

Using more than 60 % of biowaste

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Mustankorkea Ltd

Towards Waste-Free Lifestyles

Biowaste: how to close the nature circle?

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Turku Finland



City of Jyväskylä

- In Central Finland
- 83 000 inhabitants
- 41 000 households
- 15 % single family houses



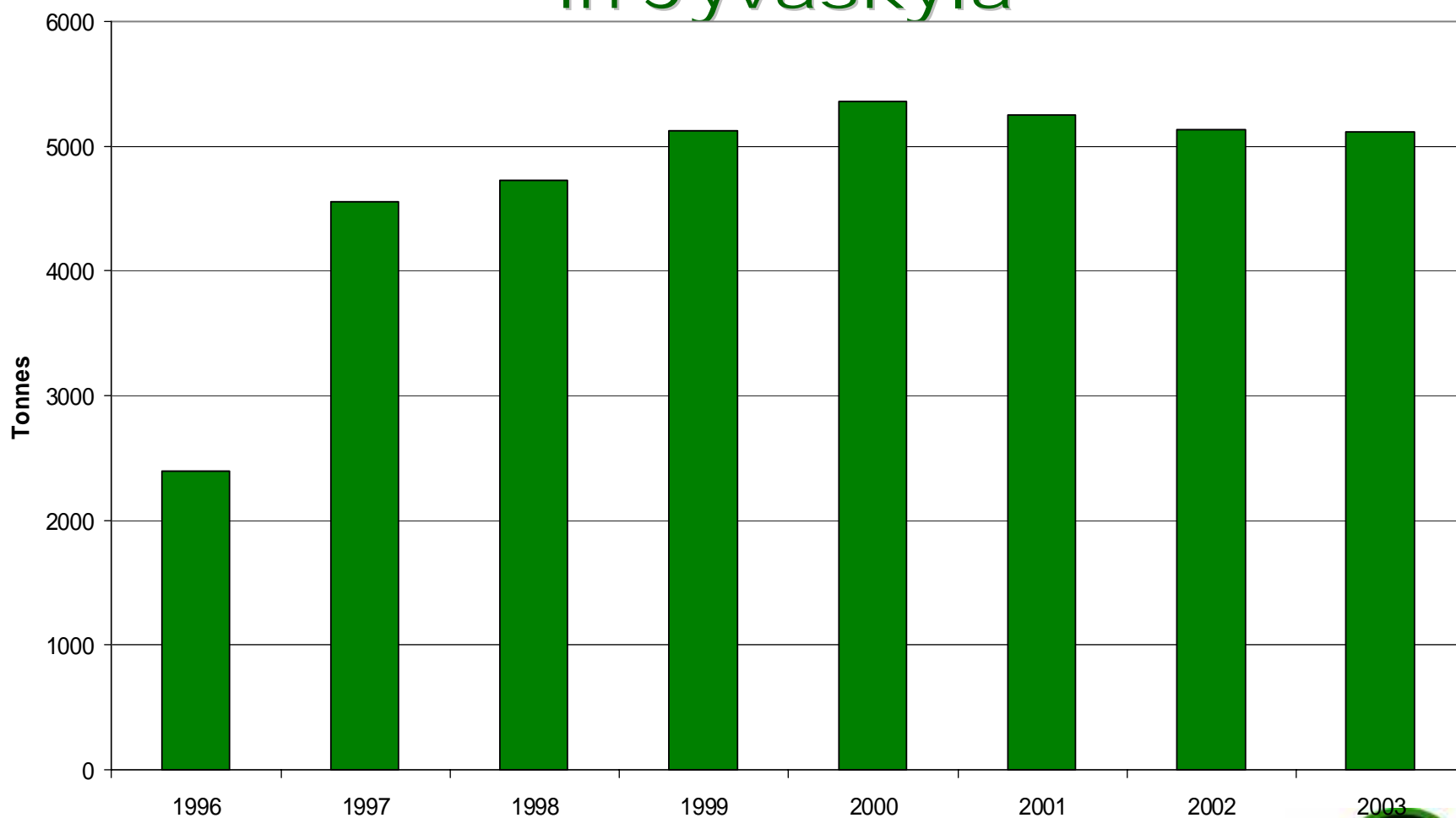
Biowaste Source Separation in Jyväskylä

- Source separation of biowaste has started in Jyväskylä 1996
- Separate biowaste collection is obligatory for all houses, even single family houses
- Also possible to have own compostor

Amount of Source Separated Biowaste in Jyväskylä

- Amount of biowaste per inhabitant in Jyväskylä is very high, about 70 kg in a year
- In year 2003 amount of collected biowaste from households in Jyväskylä was 5100 tonnes
- About 20 % of all source separated waste in Jyväskylä is biowaste

Amount of Source Separated Biowaste in Jyväskylä



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Biowaste Treatment in Jyväskylä

- Biowaste open-air windrow composting started in 1996 when biowaste source separation began
- In autumn 1998 a composting plant was built in Jyväskylä
- The composting plant was built to Mustankorkea Ltd and it was supplied by Vapo Biotech

Mustankorkea Ltd

- Mustankorkea Ltd is a joint venture waste handling company operating in Jyväskylä
- Mustankorkea Ltd is owned by Vapo Ltd, city of Jyväskylä, rural municipality of Jyväskylä, municipality of Muurame and Laukaa
- The company is established in the beginning of 1998

Mustankorkea Ltd

- The company provides services to the four participating municipalities and many other municipalities and companies in the Jyväskylä region
- Operating range covers over 200 000 inhabitants' waste management

Mustankorkea Ltd

- Mustankorkea Ltd Waste Processing Centre receives and processes:
 - biowaste and sewage sludge
 - solid waste
 - building and demolition waste
 - recyclable waste
 - contaminated soil
 - hazardous waste
- Waste transportation remains the responsibility of the municipalities

Operating Range



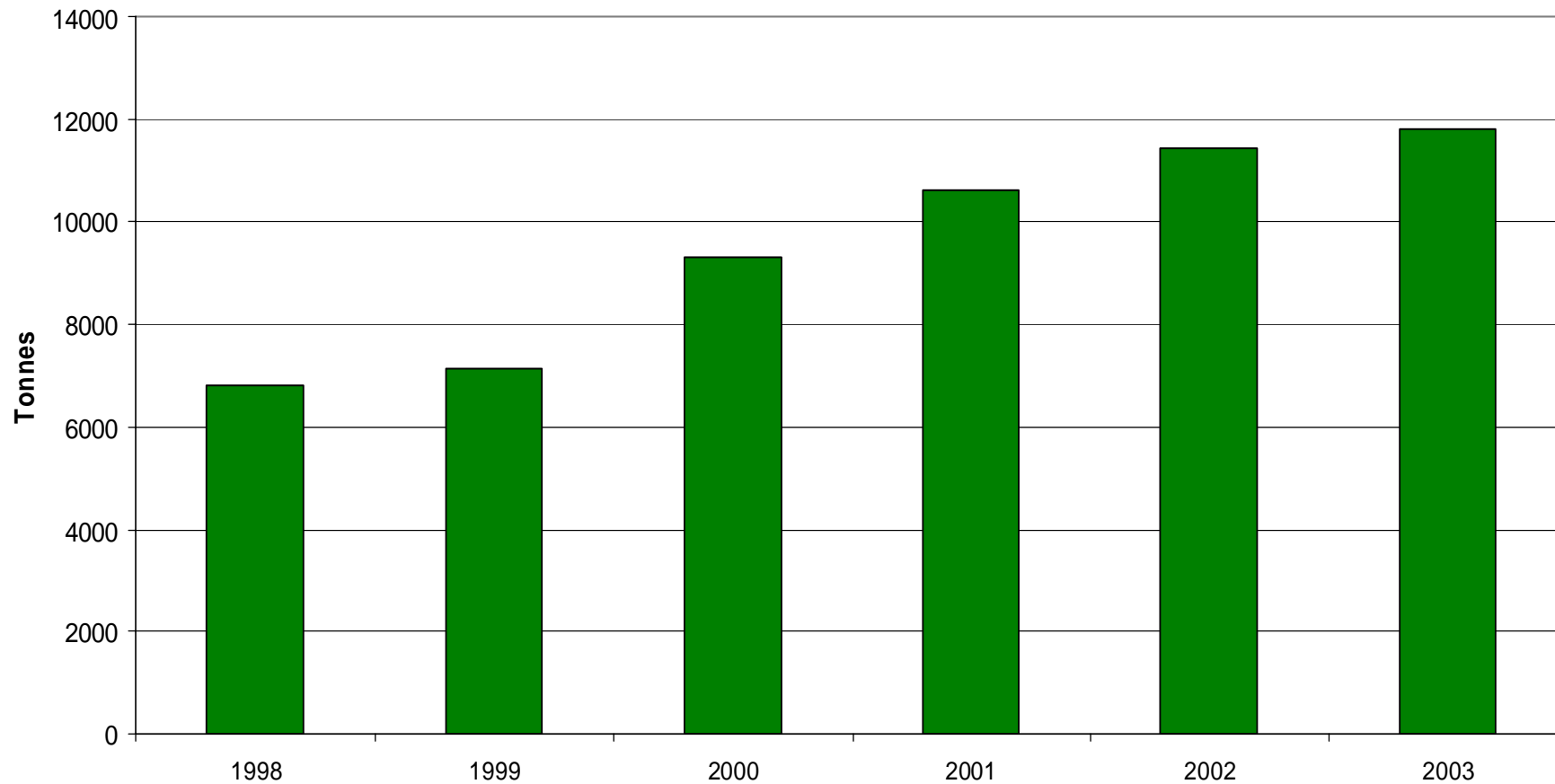
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Tunnel Composting Plant

- Mustankorkea composting plant processes source separated biowaste and sewage sludge
- Built in 1998, expanded in 2002
- Amount of incoming biowaste in a year is about 12 000 tonnes and amount of sludge is about 16 000 tonnes
- The composting plant is based on Vapo Wastech tunnel reactor composting technology

Amount of Biowaste Processed in Mustankorkea Composting Plant



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Tunnel Composting Plant



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Waste Reception



➤ Indoor waste reception



Mixing and Shredding



- Wood chips as structure material

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Loading the Tunnel



- Loaded by wheel loader
- Amount of waste in one patch is about 120 tonnes

Unloading the Tunnel – Aerated Maturation

- After two weeks tunnel phase compost is moved to indoor aerated maturation



Screening



- After maturing phase compost is screened and moved to post-maturation

Post-maturation



➤ Post-maturation
takes 2 to 6
months

Compost Products



- Compost products for gardens, parks, landscaping and erosion prevention

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