SUSTAINABILITY MANAGEMENT SYSTEMS

A COMPANION TO, OR A SUPERSET OF, THE QUALITY MANAGEMENT SYSTEM

2008 NZQO

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Is QMS + EMS enough?

Sustainable Management System

Social Responsibility

Use of Total Cost of Ownership (TCO)

Over design   Encourage innovation for sustainability
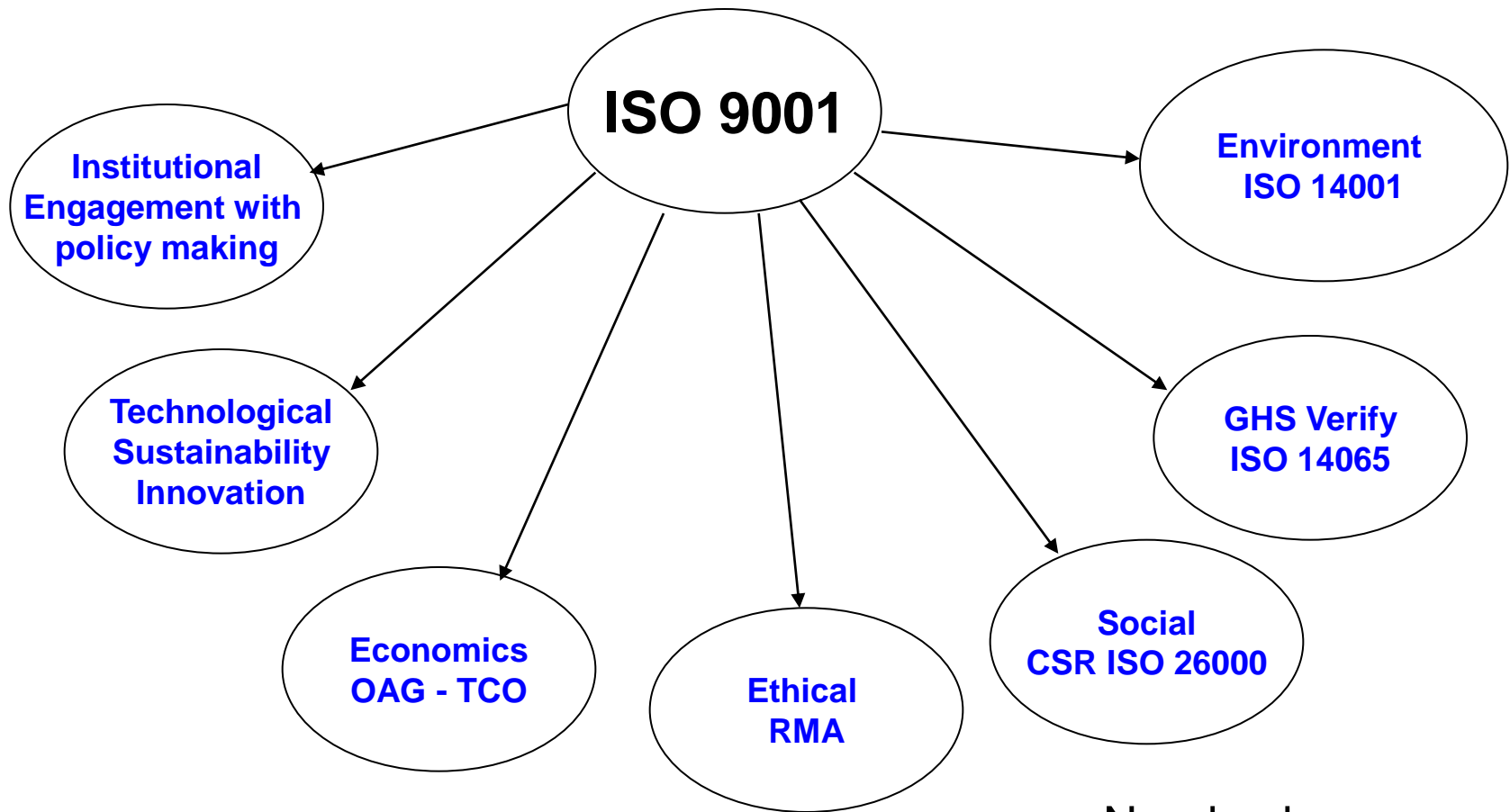
Quality System   Environmental Management System

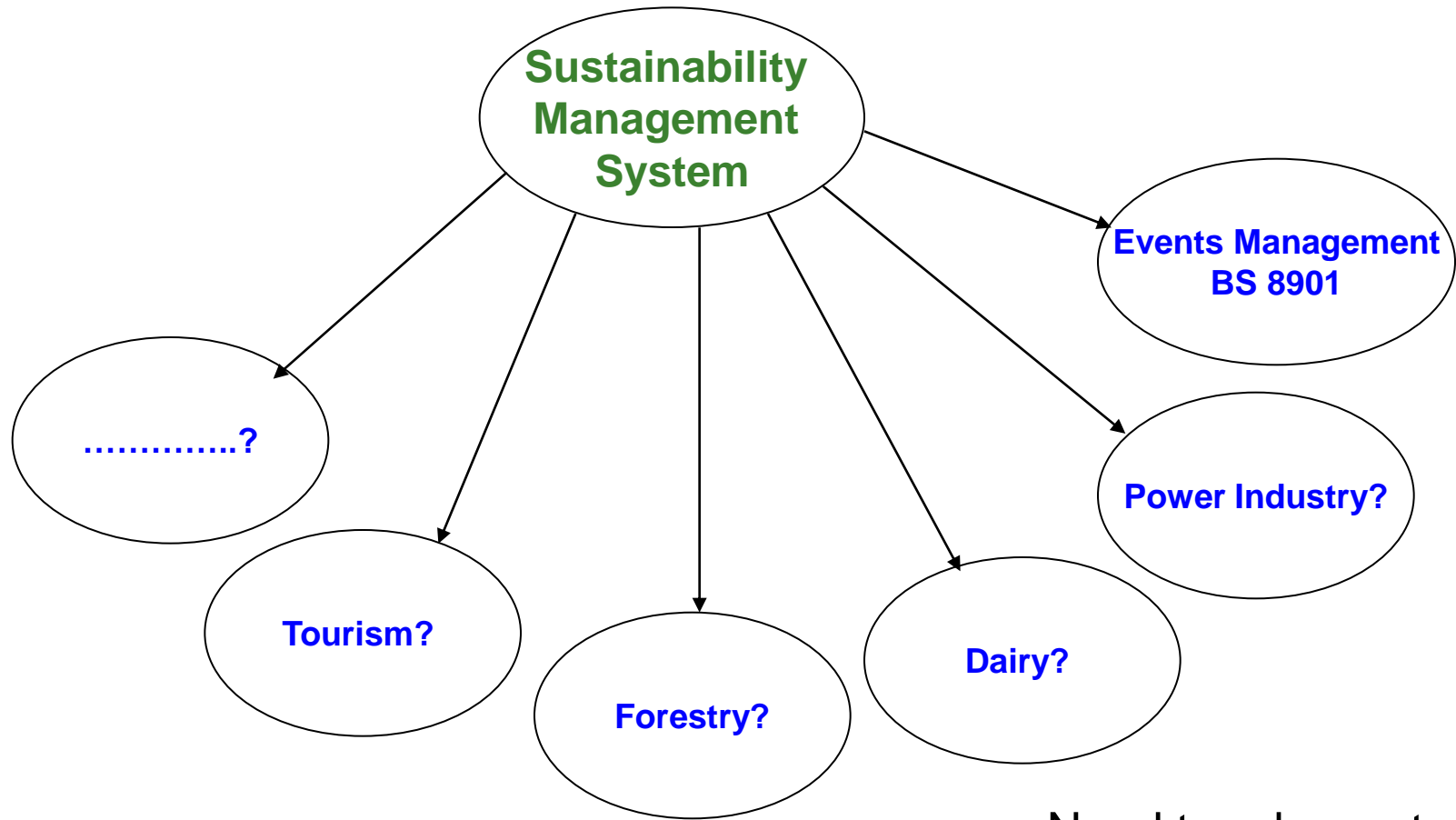Sustainable procurement   Make recyclable products

Use of recycled material

# Sustainability related Standards

ISO 9001

Institutional Engagement with policy making

Technological Sustainability Innovation

Economics OAG - TCO

Ethical RMA

Social CSR ISO 26000

GHS Verify ISO 14065

Environment ISO 14001

Need coherence …

Industrial SMS, possible future ….

Sustainability Management System

- Events Management BS 8901
- …………..?
- Power Industry?
- Tourism?
- Forestry?
- Dairy?

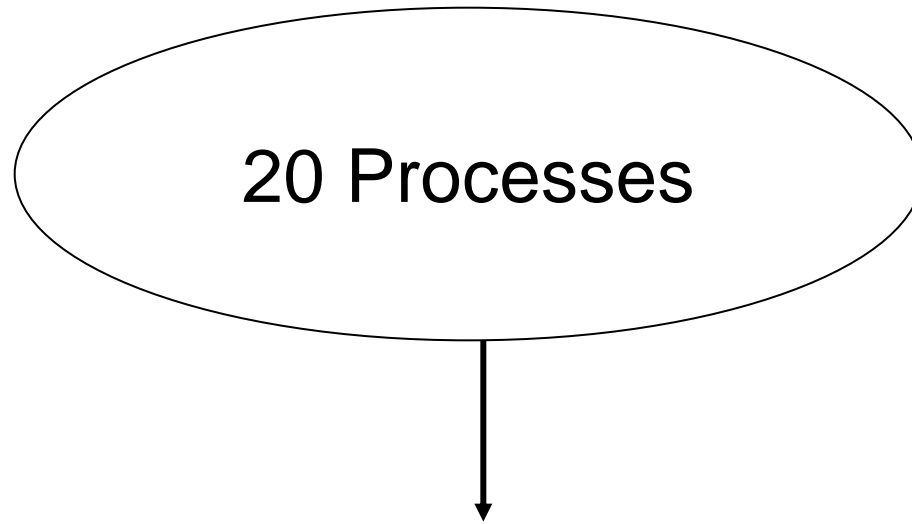Need top down structure ..

Auditing of SMS
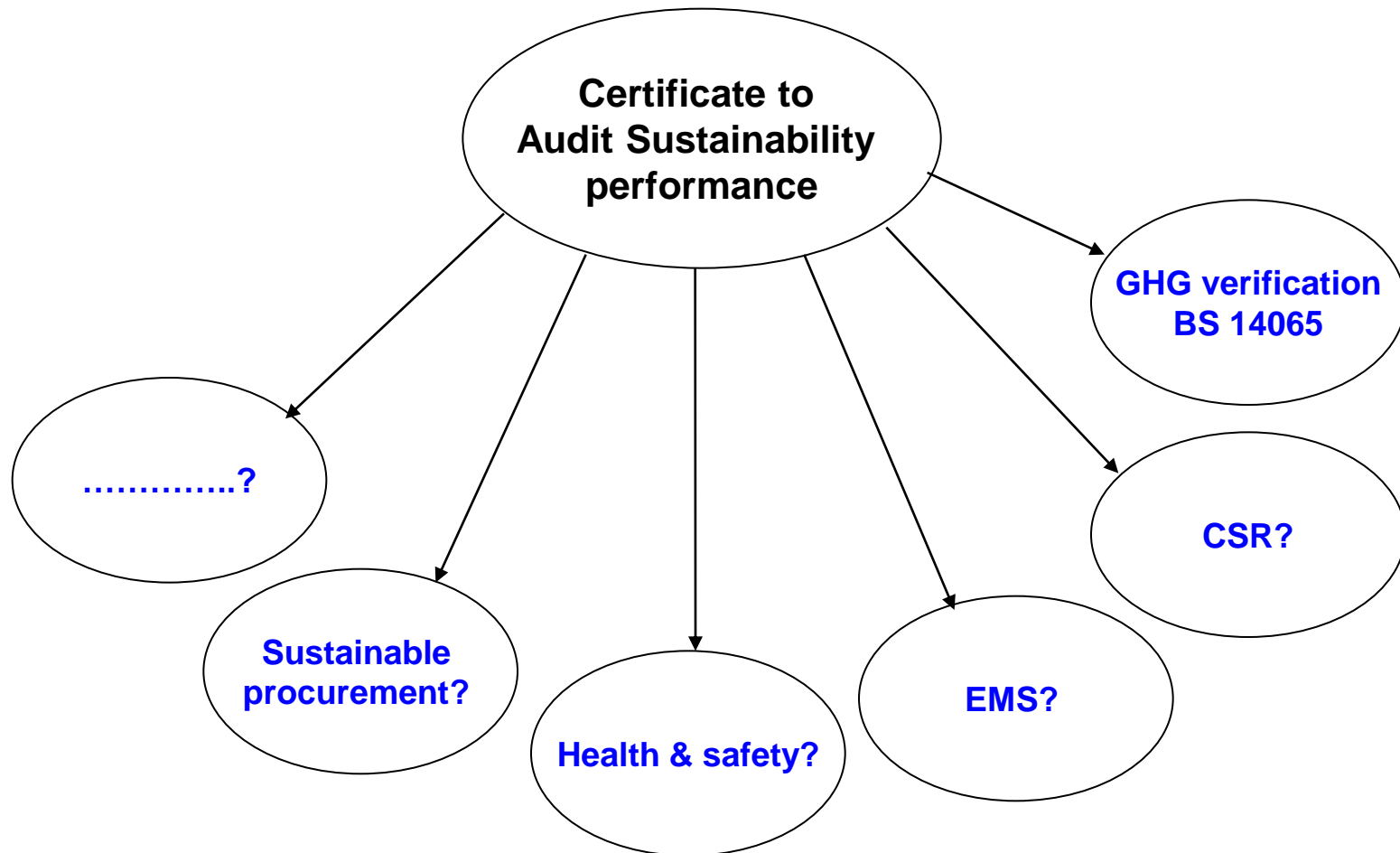
ISO 9001 Clauses

23 Clauses

- 17 can easily incorporate sustainability (details to follow)

ISO 9001 Processes

20 Processes

- 10 can incorporate sustainability frameworks readily (details to follow)

ISO 9001 points to sustainability

Quality System **Work Instructions**:

- Refer to:
  - Sustainability System policy
  - Sustainability plan
  - Sustainability procedures
  - Decision support tools

- Together with Quality and H&S.
  - Procedures refer to : Quality Plans, and Sustainability Plans (includes Safety and H&S plans)

Similarity among standard frameworks

|	ISO 9001	ISO 14001
Customer	✓	✓
Policy	✓	✓
Planning	✓	✓
Documentation	✓	✓
Performance review	✓	✓
Resource	✓	✓
Procurement	✓	✓
Monitor performance	✓	✓
Improvements	✓	✓

Definition: a Sustainable Electricity Sector

A sustainable electricity industry is one that:

"Reliably supplies electricity at a reasonable price while satisfying social, environmental, economic, ethical, technological, and institutional requirements, and all the time operating as an economically viable business, both in the short, medium and long term."
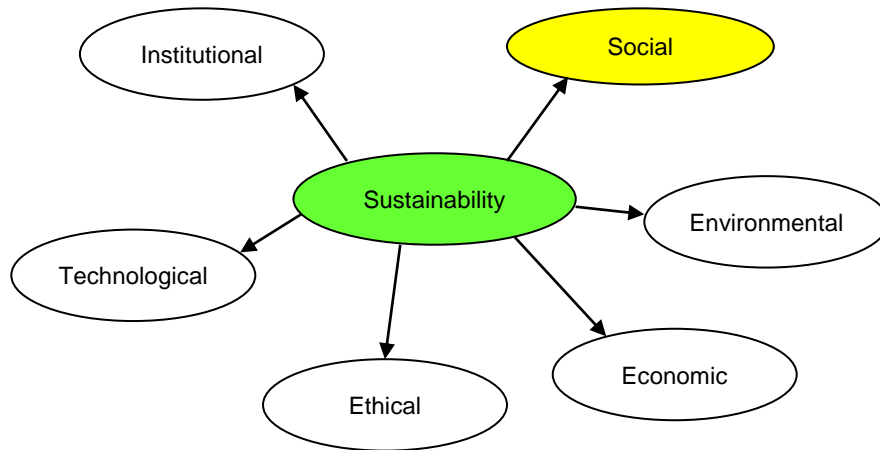
Cheng & Wilson, 2004.

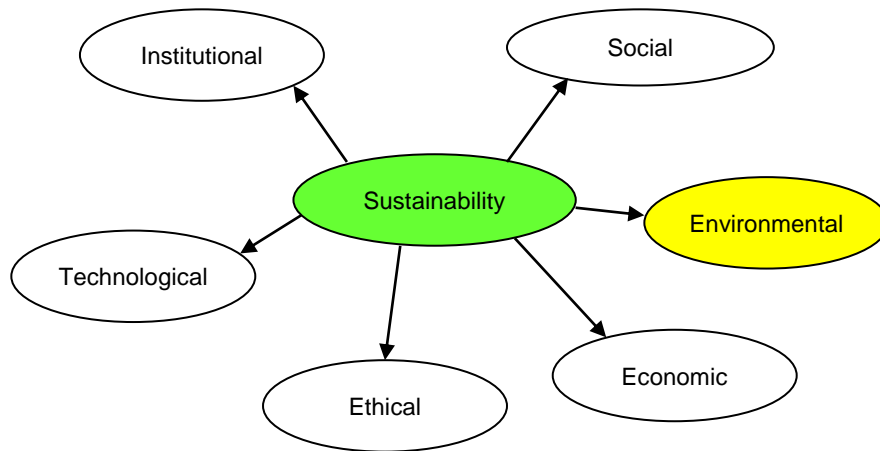# Framework of Sustainability
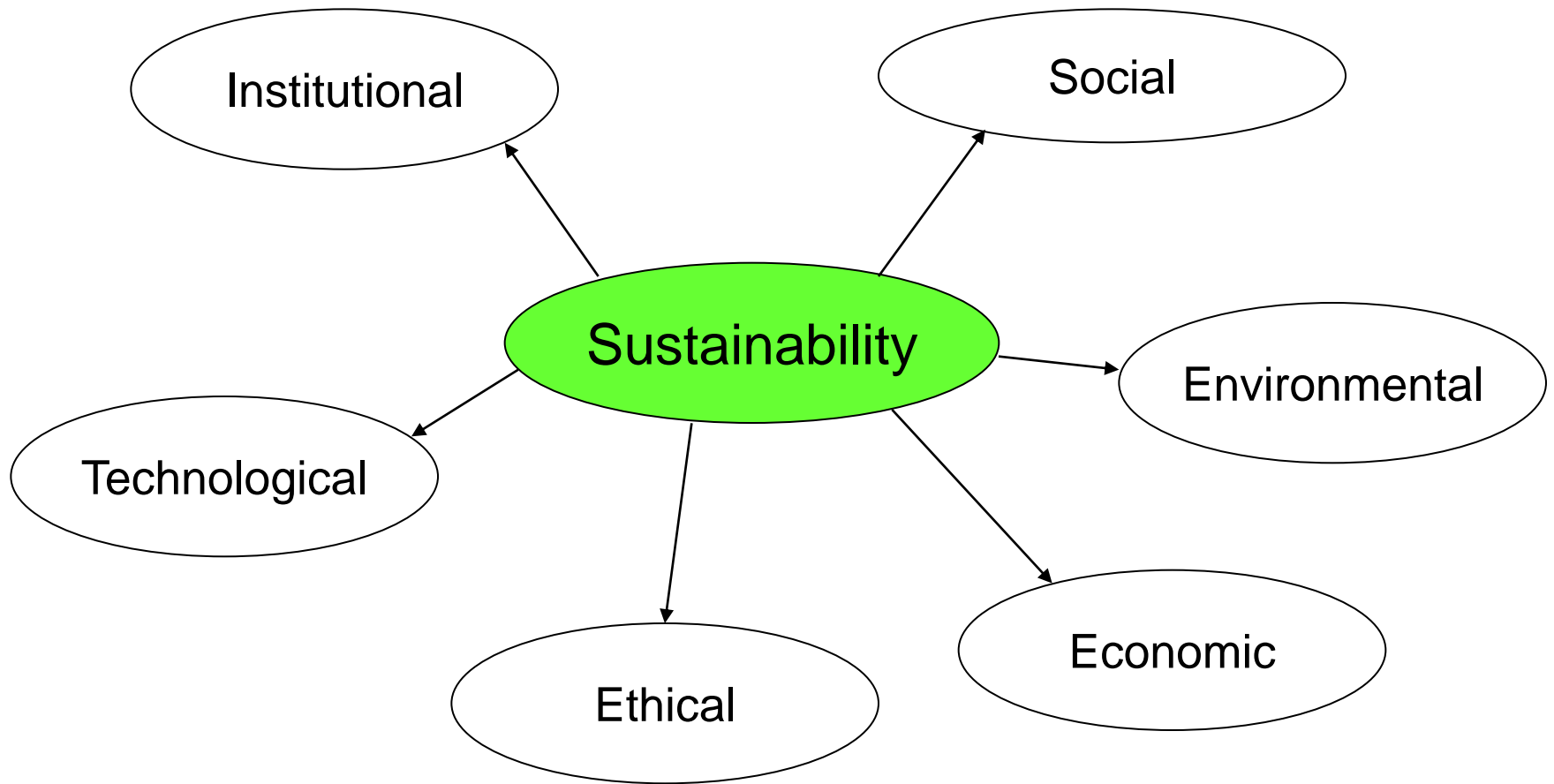
Sustainability Framework Dimensions

Merge animation

Social
- health and safety,
- working condition
- career, staff turnover
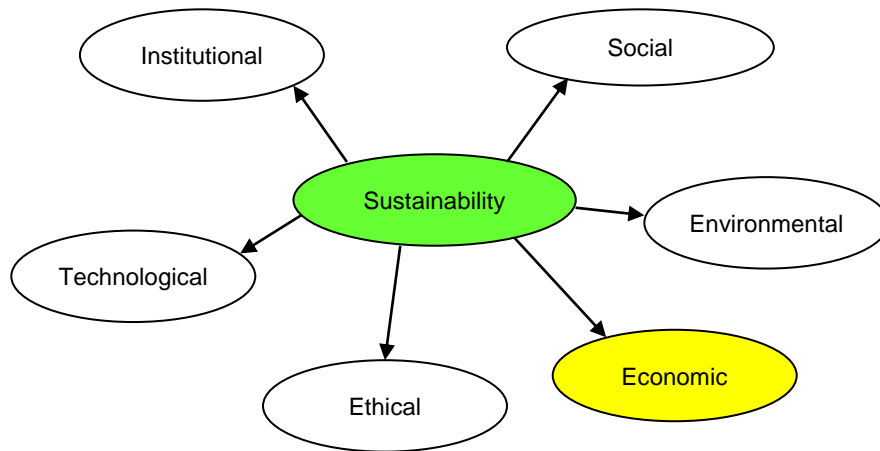- contribute to the local community

Sustainability Framework Dimensions

Environmental

- environmental and hazardous substance legal requirements

- operation and product design

- recycling of waste & material

- use recyclable material
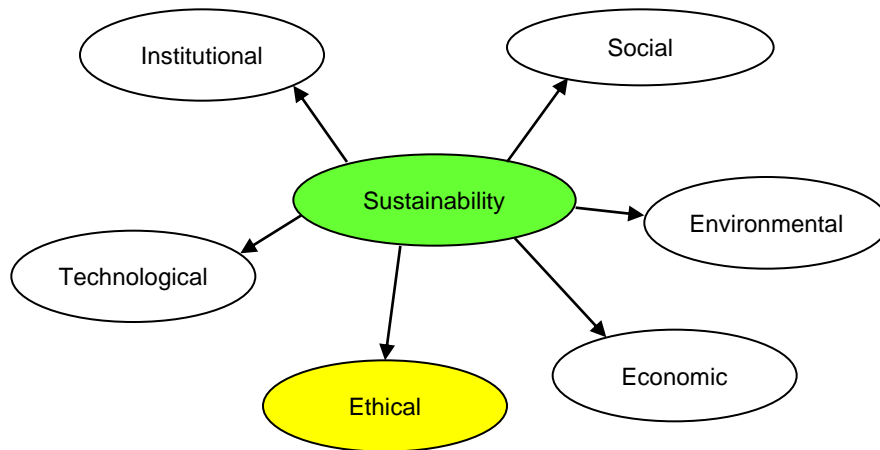
- pollution & carbon footprint

Sustainability Framework Dimensions

Economic
- financially sound
- investing for the future
- budget to promote sustainability
- Consider Total Cost of Ownership

Sustainability Framework Dimensions

Ethical
- workers' rights
- fairness to stakeholders
- accountability
- fair competition
- Treaty of Waitangi

Sustainability Framework Dimensions

Institutional

Social

Sustainability

Environmental

Technological

Ethical

Economic
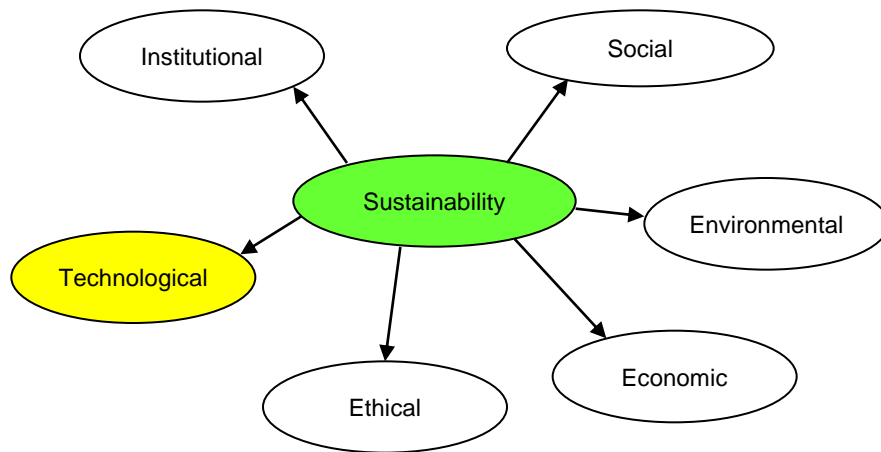
Technological
- Use scarce assets
- renewable resources
- sustainability innovations
- embrace new technology

Sustainability Framework Dimensions

Institutional
- participate in sustainability conversation
- voicing concern about policy and regulation

ISO 9001:2000 section → Sustainability

Section 5 Management
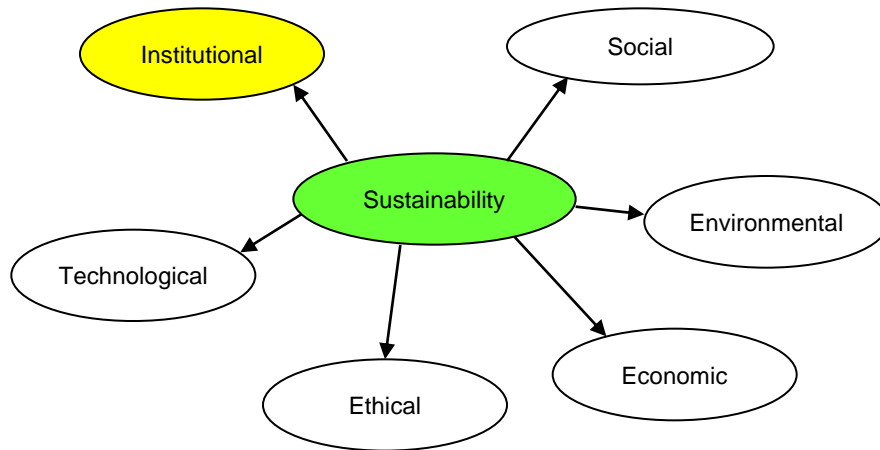
Section 6 Resource

Section 7 Realisation

Section 8 Remedial
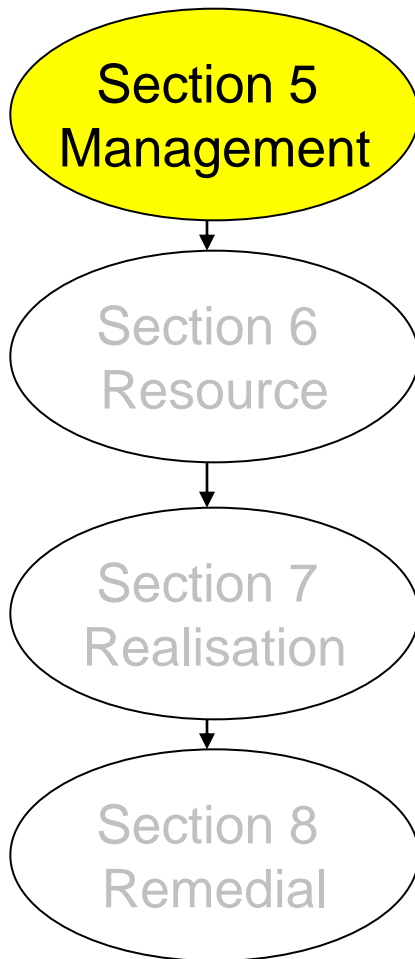
5.2 Customer
- Educate sustainability

5.3 Quality policy
- refer to sustainability concepts

5.4 Quality planning
- Use sustainability concepts
- e.g. environmental and Total Cost of Ownership (TCO)

5.6 Performance management review
- include sustainability indicators

ISO 9001:2000 → Sustainability

Section 5
Management

**Section 6
Resource**

Section 7
Realisation

Section 8
Remedial
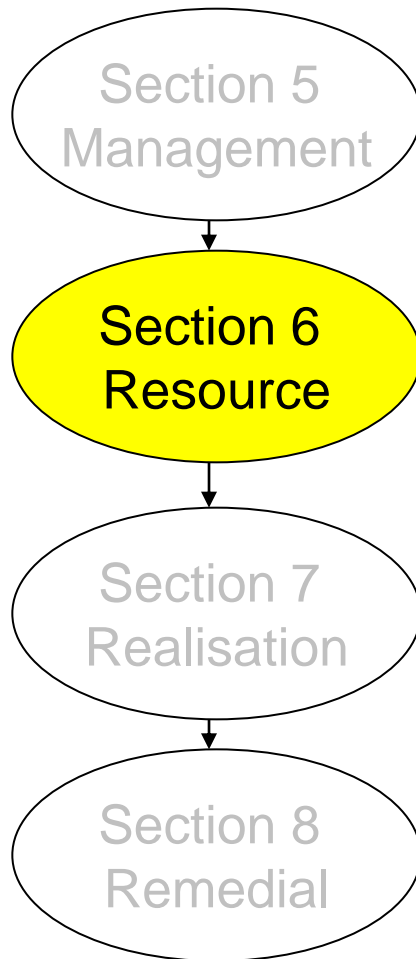
6.1 Provision of quality resource
- meet sustainability requirements
- environmental needs
- TCO

6.2 Provide quality human resource
- fair pay
- treat staff fairly

6.4 Work environment
- environmental efficient
- sustainable office, e.g. recycle

ISO 9001:2000 → Sustainability

Section 5 Management

↓

Section 6 Resource

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Section 7 Realisation

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Section 8 Remedial
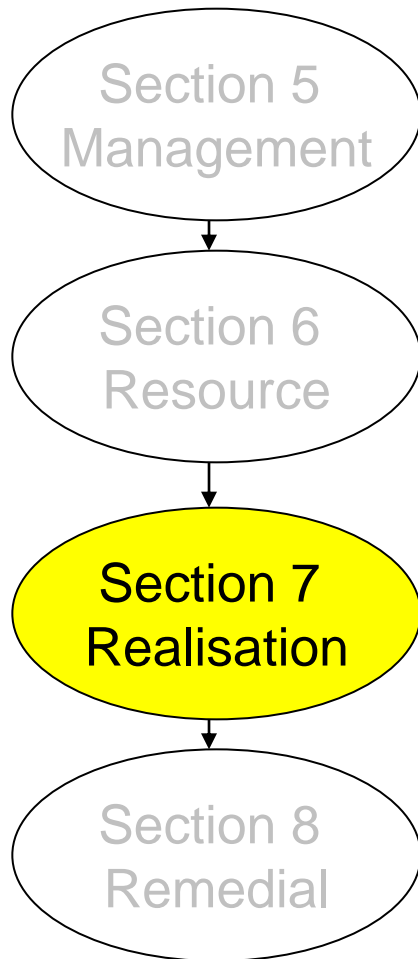
7.1 Planning for product realisation
- Sustainability philosophy

7.2 Acquiring Customer's product requirements and communicate well.
- Partnership to work out sustainable solutions

7.3 Design and development
- Sustainability concepts in the design process

ISO 9001:2000 → Sustainability

Section 5 Management

Section 6 Resource

Section 7 Realisation

Section 8 Remedial
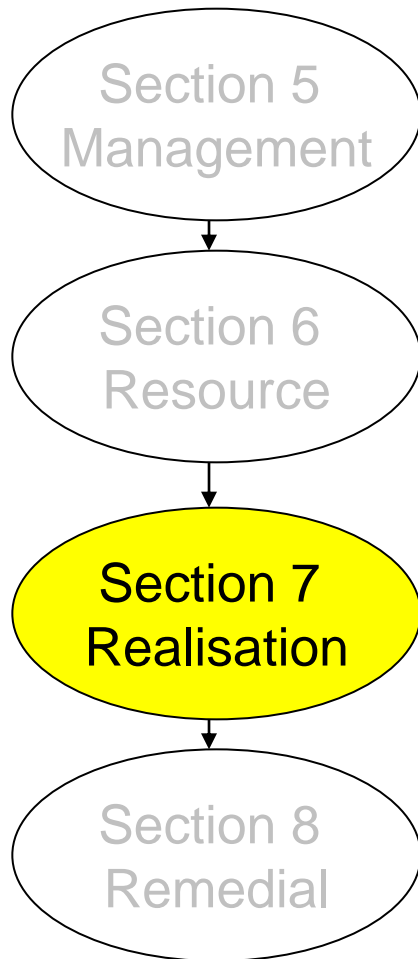
7.4 Purchasing
- sustainable procurement
- ethical and TCO.

7.5 Operational activities - production and service provision
- Use sustainability concepts
- Recycle waste
- Technology/ innovation to reduce use of resource.

7.6 Control of monitoring and measuring devises
- Devise to measure sustainability indicators.

ISO 9001:2000 → Sustainability

Section 5
Management

Section 6
Resource

Section 7
Realisation

Section 8
Remedial
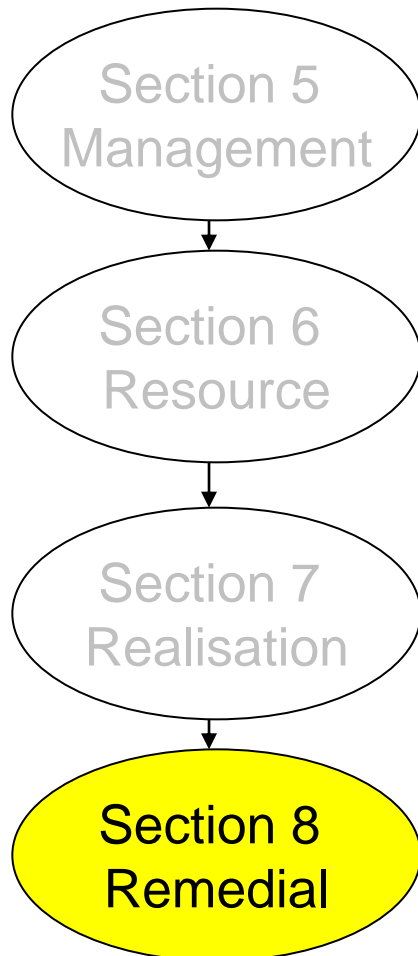
8.1 Remedial processes
- Sustainability viewpoint

8.2 Monitor and measure quality
- Measure sustainability indicators.

8.4 Analysis of data
- Sustainability reference points

8.5 Improvements – to correct and prevent
- perform with sustainability in mind

ISO 9001:2000 Processes & Sustainability

ISO 9001 Processes

- Product design
- Purchasing
- Production
- Customer needs
- Planning
- Training
- Internal audit
- Management review
- Monitor & measure
- Continue to improve

ISO 9001:2000 Processes & Sustainability (1 of 4)

ISO 9001 Processes
•Product design
•Purchasing
Production
Customer needs
Planning
Training
Internal audit
Management review
Monitor & measure
Continue to improve

- **Product design**
  - energy efficiency
  - operational efficiency
  - designed with the view of lowest Total Cost of Ownership
  - use of recycled material
  - the product is recyclable

- **Purchasing**
  - TCO is considered in business case
  - Assess supplier's sustainability credentials
  - Suppliers rated on economic & corporate sustainability + sustainability features of their products and services.

ISO 9001:2000 Processes & Sustainability (2 of 4)

ISO 9001 Processes

Product design
Purchasing
•Production
•Customer needs
•Planning
Training
Internal audit
Management review
Monitor & measure
Continue to improve

- **Production**
  - use recycled material
  - process designed with sustainability features
  - production addresses sustainability concerns
  - product delivered in a sustainable way

- **Customer needs assessment**
  - educate customers about sustainability
  - assess their need of sustainability products/ service.

- **Planning**
  - made with reference to the sustainability policy.

ISO 9001:2000 Processes & Sustainability (3 of 4)

ISO 9001 Processes

Product design
Purchasing
Production
Customer needs
Planning
•Training
•Internal audit
•Management review
Monitor & measure
Continue to improve

- **Training**
  - Covers sustainability concepts
  - Outline the SMS.

- **Internal audit**
  - Audit on sustainability concurrently with Quality & EMS.

- **Management review**
  - Review based on the sustainability of the company, including …
  - Quality and
  - Environmental system results

ISO 9001:2000 Processes & Sustainability (4 of 4)

ISO 9001 Processes

Product design
Purchasing
Production
Customer needs
Planning
Training
Internal audit
Management review
- Monitor & measure
- Continue to improve

- **Monitoring and measuring**
  - Indicators to quantify sustainability monitored and analysed
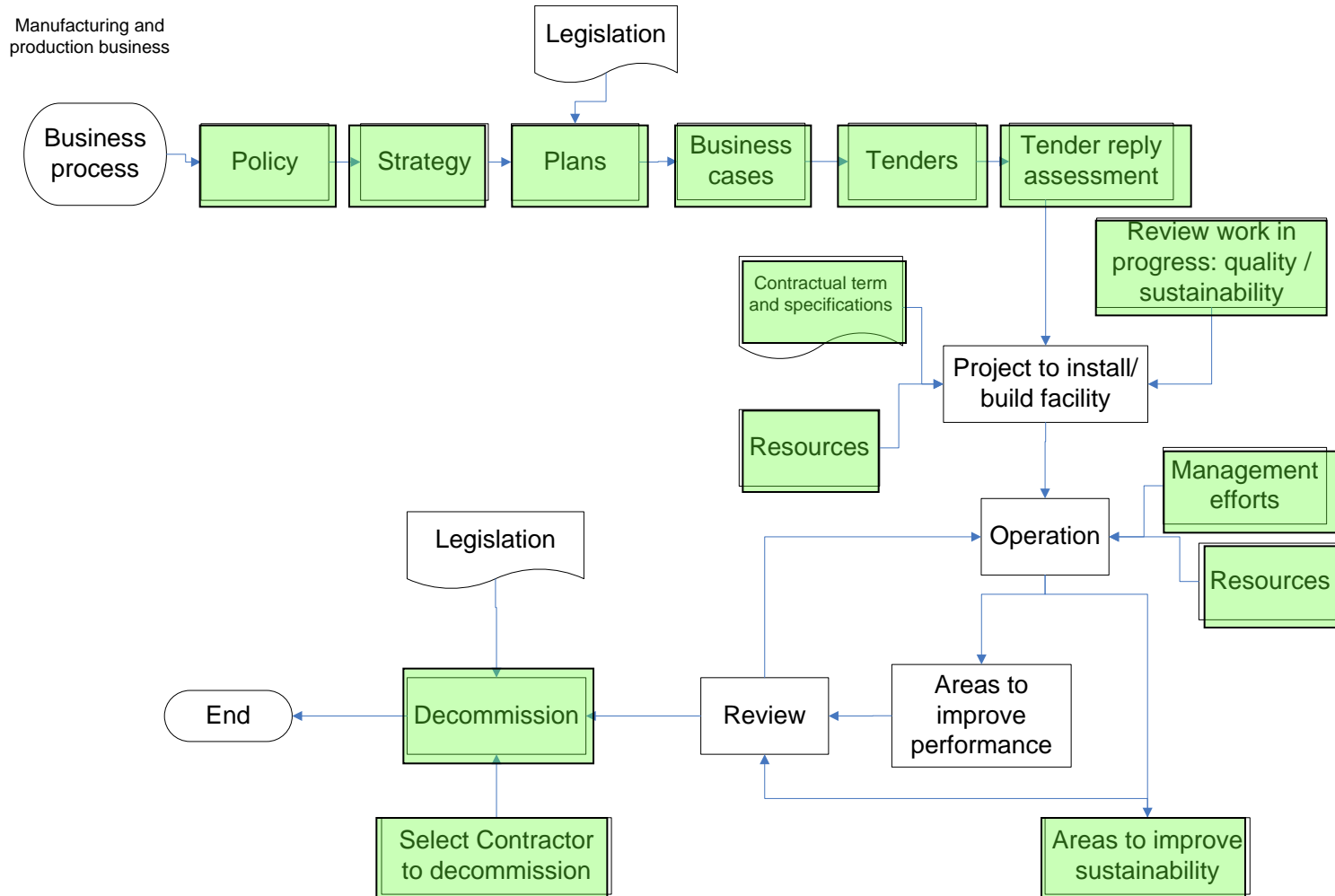
- **Continuous improvement**
  - Areas for improvement identified from sustainability view

Continuous Improvements :

- To be economic, ethical, socially responsible

- Enhancing sustainability technologically

- Environmentally protecting and

- Institutionally participating

Business process and sustainability

Manufacturing and production business

Legislation

Business process → Policy → Strategy → Plans → Business cases → Tenders → Tender reply assessment

Contractual term and specifications

Review work in progress: quality / sustainability

Resources → Project to install/ build facility

Management efforts

Operation

Resources

Legislation

End ← Decommission ← Review ← Areas to improve performance ← Operation

Select Contractor to decommission

Areas to improve sustainability

Sustainability Management System

- In practice …

Sustainable Management System - Events, BS 8901 – 2007

Trial use …

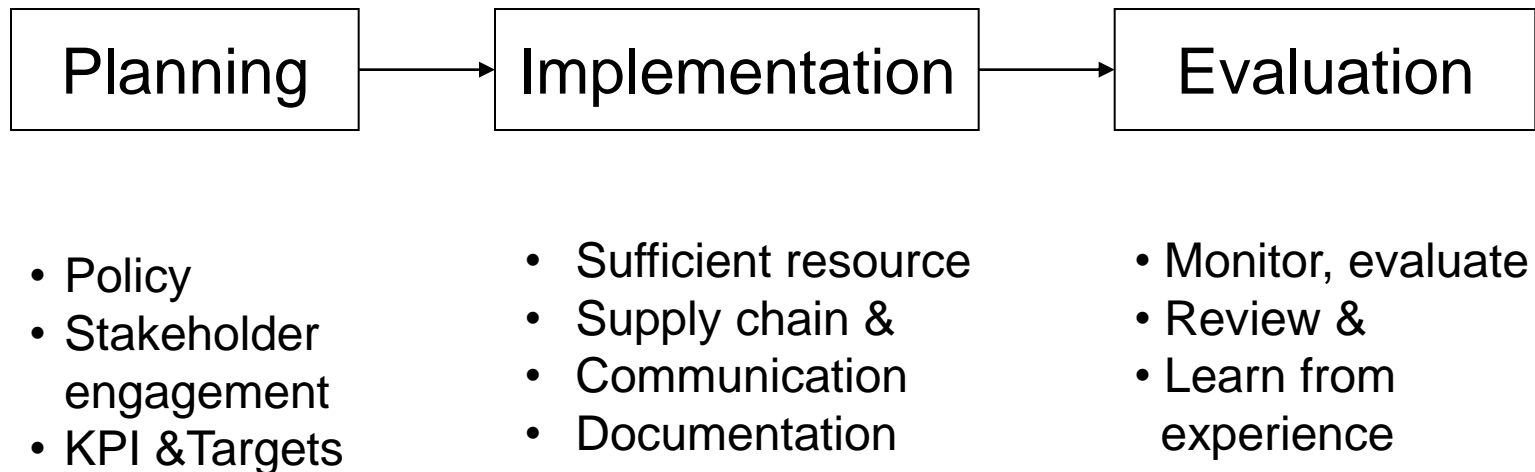**Target: 2012 Olympic Games**

Lord's cricket

Earls Court

Life Nation Concert

Manchester Int'l

ISO 8901 – 2007
Sustainable Events Management System

Planning	→	Implementation	→	Evaluation

- Policy
- Stakeholder engagement
- KPI &Targets

- Sufficient resource
- Supply chain &
- Communication
- Documentation

- Monitor, evaluate
- Review &
- Learn from experience

Environmental

- ❑ Climate change
- ❑ Air quality
- ❑ Water use
- ❑ Emission to water
- ❑ Land use
- ❑ Biodiversity
- ❑ Cultural heritage
- ❑ Solid waste

Environmental, social and economic

- ❑ Handle recyclable waste
- ❑ Ethical issues
- ❑ Fairness in contract
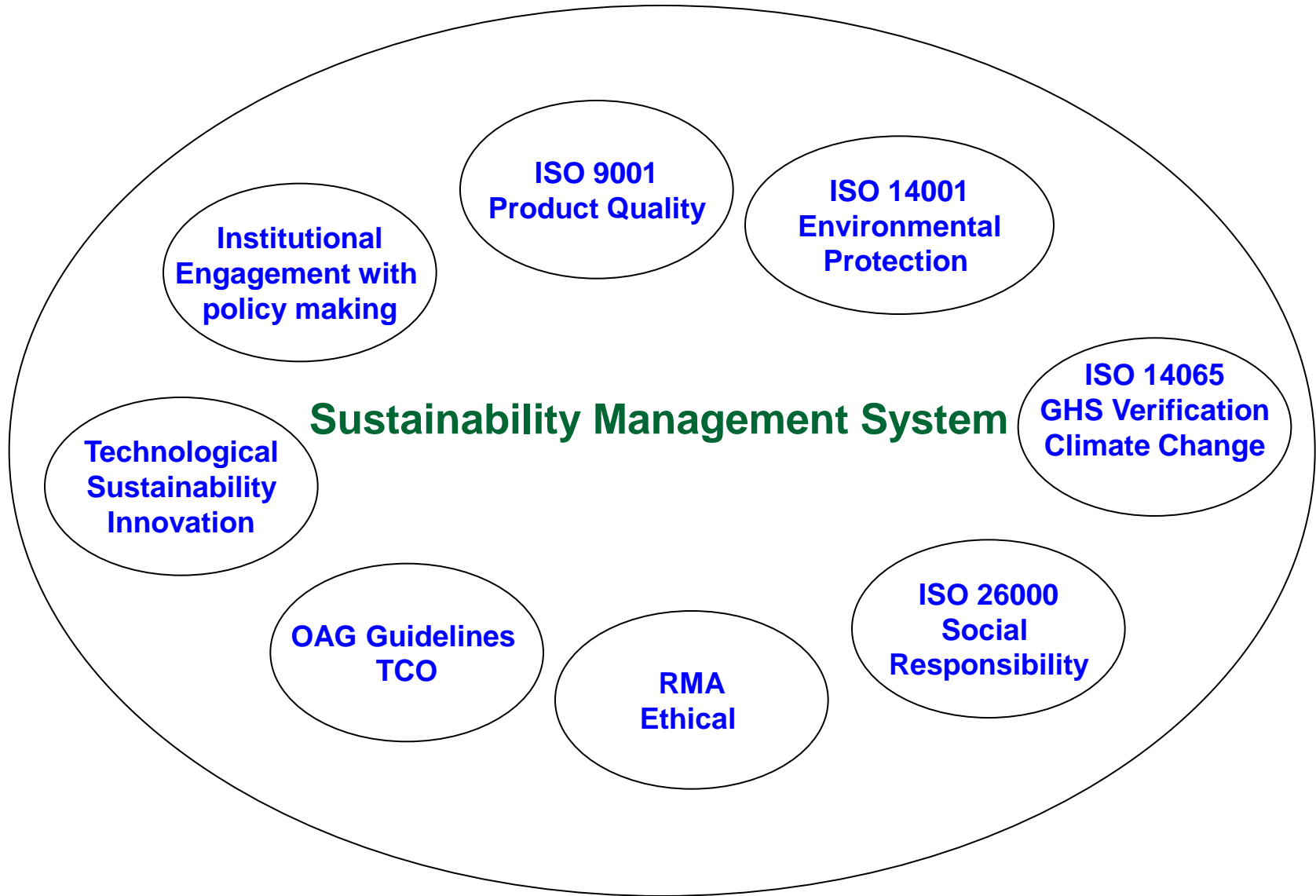- ❑ Local resource

Social economical

- ❑ Health safety
- ❑ Security
- ❑ Equal opportunity
- ❑ Community contribution
- ❑ Financial viability

Sustainable Development Maturity Matrix

Sustainable Development Maturity Matrix Outline				
		Minimal Involvement	Improved commitment	Fully engaged
Inclusivity	Issues identified with Stakeholder engagement			
Integrity	Key Drivers Leadership Manage tasks			
Stewardship	SD Culture Building capacity Supply chain Environmental assessment			
Transparency	Review Building confidence			

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SMS as Superset

Sustainability Management System

- ISO 9001 Product Quality
- ISO 14001 Environmental Protection
- Institutional Engagement with policy making
- ISO 14065 GHS Verification Climate Change
- Technological Sustainability Innovation
- OAG Guidelines TCO
- RMA Ethical
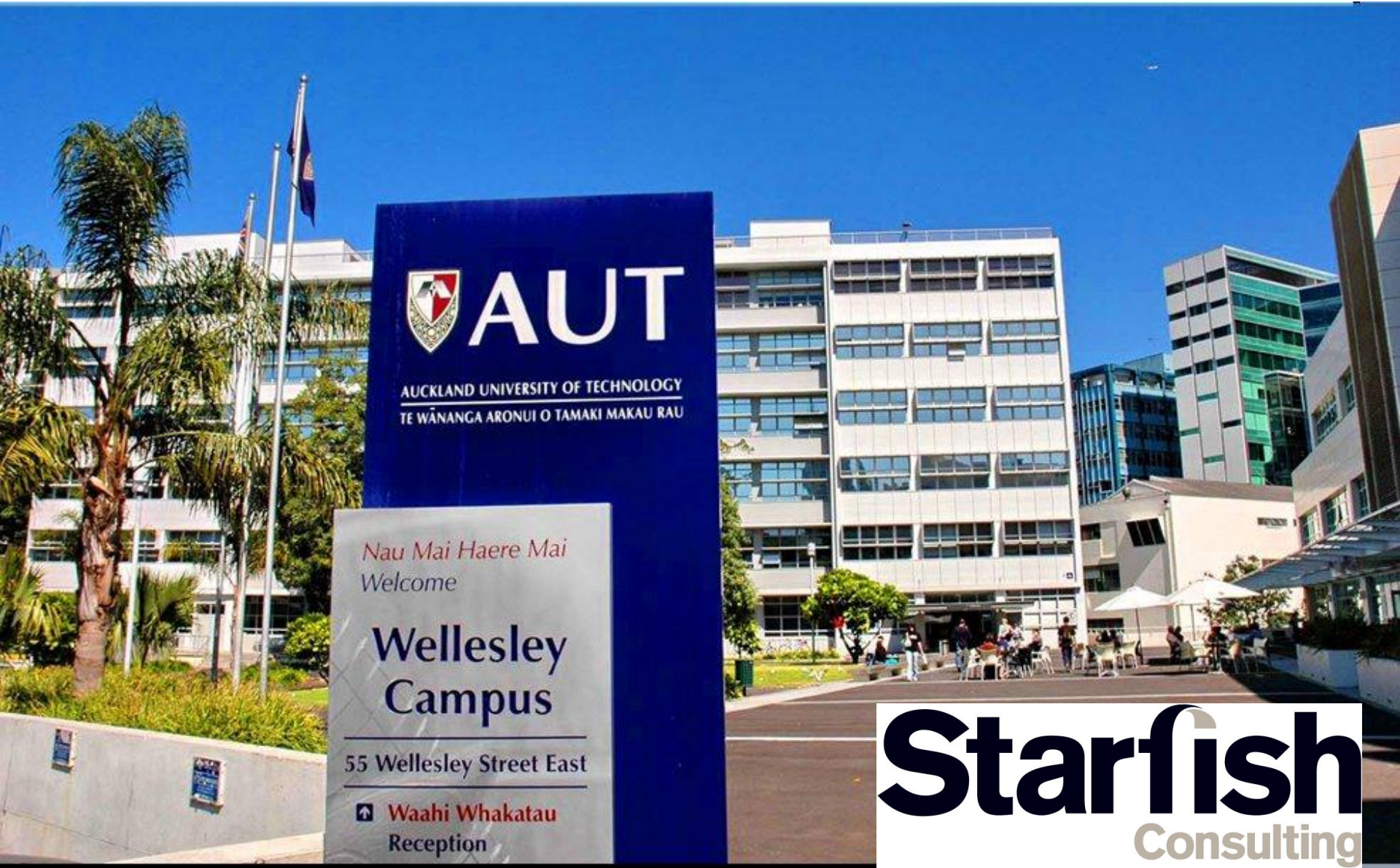- ISO 26000 Social Responsibility

Conclusions

Short Term - Sustainability is a companion of Quality Systems

- QMS refers to sustainability policy, framework, sustainability plans and procedures.

Long Term - SMS is *the* management system.

- Refers to quality plan, health & safety plan, ….
- Designed with sustainability principles:

  - whole of life value
  - reduce, recycle
  - GHG for traveling

End - Thank you.