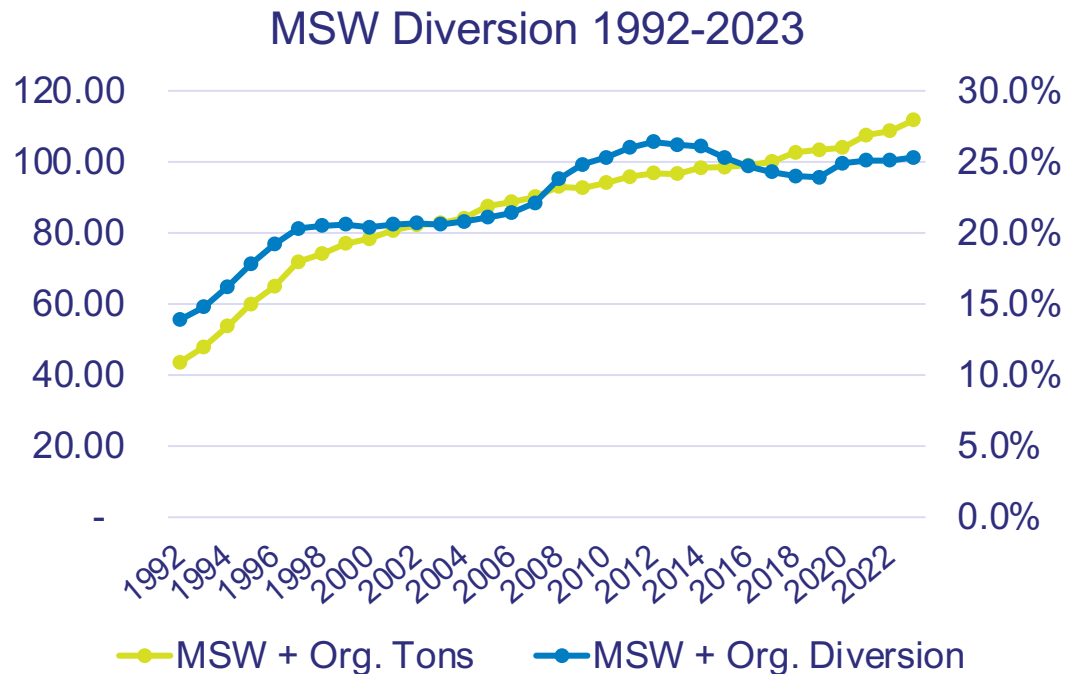
September 2024





Current structure of waste management industry cannot meet environmental targets

The U.S. recycling rate is stuck between 25-35%



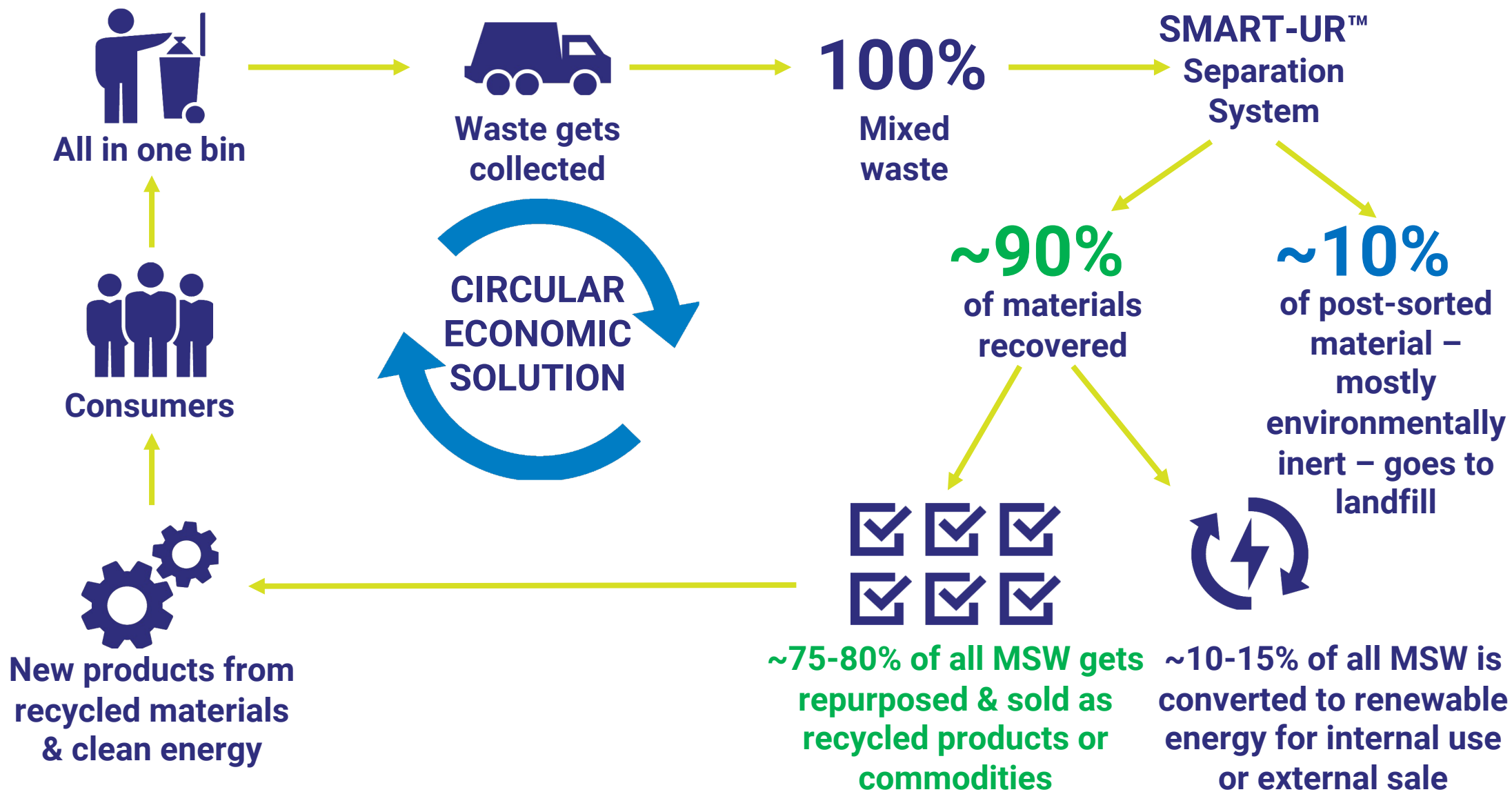
Source: *Waste Business Journal*, 2021

Material recovered: 108 million tons, 25% recovery

Source separation is the primary weakness in our current system.

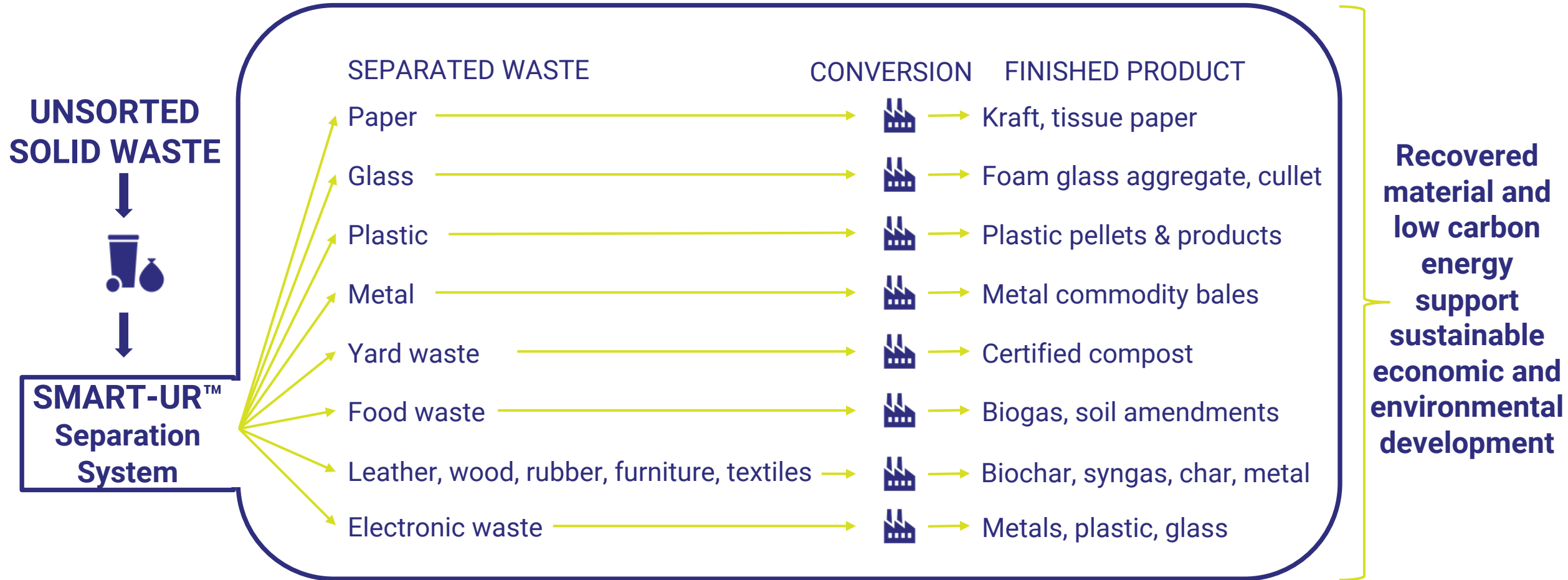
Achieving full materials re-use and 80x50 requires us to address the *entire* waste stream holistically, rather than individual segments of it.

Our solution: Centralized transformation of waste into its highest value





SMART Centers™ create economic value from on-site production and co-location with off-take partners



Sample SMART Center™ layout





How can state environmental offices help?

- Can't go to the moon in a hot air balloon
- Support systemic approaches to solving waste management problems
 - Do not rely on mandates for source-separation
- Allow for comprehensive permitting
 - Comprehensive approaches will have several diverse operations being integrated on a single campus
 - Have an ombuds-person function to allow one-stop shop for integrated projects
- Update waste characterizations at local and state level
 - Develop a universally accepted protocol for consistent measurement and definition of materials



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Financial and environmental benefits

SMART Centers™ are significantly more profitable to local communities than conventional approaches to recycling and waste management.

The SMART Center's™ closed loop, integrated configuration reduces costs and minimizes pollution.

Upland Road's privately-funded business model maximizes economic and environmental value of the processed materials for the local economy, while reducing collection and processing costs.

~1,500-

2,000

direct and indirect jobs created per SMART Center™

\$700-

1,200

million* PRIVATE capital investment for one SMART Center™

> 20%

reduction in solid waste management costs

> 500

thousand tons of CO2e reduced each year

* Investment range reflects different potential backend technology configurations