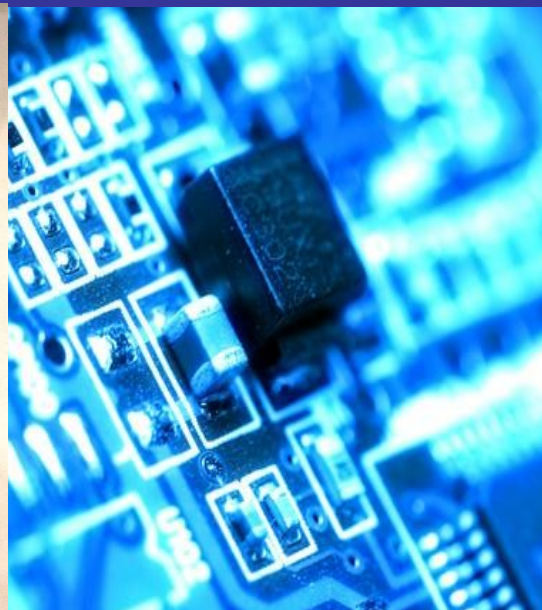
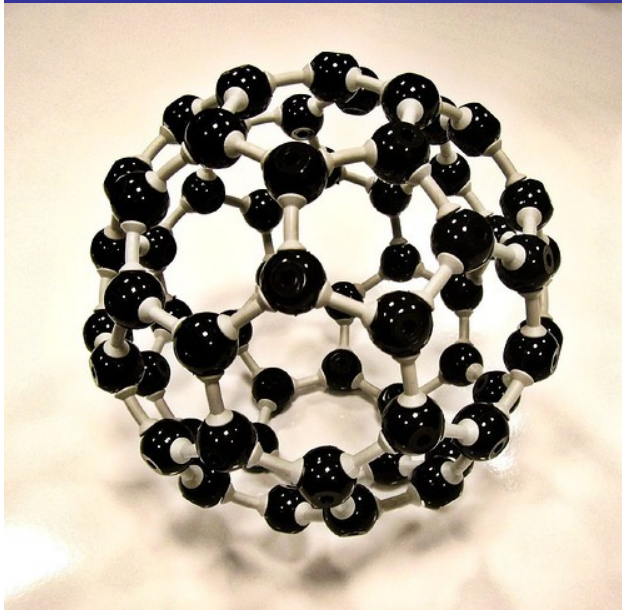


# Sustainable Manufacturing Initiatives



Singapore Manufacturers'  
Federation

新加坡制造商联合会



# Sustainable Manufacturing Programme

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- The “Sustainable Manufacturing Programme” is the first of such initiatives to encourage Singapore manufacturers to adopt eco-friendly sustainable manufacturing processes
- The Sustainable Manufacturing Programme will focus in the areas of eco-efficiency improvements of manufacturing systems





# Sustainable Manufacturing Programme

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- Key focus of sustainable practices will involve the evaluation of current manufacturing processes to reduce energy, water consumption, green house gas emissions and the redesigning of product & services to be environmental friendly.





# Sustainable Manufacturing Programme

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- Under the programme, companies are encourage to develop technologies and methodologies to transform their manufacturing processes by:
  - reducing emission of greenhouse gas
  - use of clean energy
  - improve energy usage
  - reduce use of non renewable or toxic materials
  - reduce waste by products





# Sustainable Food Mfg Project

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- To encourage food manufacturers and F & B outlets to improve its internal manufacturing processes, packaging usage and to recycle their waste byproducts i.e. used cooking oil, food waste will be collected by waste management companies to be converted into animal feed, biofuel





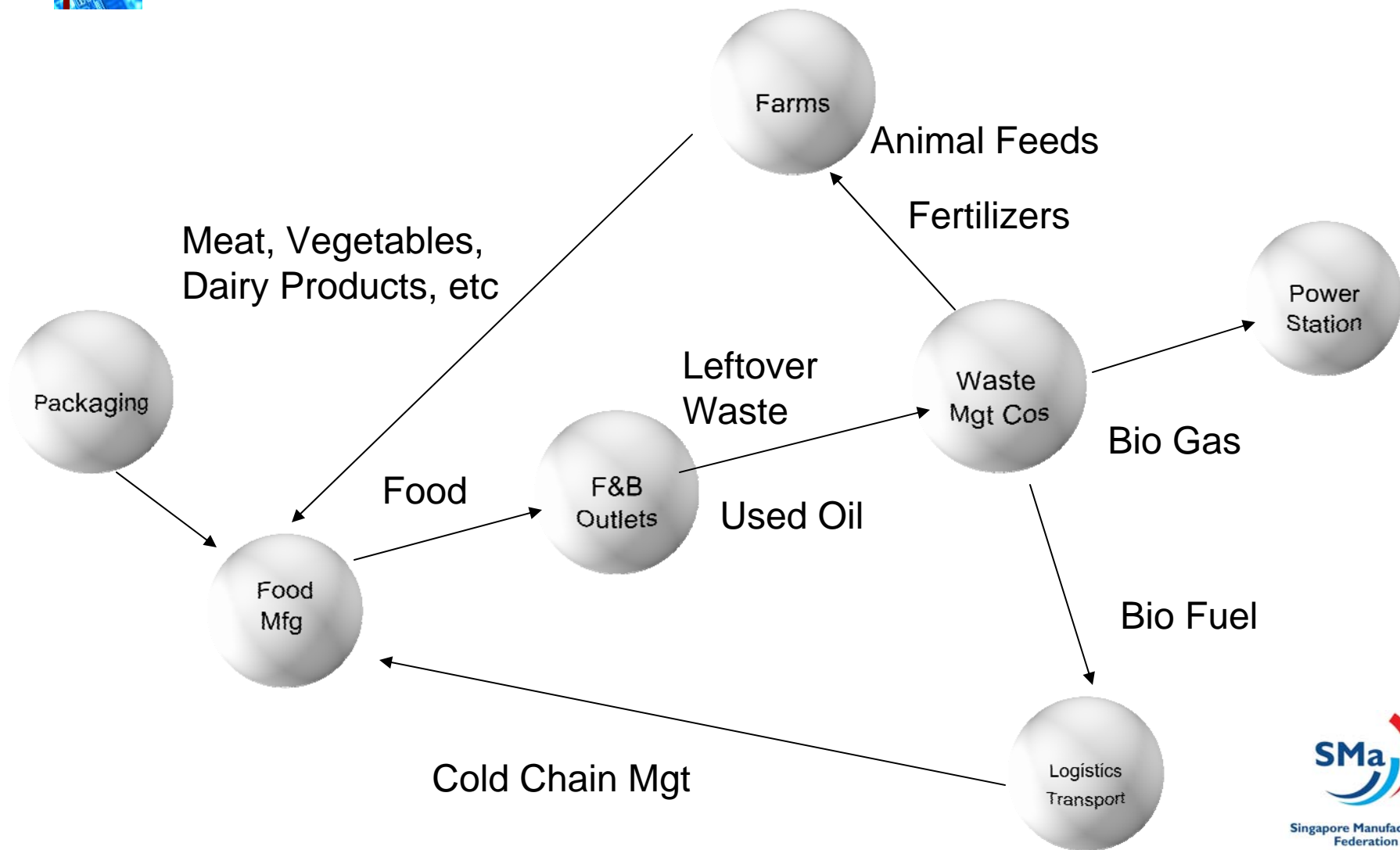
# Benefits

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- Besides being environmentally responsible, this project will enable companies to enjoy the following benefits:
  - Process flow efficiency
  - Reduction in energy usage
  - Additional revenue from selling the waste by products



# Food Value Chain





# Environmental Technology

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- The companies in the project will be involved in using environmental technologies to improve their processes. It will include
- Packaging companies involved in development of bio degradable packaging
- Food manufacturers – redesigning their manufacturing processes to reduce energy usage and improving their efficiency





# Environmental Technology

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- Waste management companies to recycle used cooking oil and food waste conversion to bio gas, animal feed, fertilizers





# Funding Availability

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- SMa will help companies who are interested in adopting sustainable practices to put together a roadmap to adopt sustainable practices and match the company's needs to the different funding schemes available from the various Govt Agencies





# Funding availability

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- Carbon Footprint – ISO 14064 measurement of Green House Gas Emission
- Green Supply Chain
- Sustainable Manufacturing Projects





# Sustainable Manufacturing Label

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- Initiated by SMa, Certified by SEC and supported by SPRING Singapore, the Sustainable Manufacturing Label have been designed to give the companies a detailed understanding of their company's sustainable manufacturing process maturity level and to highlight specific improvement opportunities



# The Sustainable Manufacturing Label Programme

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- The Programme has a series of questions focusing on Level 1 processes in the sustainable manufacturing process flow.





# The Sustainable Manufacturing Label Programme

- The questions in the Programme are structured based on Level 1 sustainable manufacturing processes
  - It has 10 key sections – Green Corporate Policy, Product Life Cycle Development, Manufacturing Processes, Energy Usage Tracking, Material Sourcing and Green Procurement, Carbon Footprint Measurement, Recycling Programme, Packaging Usage, Transportation and Logistics and Technology Usage – based on Level 1 Processes
- Responses to these questions can be compared to the available choices in the maturity scale to identify the score for that question – this can range from 0 to 10





# Sustainable Manufacturing Audit Questions

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- **Do you have the following sustainable strategy / strategies implemented in your company?**
  - Corporate Social Responsibility.
  - Carbon Footprint Measurement.
  - Green Procurement Policy.
  - Energy Reduction Policy.
  - Packaging Waste Reduction Policy.
  - Water Reduction Policy.
  - Efficient Transport / Logistics Policy.
  - Top managements' involvement in the company's green strategy.
  - Implement staff education initiatives on company's green policy.
  - Is your sustainability policy formalized and applied company wide?
  - Is your company in compliance with environmental regulations i.e. RoHS, WEEE?





## Scoring and certification

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- Not all questions will be applicable to all organizations going through the checklist. Hence, in cases where a particular section or question(s) does not apply, the question(s) should be marked “ Not Applicable (NA) – this will be ignored during the scoring process.



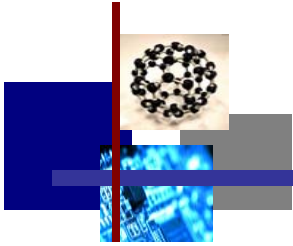


# Certification criteria

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- A Label of “Sustainable Manufacturing Certified” will be awarded by the Singapore Environment Council and Singapore Manufacturers Federation to company who undertakes an audit and achieves the minimum score required.
- The certificate confers on the holder the right to display the Sustainable Manufacturing Certified logo for a period of 1 year from the date of the audit.





# Sustainable Manufacturing Label

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Sustainable  
Manufacturing  
Certified  
2009-2010

Certified by Singapore Environment Council



Singapore Manufacturers'  
Federation  
新加坡制造商联合会



# Sustainable Manufacturing Programmes

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