### Lean and Green: Profiting from Reductions in Food Waste

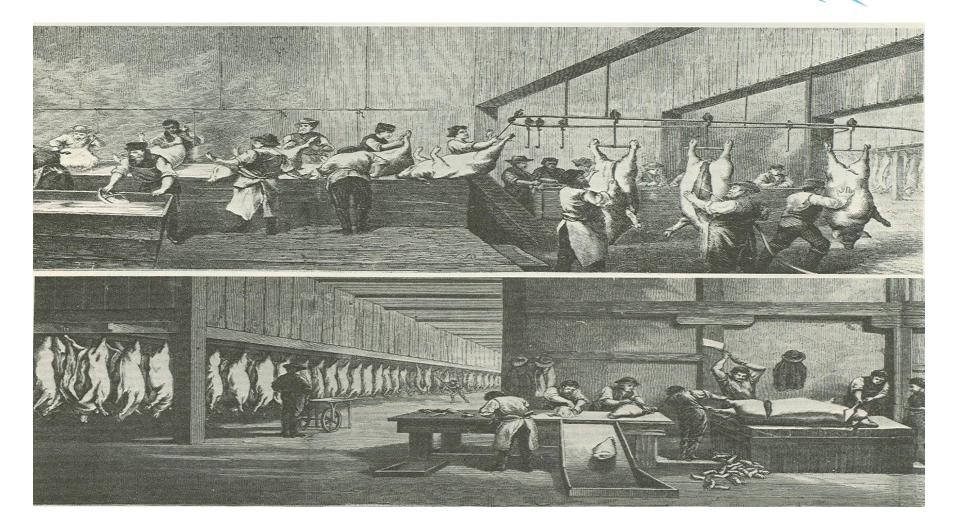
Keivan Zokaei

Visiting Professor, University of Buckingham



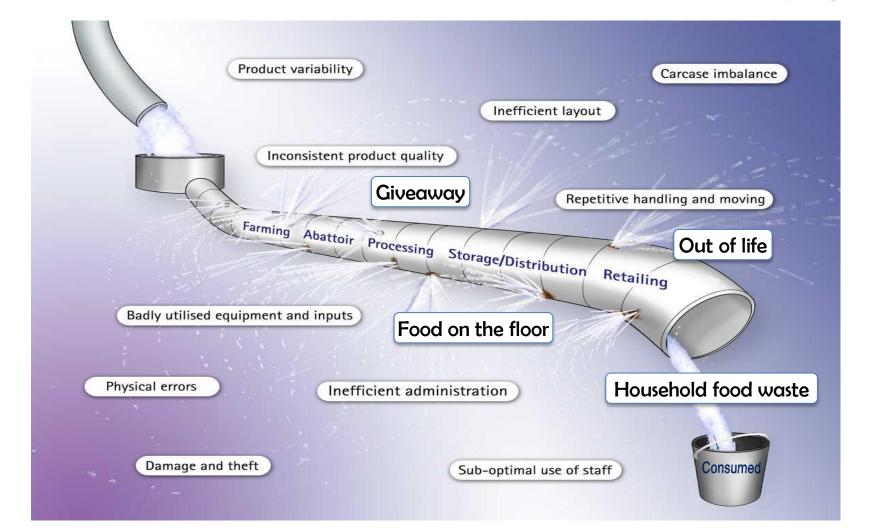
Together, the power to improve

## Henry Ford's inspiration

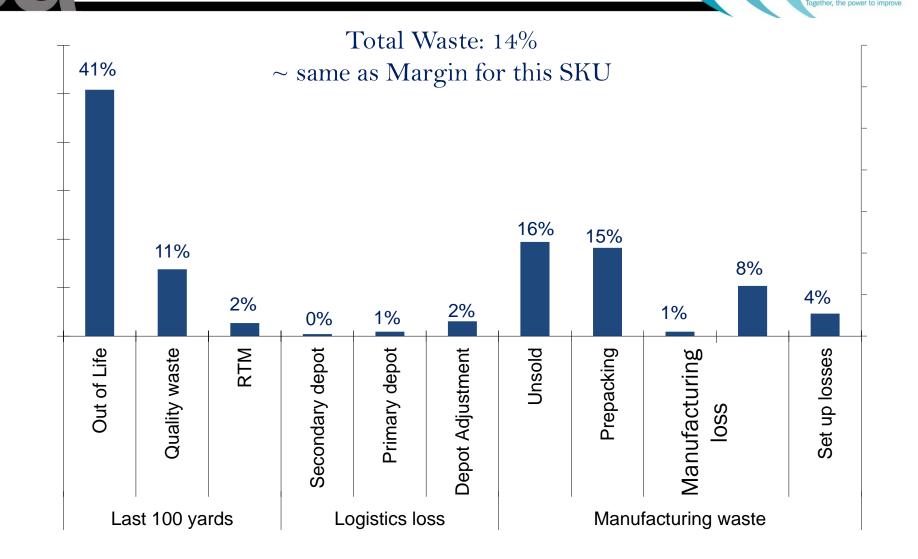


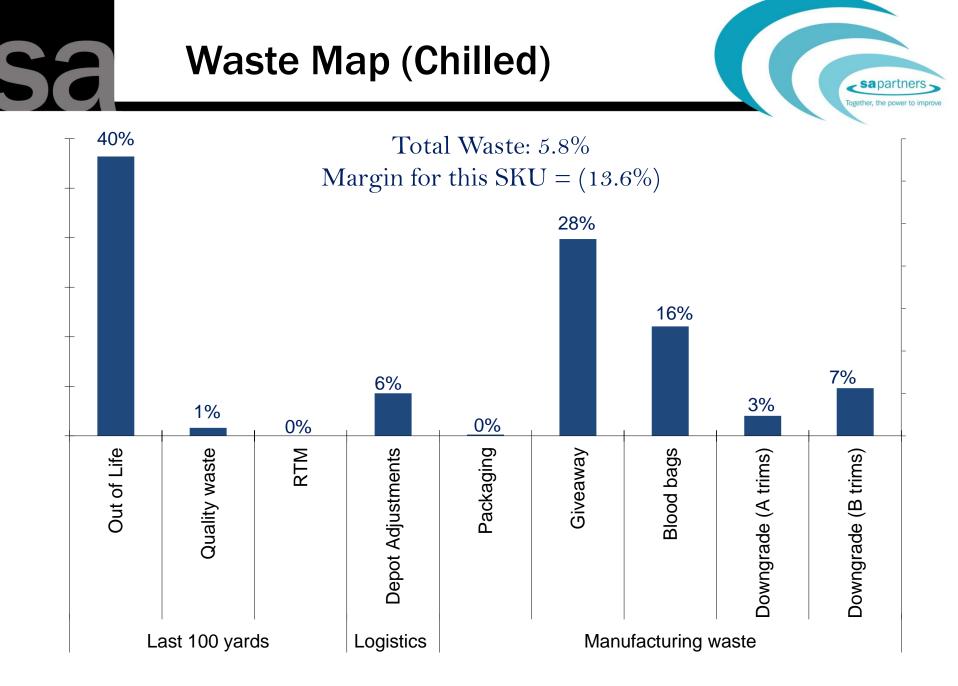
Hounshell (1985)

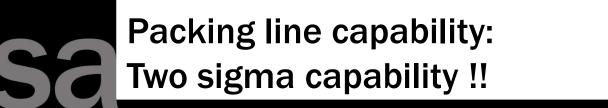
### The Food Industry is NOT Lean

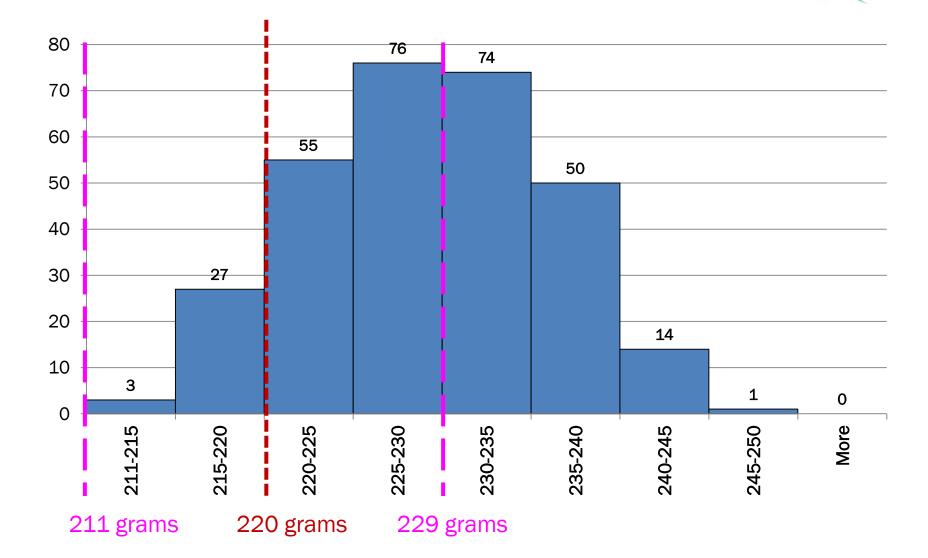


### Waste map (Horticultures)









#### F&D vs. Manufacturing - sapartners Automotive:15 12 Manufacturing ■ Food and drinks Toyota: 35 **Dell: 80** 10 8 6 4 2 0 <sup>19</sup>99 <sup>20</sup>00 <sup>20</sup>05 <sup>20</sup>05 <sup>20</sup>05 <sup>20</sup>05 <sup>20</sup>05 2010 7995 79<sub>96</sub> 799> 7998 <00> 2008 2009

Source ABI (2012) and SMMT (2008)

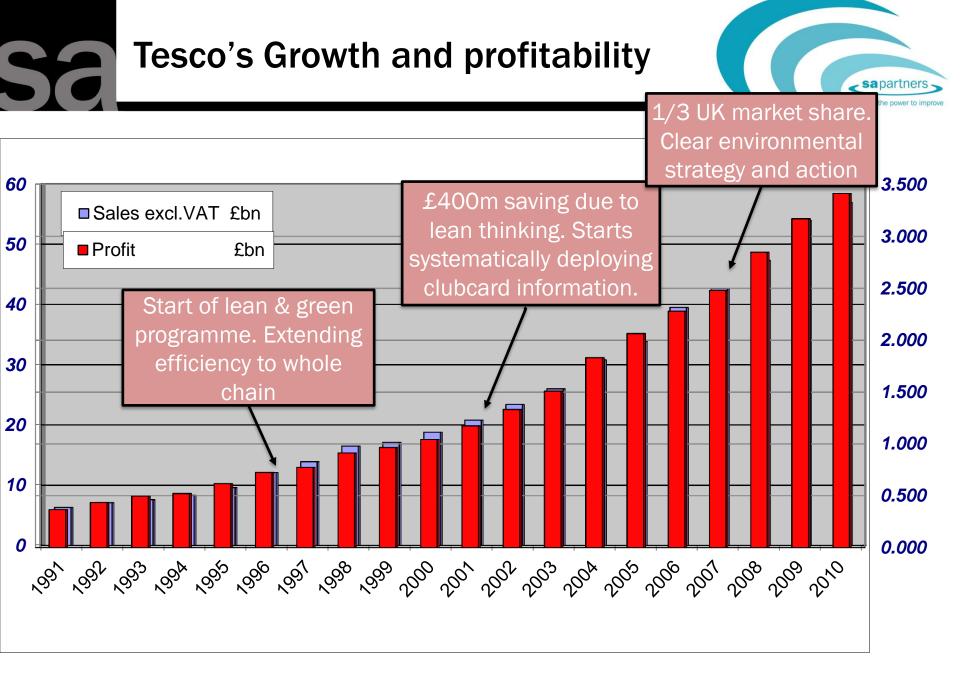
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### Tesco: Clear Lean & Green Strategy

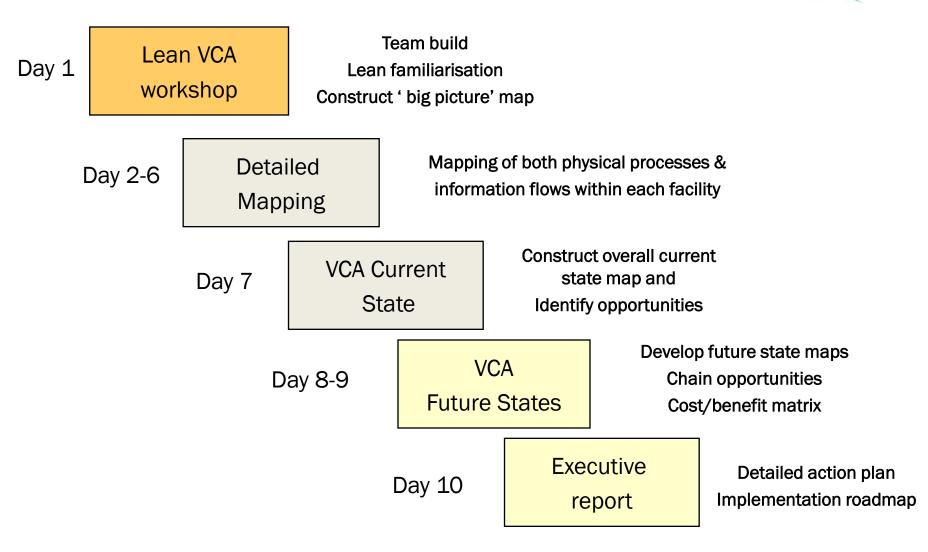


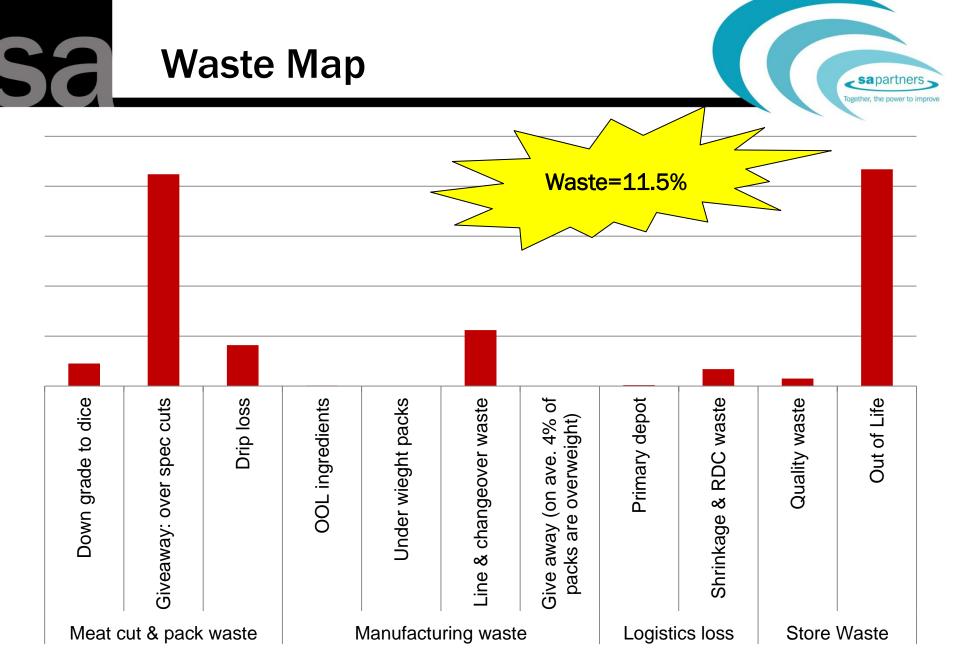
sapartners

power to improv





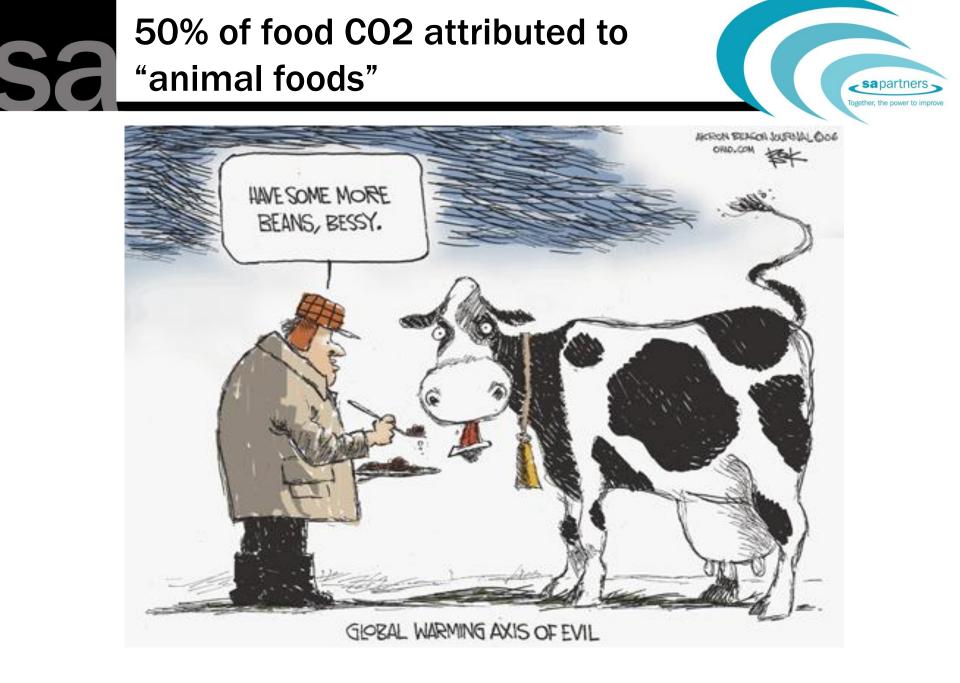




[13]



- 1. Review and align product spec. with customer needs
- 2. Minimise product waste and enhance shelf-life and On Shelf Availability
- 3. Reduce inventory, reduce chain lead-time and no. touches
- 4. Demand amplification and demand distortion





- Fresher products
- Higher availability
- Lower prices
- More consistent product
- Less environmental impact



# Potential benefits to share with the whole chain



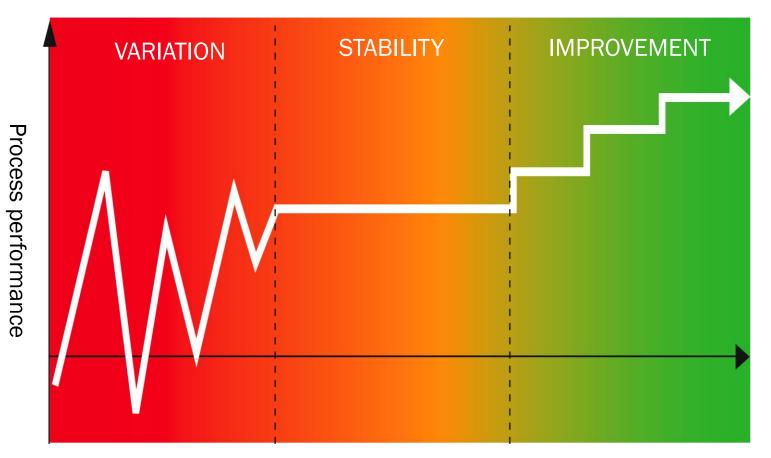
Benefit	%	Improve
Food waste	50%	1000 T
CO <sub>2</sub>		15,000 T
Water		20 osp
Lower costs	8%	£xxxm
Sales uplift	4%	£yyym
Productivity increase	7%	
Inventory reduction	25%	







You need stability before you can pinpoint areas to improve



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# Sa

#### **In-house Lean and Green Interventions**



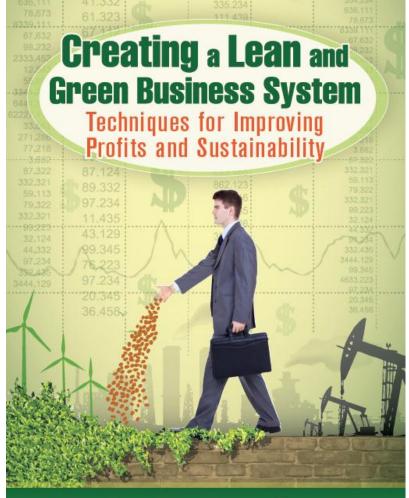
### Hotspots analysis

Legend: Green - OK Yellow - Marginal Red - issue

### Green Big Picture Map with A3's



### Create a Lean and Green Buiness



Keivan Zokaei • Hunter Lovins Andy Wood • Peter Hines



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