

# ISO 14001 & CE: A CASE STUDY

## THE “TRACE EMS” PROJECT

TRANSITIONING TO A CIRCULAR ECONOMY VIA  
ENVIRONMENTAL MANAGEMENT SYSTEMS

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# Overview

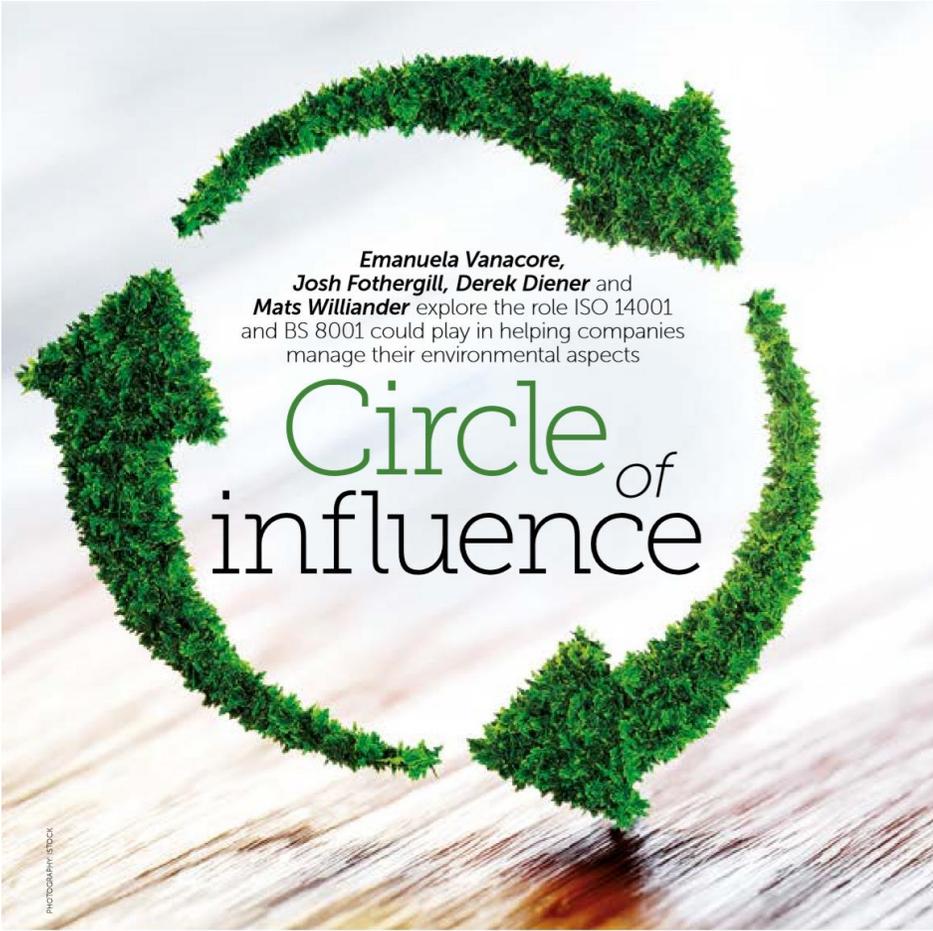
- Brief introductions
- ISO 14001 & CE: a case study (“TRACE via EMS” project)
- Focus - BS 8001:2017 and ISO 14001
- Q & A

# Article in your November TRANSFORM magazine

## Pages 28-30

Circular economy

Circular economy



IEMA has played a key role in the development of both ISO 14001 and BS 8001, and our professionals will be at the vanguard of the global transition to a circular economy.

The circular economy (CE) concept envisages an economy that is less dependent on material throughput and runs on renewable energy. For its part, industry is supposed to get more use out of products by reusing more (via processes such as remanufacturing), and to lose less material through better recycling. A transition to a circular economy would require – by almost any measure – a huge alteration to today’s economy, and delivering it will require disruptive changes to industry. However, there are existing institutions that, if used, could make subtle industry modifications, with large and transformative effects.

We believe that ISO 14001:2015, as the global standard for environmental management systems, could be a catalyst for CE transition if it were used slightly differently, possibly with ‘plug-ins’ from the British CE standard BS 8001:2017. Environmental Management Systems (EMS) help companies to formally manage their environmental aspects – both the legal requirements and beyond – and ISO 14001 is the most widely used standard for EMS, with more than 300,000 certifications globally in 2017. In many companies and industries, ISO 14001 is now considered a fundamental part of business, or even a precondition for doing business. As such, it is widely implemented in industry. Considering the breadth of its use, it could be said that ISO 14001 carries some influence.

**Help or hindrance?**

These topics were studied in the TRACE EMS (TRANSitioning to a Circular Economy via Environmental Management Systems) project conducted by the Research Institute of Sweden RISE (Viktorija) AB between October 2017 and August 2018. The project, funded by Vinnova (the Swedish Agency for Innovation), has investigated the extent to which ISO 14001:2015-certified

companies that are exploring their transition towards a CE may benefit from, or be hindered by, their EMS.

The researchers worked closely on the project with two companies, car manufacturer Volvo Car Corporation and IT financing company 3 STEP IT, which benefited from standards expertise on ISO 14001 (Raul Carlsson, from Swerea SWecast) and BS 8001 (Josh Fothergill). The project aimed to answer several questions: does ISO 14001 hinder or help a transition to a CE? What can be done to make the ISO 14001 standard more usable, to support organisations in the upcoming transition towards a circular economy? And how might BS 8001:2017 be used to enable this?

Through surveys, interviews, workshops and collaborative analysis of both companies’ business practices regulated by ISO 14001, the research generated two main conclusions.

First, ISO 14001 appears to be neither a hindrance nor a help when transitioning towards a CE; its propensity to contribute is totally dependent on the goals chosen and set. However, with a CE-oriented mindset, there are a number of ways organisations can enhance ISO 14001’s ability to influence organisational CE progress:

- Use the review process to identify opportunities, as well as risks
- Increase focus on the product, and on what happens upstream and downstream from the company
- Include strategic goals as part of the environmental risk and opportunity review
- Evolve ISO 14001’s traditional focus on processes to place far greater emphasis on product-service systems.

Second, there is a mismatch between societal visions such as CE, which are normative, and standards such as ISO 14001, which do not prescribe strategic goals or future states. ISO 14001 was, however, found to include multiple ‘hooks’ that could be used to enable CE exploration or support circular thinking and activities in an organisation via its EMS (life-cycle

“In many companies and industries, ISO 14001 is now considered a fundamental part of business”

# RISE Research Institutes of Sweden AB (in brief)

- The largest research institute in Sweden
- Present across the whole of Sweden.  
And beyond
- 2,700 employees, 30% with a PhD
- Turnover (2017) ca. SEK 2.7 billion = ~ EUR 262 ML
- A large proportion of customers are SME clients, accounting for ca. 30% industry turnover
- Runs 100s of test and demonstration facilities, open for industry, SMEs, universities and institutes (RISE is owner and partner in 60% of all Sweden's T&D facilities)
- [www.ri.se](http://www.ri.se)



# Our team

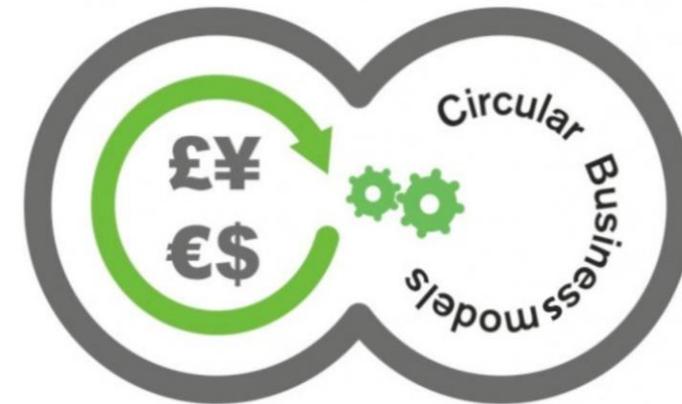
RISE > Division ICT > Viktoria > **Sustainable Business**

## Mission

- We contribute to sustainable development by spurring profitable change in organisations
- We achieve this by co-creating environmentally and economically superior solutions with organisations in Sweden. Solutions that are so successful that they will be imitated around the world and drive sustainable development
- We focus on business ecosystems with a clear connection to mobility and transport

## Positioning

- We do...Actionable research in circular economy and servitisation



...back in spring 2017

the idea of exploring  
any relationship  
between ISO 14001  
and CE



# TRACE EMS Project overview

**AIM:** Understanding whether ISO 14001 can facilitate or hinder a transition towards a circular economy (CE)

**OUTPUT:** Managerial recommendations for ISO 14001 certified companies transitioning to a CE

**EMPIRICAL BASIS:** Volvo Car Corporation + 3 STEP IT

**EXPERT ANALYSIS:** ISO 14001 (Raul Carlsson, RISE Swerea) & BS 8001 (Josh Fothergill)

**DURATION:** Oct. 2017 - Aug. 2018

**FUNDER:** Vinnova (Swedish Agency for Innovation)



# Background and questions

## **Circular Economy vision:**

- An economy with greatly reduced material throughput, driven by renewable energy
- Demands a great transformation and a tremendous change

## **ISO 14001:**

- A widely adopted standard, has tremendous potential energy
- Could it be the tool for transformation of industry?
- Is ISO 14001 a help or hindrance for a transition towards a CE?
- How could ISO 14001 and the use of it be changed to be a better tool in the transition towards a CE?

# Study methods (1)

- Brief literature review
- Series of interviews of persons involved in / responsible for ISO 14001 with both
  - Operational: implementation on the standard
  - Strategic: Senior manager point-of-view
- Review of internal practices via “homework”
- Workshops
- Analysis with Raul Carlsson (ISO 14001 Swedish expert)

# Study methods (2)

- Complementary survey to project participants and representatives of companies in the RISE network
- Complementary survey to IEMA network
- Review and analysis by and with BS 8001 expert (Josh Fothergill)
- Final recommendations for ISO 14001 and CE practitioners (e-pamphlet)

# Lessons learned from literature

- ISO 14001 is a valuable certification in that
  - There is a clear preference to certified companies, especially in some regions/markets
  - It is essentially “required” in some sectors
- ISO 14001 does not conclusively lead to better environmental performance
- EMAS, the European equivalent demands more, but is much less common

# Findings from interviews

- Ways ISO 14001:2015 *helps*
- How ISO 14001:2015 *is currently used*

# Findings: Ways ISO 14001:2015 *helps*

## **Internally**

- Gives a valuable framework for managing environmental performance
- Drives development of common documents and facilitates with common language across the company, especially important for companies operating in (or expanding to) in many locations
- Creates additional demand and framework for internal education / training, resulting in employees having a chance to realise their role in environmental work

## **Externally**

- Answers to a demand from customers for ISO 14001 certified companies
- Enhances credibility of “sustainability work” with stakeholders and supply chain
- Facilitates in bidding and RFI processes by circumventing some additional information requests

# Highlights from the surveys

1. Internally by the project companies (“homework”)
2. Within the RISE network
3. Within the IEMA network

- Varied level of awareness of ISO 14001 within the company
- Generally confirming our findings
- Interesting points

*“It’s a tool for us to help the operation to work systematic with environmental issues”*

*“We have customer requirements that we need to have ISO 14001 and by having the certificate we can prove that we are environmental friendly partner”.*

*Q. “How is ISO 14001 used in your organisation?”*

*“ISO 14001 is a prerequisite to make business”*

*Some confusion on the meaning “driving” and “reacting on” environmental issues*

*Q. “Does ISO 14001 help drive change and if so, how?”*

*“The ISO standard puts high importance on continuous improvements. That if anything drives change”*

*“Environmental objectives and the communication and visualisation of them have driven change. Ex changing energy source”*

*“Change of Equipment (investment) to more environmental friendly - activities high on environmental aspect list”.*

# Findings: How ISO 14001:2015 *is used*

- Both as a stand-alone programme or integrated with other company standards
- Traditionally, a tool utilised at the operational level
- Company goals do not directly derive from ISO 14001
- Main focus is on processes, less on products
- Mostly used for
  - monitoring/control
  - following up and reactive rather than for being proactive
- Aspiration to use more proactively

# Analysis: ISO 14001 could lead to change towards CE if...

- It incorporates strategic goals and activities with senior management
- Auditors challenge companies to clarify its communicated CE goals
- Companies use it as a means to identify and focus on opportunities as opposed to only focusing on threats
- Companies focus on products as opposed to only processes

# Analysis: Limitation related to using ISO 14001 more proactively

- ISO 14001 is not normative
- Propensity to change to CE is totally based on the type and ambition of goals
- Critique from companies...
  - ISO 14001 should be modernised
  - Companies have to translate ISO language to their own
  - ISO 14001 seems to be made for small manufacturing companies, fit to factory setting
  - “There’s no way we would use the ISO in any sense to drive the development of the company!”

# Conclusions

## At the company-level...

- ISO 14001 does not appear to be hindrance for a company transitioning towards the circular economy
- ISO 14001, as a tool, can be used in a company transition towards the circular economy but it's dependent on the goals chosen and set

## At the society-level...

- There is a mismatch between societal visions like CE and standards like ISO 14001
  - Circular economy is essentially **normative** or prescribes a way of delivering value, doing business in society
  - ISO 14001 is **not normative**, thus, propensity to change to CE is totally based on the type and ambition of goals
- Could that be changed? If so, how?

# Integration Analysis

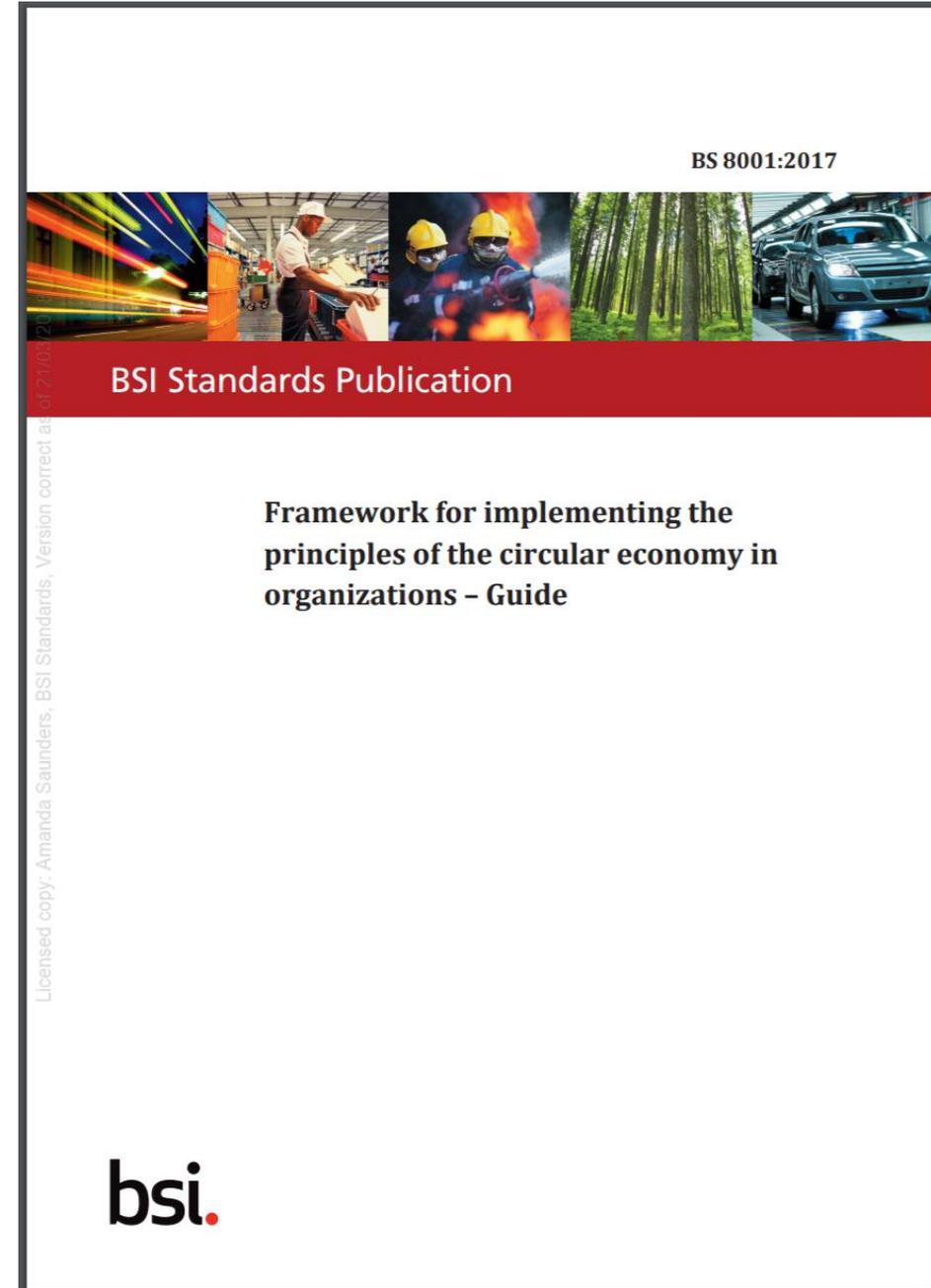
- Evaluate BS 8001:2017 as a complementary standard to ISO 14001:2015 to facilitate companies in transitioning towards a CE model.



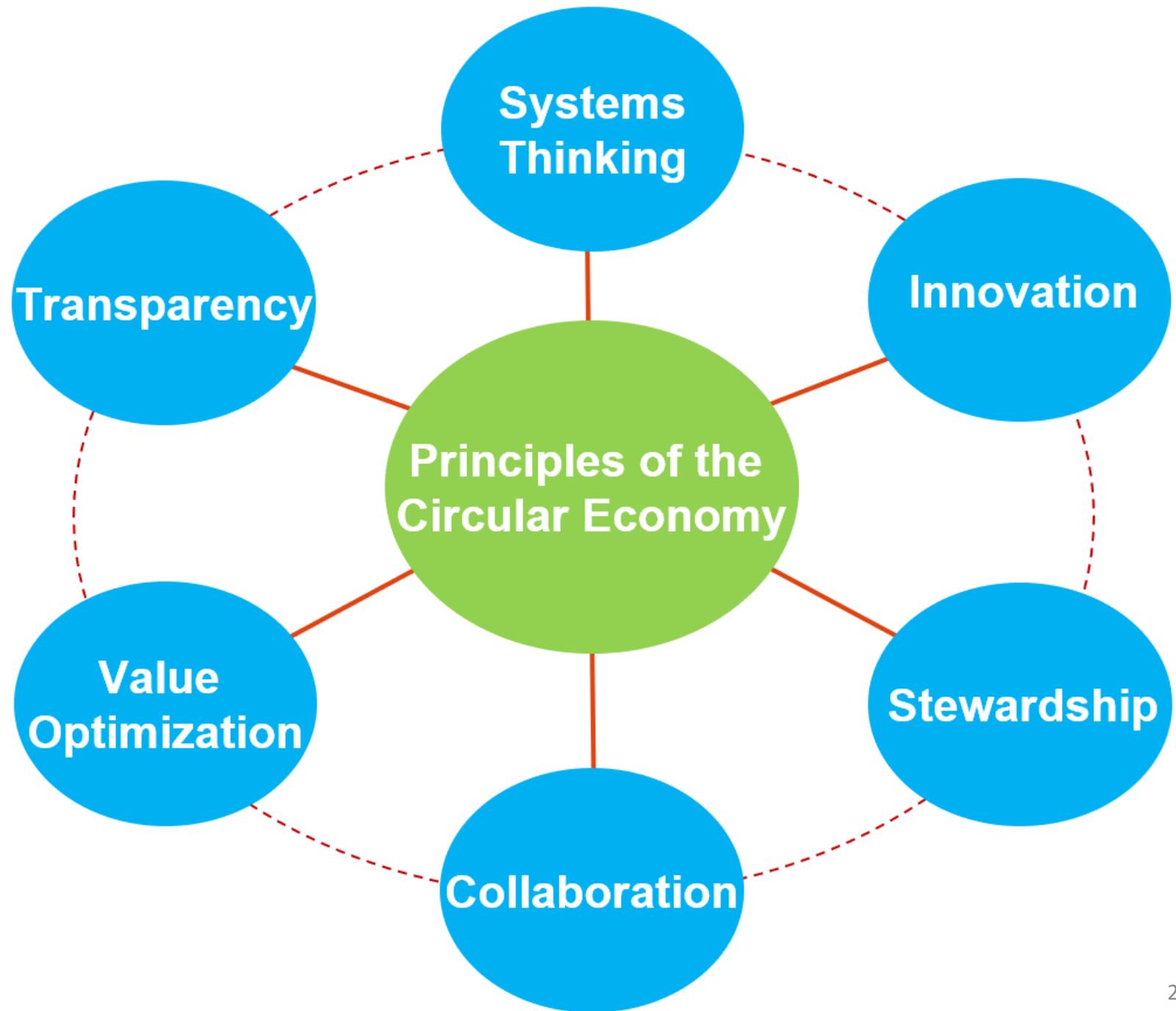
# Context

## BS 8001:2017

### A Guide Standard



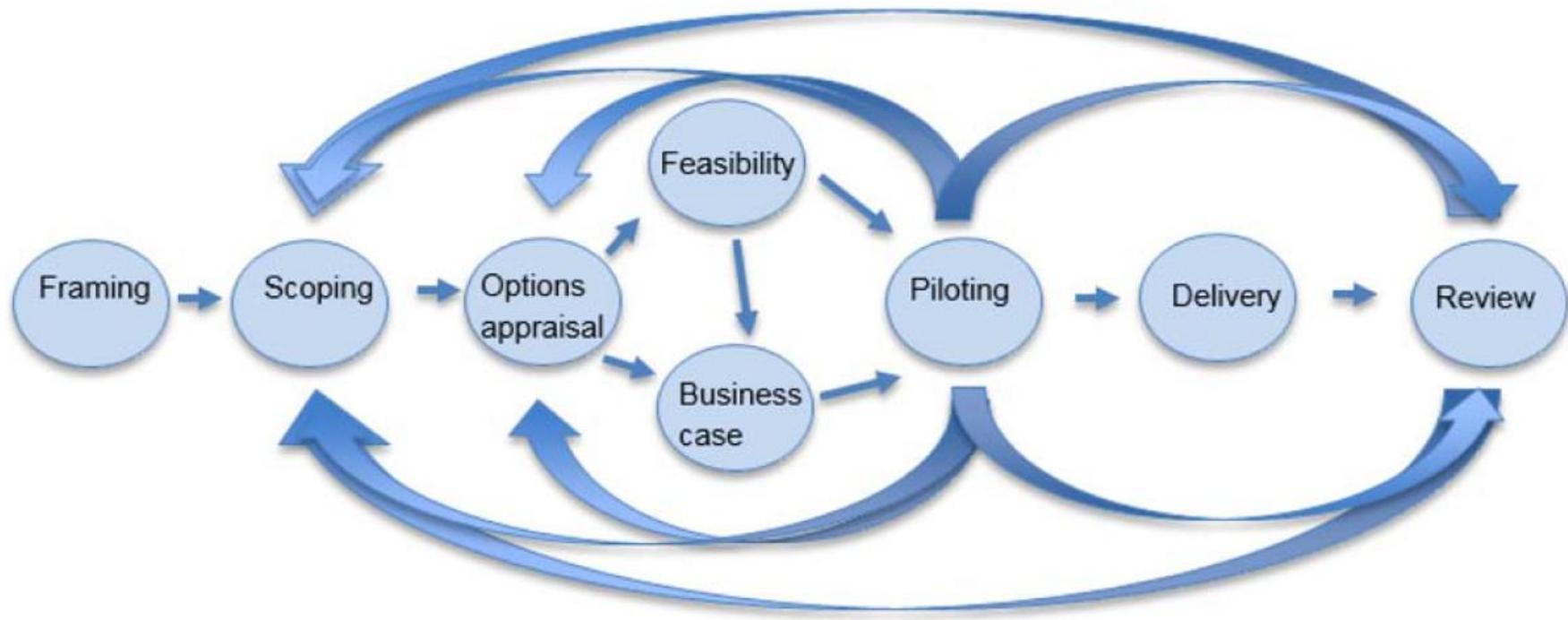
# Six BS8001 Principles



# Putting the principles of the circular economy into practice

## Flexible Framework

- Framing
- Scoping
- Idea generation
- Feasibility
- Business case
- Piloting and prototyping
- Delivery and implementation
- Monitor, review & report



# Managing Broader Risks & Opportunities

To help organisations identify these broader issues BS8001 sets out five broad categories to ***help frame thinking*** on risk that could disrupt your progress, and to help identify wider opportunities that could help scale it:

- Economic
- Technical
- Policy & Regulatory
- Behavioural
- Organizational

It is far more **important your team considers the broader disruptive risks to CE progress and your business - from multiple perspectives** - than how you choose to classify them.

# TRACE EMS Project

**Action + People + Systems = Success**

The simple act of using ISO 14001 is unlikely to act as the driver for long-term CE ambition and activities in an organisation.

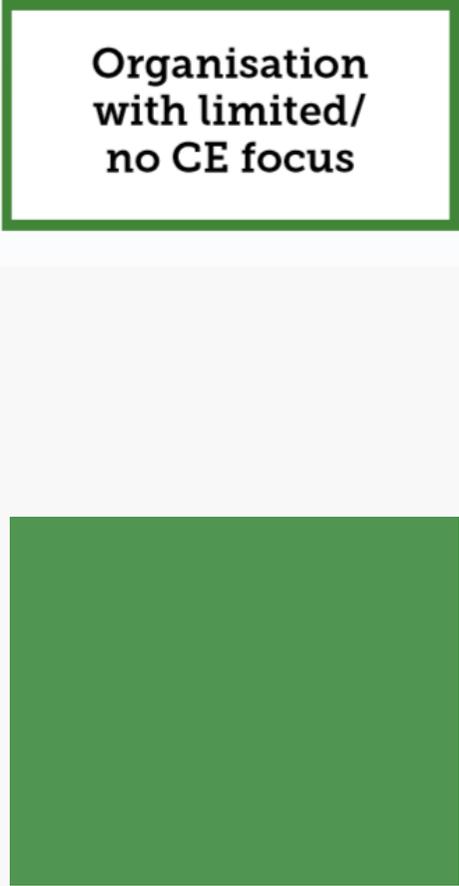
However, ISO 14001 could:

- act as a tool to trigger initial interest in CE.
- be an effective CE support tool where organisations have already started exploring circularity.

Using ISO14001 to  
**coalesce**  
**organisational**  
**interest**  
in the  
circular economy

## Scenario 1: Coalescing an organisation's interest in CE

Organisation  
with limited/  
no CE focus



Using ISO14001 to  
**support  
existing  
initiatives**  
related to the  
circular economy

## Scenario 2: Supporting an organisation's existing CE progress

Organisation exploring  
or advancing existing  
CE initiatives

# Integration Opportunities

## BS8001 & ISO 14001 – Supporting CE Progress

1. Influencing business strategy and senior management team commitment
2. Interested parties and communications
3. Determining Environmental Objectives
4. Organizational culture, values and behaviours

# 1) Influencing business strategy and senior management team commitment

BS8001 Integration Situation - alignment of Business Strategy, CE Vision and EMS



## 2. Interested parties and communications

- Need to shift focus of EMS when it comes to CE from risks to Opportunities
- 14001:2015 presents this possibility (Clause 6.1 Risk & Opportunities)

### **But, how do you change collective EMS culture?**

- CE Principles (collaboration, transparency, systems thinking) require a far more open and engaged business approach.
- Seek new perspectives on organisation's CE opportunities
  - LINK: BS8001 C5-step 1b & 2a with 14001's expectation that *interested parties* help to inform EMS's *compliance objectives* (C4.2).

**Intentionally generate conversations related to CE opportunities via the organization's EMS.**

# 3. Determining Environmental Objectives

EMS can be revitalised to support circularity ambitions, but must also *continue to deliver tangible activity & environmental performance improvement.*

To do this via EMS the organisation's CE ambition must be translatable into *environmental objectives* - ISO 14001 2015:

- 6.2.1: Env Obj = Sign't Aspects / Compliance Obj / Risk & Opt
- 6.1.2: Take a ***lifecycle perspective*** on identifying *Significant Aspects*

*Will this automatically lead to CE related EMS environmental objectives?*

## 4. Organizational culture, values and behaviours

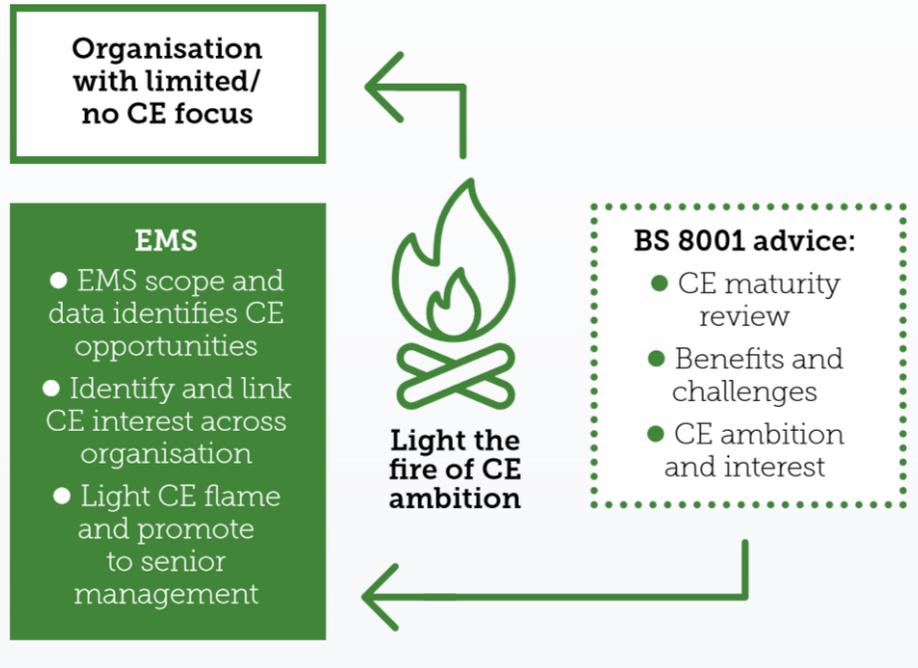
Organizational ability to transition to CE is ultimately a long-term process of change management, re-orienting itself, suppliers, customers; at the same time as the wider economy itself transforms.

BS8001's guidance includes this normative role of organizations proactively contributing to the wider transition. However, 14001's emphasis on *operational control and influence* (C8.1) can give the EMS a limited role.

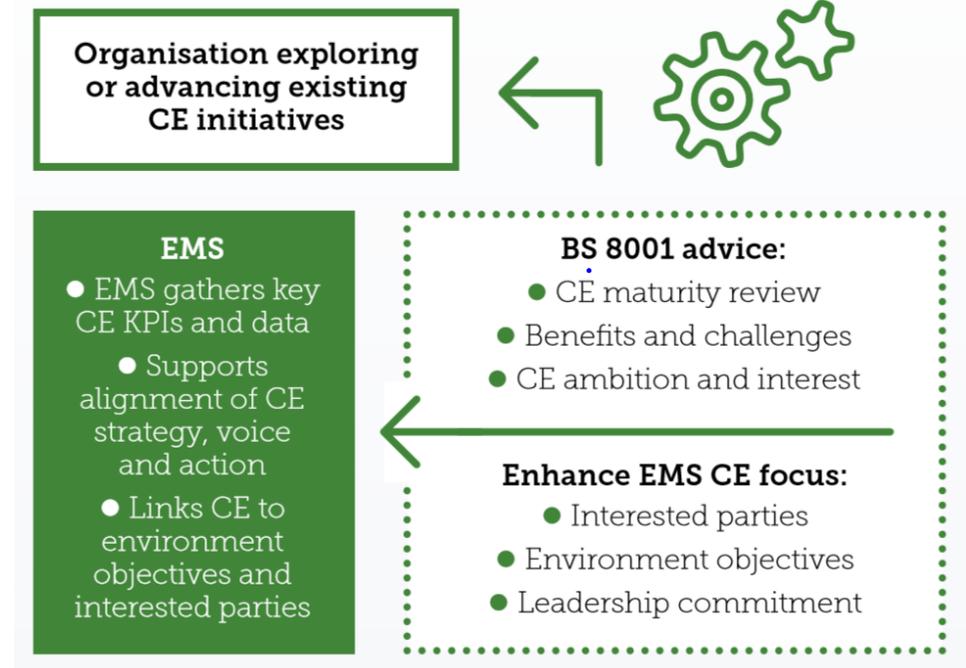
*But can an EMS help change an organization's mindset?*

# Conclusion: Through BS8001 an EMS has more opportunities to succeed in accelerating and supporting CE progress in organisations

## Scenario 1: Coalescing an organisation's interest in CE

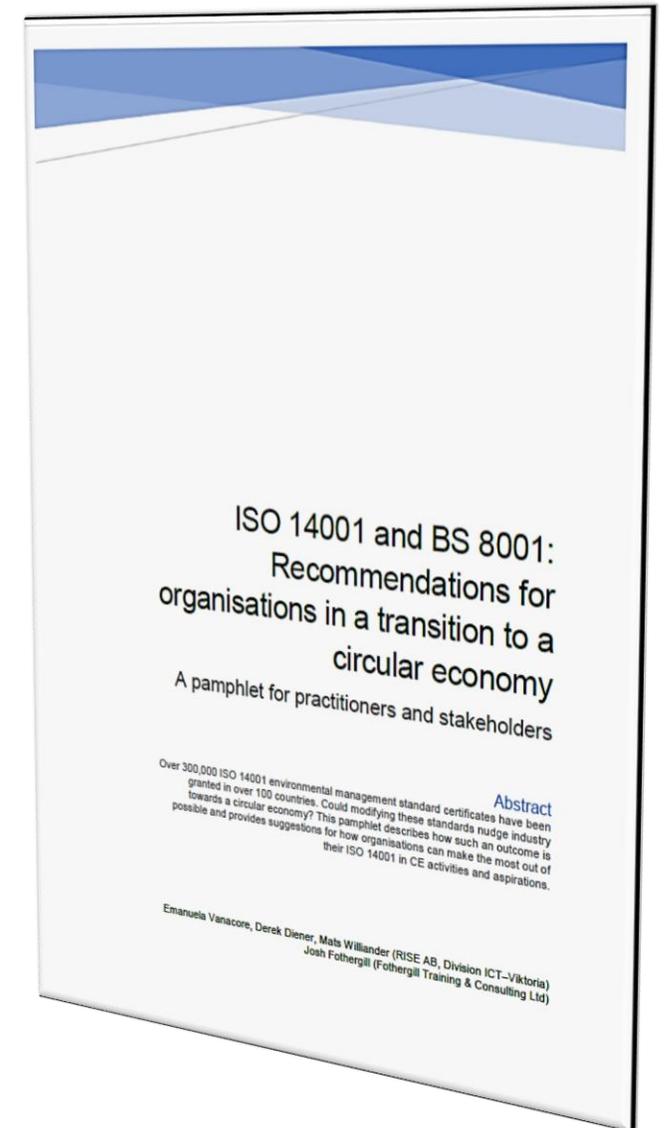


## Scenario 2: Supporting an organisation's existing CE progress



# Summary

- **OUR AMBITION:** Contributing influencing future revision of ISO 14001 and other CE related standards
- ISO 14001 led EMS will not generate proactive Circular Economy exploration on its own
- Business leadership has to have CE interest / ambition and desire to see the EMS become a core driver
- ISO 14001 has plenty of hooks that can enable it to be used effectively by an organisation as part of its CE activities
- Components of BS 8001's guidance can act as a catalyst around:
  - Linking CE ambition & business strategy
  - Enabling CE collaboration with interested parties
  - Linking EMS environmental objectives directly to organisation's CE ambitions
  - Supporting the development of an CE mindset





# THANK YOU!

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