Household Food Waste Management In the Republic of Korea Toward Green Growth

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IV Review of Food Waste Management in Korea

Ⅰ. Background of Food Waste Management in Korea

Background

- **Need to change Korean food culture (29% of MSW) – avoiding over - serving, over-preparation (Korean traditional dinning table)**

- **Problematic issues related to food waste disposal**
  - Public complaining about odor of nearby landfill sites or incineration facilities
  - Significant production of leachate, generates landfill gases

- **Dependent on import: 73% of grain demands indeed effective utilization of food ingredients**
  - Economic value added (EVA) of food waste: ~18 trillion won/yr,
  - treatment cost ~0.8 trillion won/yr

- **Possibility of food waste-to-resources**
  - highly feasible as a feedstuff or a compost due to high organic content

- **Need to avoid a direct landfill**

Variation of food waste generation

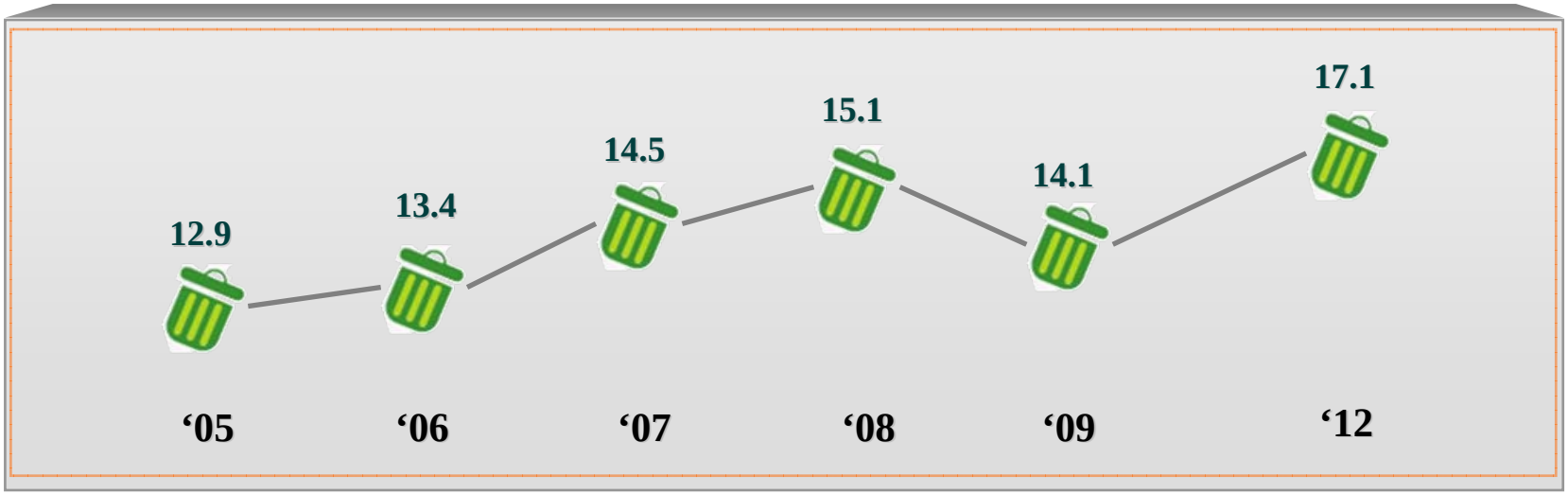
- **Since 2005 when a direct landfill ban was enforced, continued increases of food waste**

  - **Improvements of food culture and/or food waste management plan (2005.1)**

- **Generation of amount of food waste**

  - **Increase of 3% / per year**

(unit : thousand ton/day)

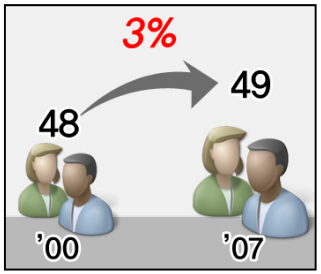


Source : Ministry of Environment(2012)

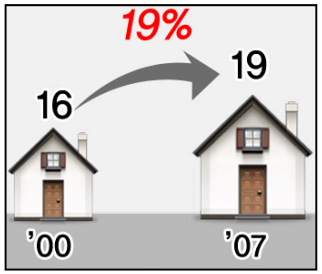
Annual disposal cost: ~800 billion won

Converted economic values: equivalent to wasting of ~20 trillion

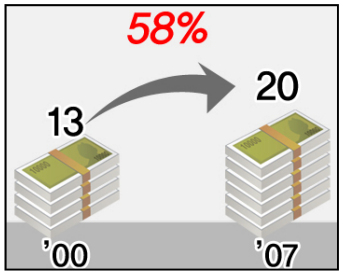
What make food waste more generated ?



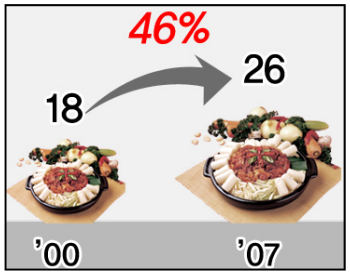
Population: 3%↑



Family: 19%↑



GNP: 58%↑



Cost of dining-out: 46%↑

※ Korean food culture favoring an excessively full table

- **over-providing of side dishes to customers at restaurants**
- **over-ordering and mismanagement of stock, mishandling**

Annual amounts of food waste from a family of 4 people

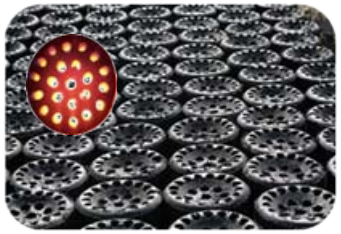
Emission of GHS 724kgCO_2eq

- Seoul-Busan round trips
  4.8 times

- absorption by 148 pine trees

Energy consumption: 718kwh

- 20% of annual household electricity consumption



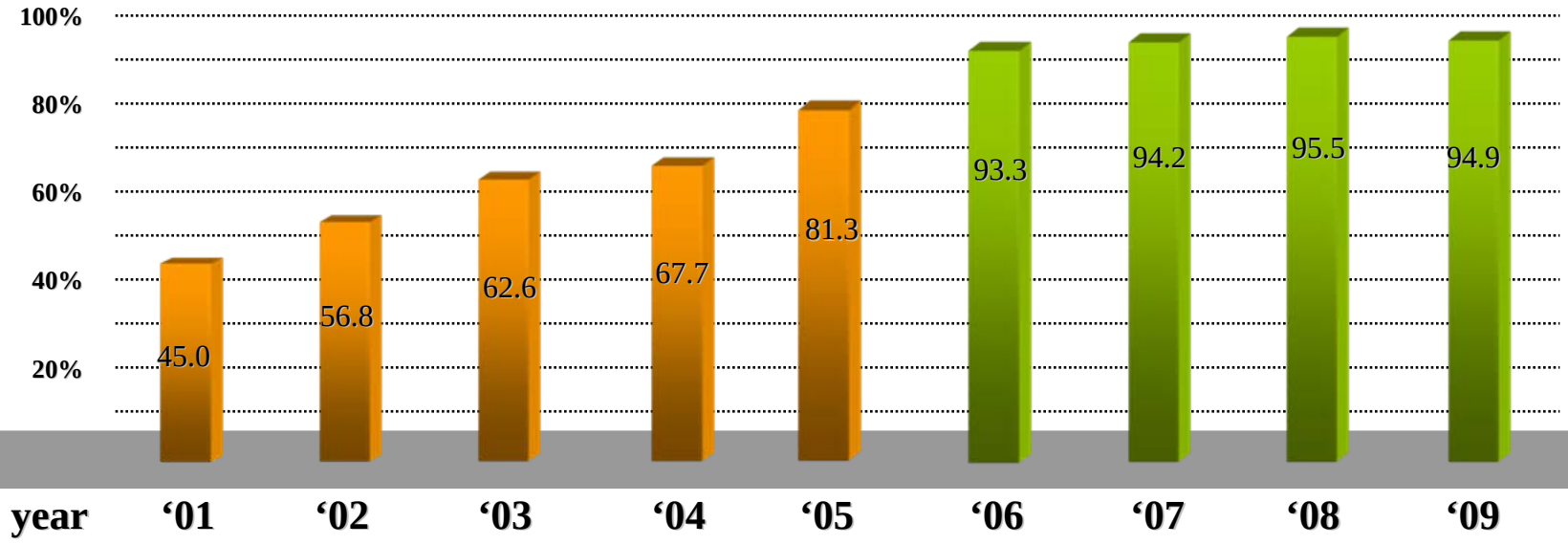
- equivalent heating energies of 485 charcoal briquettes

Ⅱ. Solution for Food Waste

Drastic increases of separate collection rates

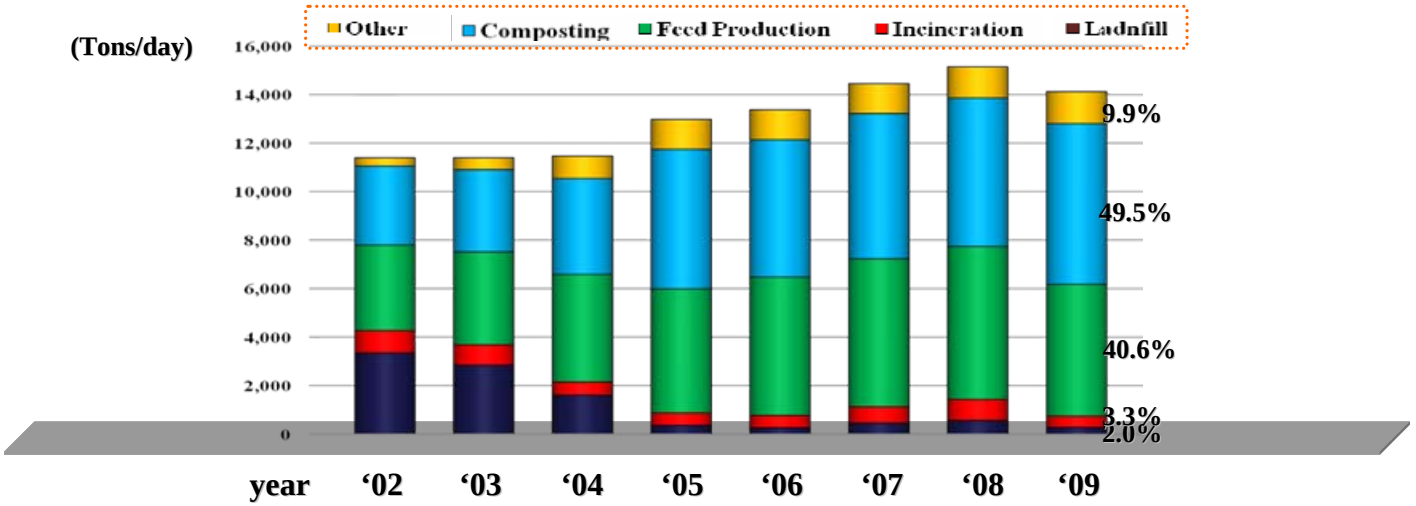
- **Constantly increased (9.8% : '1997 → 94.9% : '2009)**
  - 1997 : Prior notice of food waste direct landfill ban act →
  - 2005 : began to practice direct landfill ban act

- **Annually separate collection rates**



Increase of food waste recycling

- **Recycling rate increased 3.3% : 1996 to 94.7% : 2009.**



- The amount of food waste generated in 2009 is 14,118 tons/day

- **Estimated economic effect through recycling : 174.7 billion won/year (2007)**

Classification	Production (1000 ton/yr)	Sale profit (million/yr)	Substitution effect (billion/yr)
Livestock feedstuff	486	9	1,208
Compost	351	174	176
Secondary raw materials	115	1	172
Electricity, Biogas	9,047 x 1,000 kwh/yr, 2,355 x 1,000 ㎥/yr	4	3

Ⅲ. Food Waste Reduction Strategies

Reduction strategies

- Selection of exemplary environmental-friend restaurants(2004: 213 restaurants were selected)
- Consolidation of “Food bank” project (financial aids for participating facilities)
- Spreading out “no-leftover-from-my-plate movement”
- Planning for “food waste reduction plan” (2010.2)
- National Council of housewives’ classes – member education
- Empty bowl project
- Food waste zero campaign
- Establishment of a code of conduct for food waste reduction
- No food leftover pledge
- Food waste advertising brochures/flyers
- Efforts for food leftover reduction at meal service facilities

Ⅵ. Review of Food Waste Management in Korea

Prospective policy direction

Continuation of food waste reduction/minimization or reuse

- Obtaining a target goal of food waste reduction through improved food consumption culture
- Various & stable recycle system set-up through waste management policy improvement
- Development of novel waste treatment process for energy production from food wastewater
- Effective controls of odor & wastewater for development and enforced management of disposal facilities

"Low Carbon, Green Growth" through resource recycling


Thank You For Your Attention !