

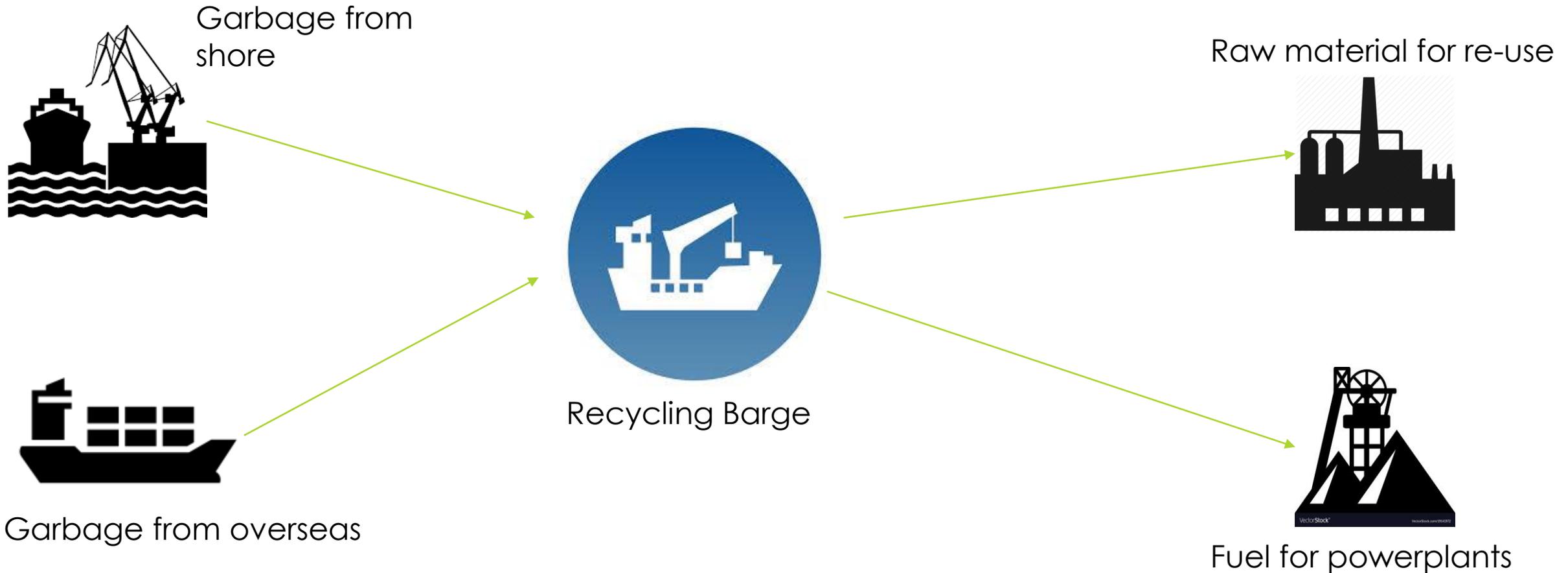


Recycling Barge Concept

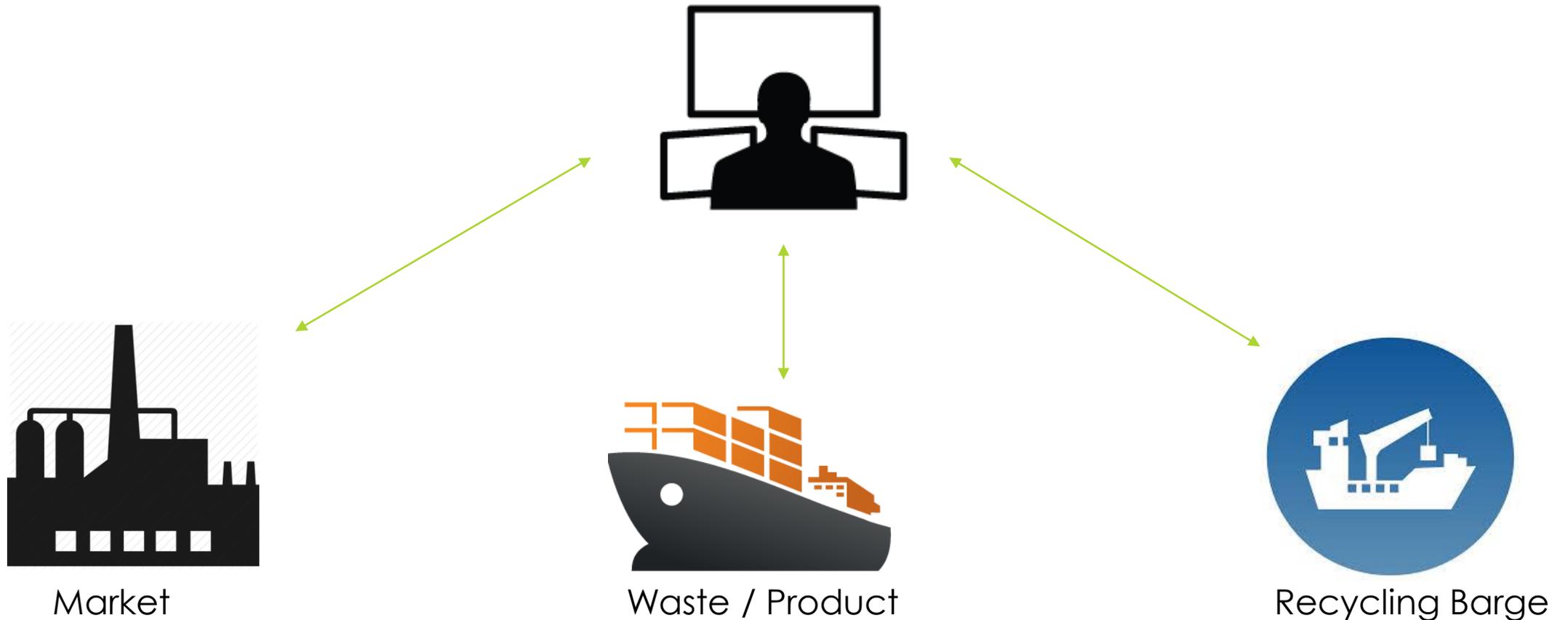
Basic idea

- ▶ Easy recycling for customers
- ▶ Focusing in raw materials that can be re-used or be used as fuel in powerplants
- ▶ Flexible markets (moving to market area)
- ▶ Optimizing logistic chain (by moving next to suppliers or markets)

Basic idea



Optimizing logistic chain



Recycling Barge

- ▶ Highly automated sorting process
- ▶ Burning LNG as fuel
- ▶ Aiming to "zero emission"
- ▶ Minimum operator crew
- ▶ Using tugs to move
- ▶ Waste transfer made by vessels

Who we are?

- ▶ Mikko Sjöblom: Market analysis, buying raw materials
- ▶ Nicolas Salmelin: Market analysis, selling products
- ▶ Laura Niskanen: Optimizing logistic chain
- ▶ Juho Leinonen: Automated waste handling, block chains
- ▶ Sampo Rajala: Barge design, sea logistics

Rules and Regulations

- ▶ IGC Code (Carrying LNG in bulk)
- ▶ BLU Code (Loading and Unloading Bulk carriers)
- ▶ IMSBC Code? (Solid Bulk Cargoes Code)
- ▶ SOLAS
- ▶ MARPOL
- ▶ BWMS Code (Ballast Water Management Systems)
- ▶ IS Code (Intact Stability)

Next steps

- ▶ Waste handling development
- ▶ Optimizing logistic chains
- ▶ Optimizing transfer barges