

**bsi.**

# **ISO 14001 – Making the most out of measuring, monitoring and reporting**



**INVESTORS  
IN PEOPLE**



By Royal Charter

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# ISO 14001 – making the most out of measuring, monitoring and reporting



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## Accelerating the move to a sustainable, low-carbon economy

The Carbon Trust focuses on driving bottom-line business benefits in order to deliver long-term environmental sustainability



Advise businesses, the public sector and governments on their opportunities in a sustainable, low carbon world

Develop and deploy low carbon technologies and solutions, from energy efficiency to renewable power

Measure and certify the environmental performance of organisations, products and services

Independent, mission-driven, not-for-profit

## 9.1 Monitoring, measurement, analysis and evaluation - General

- › The organisation shall monitor and measure its environmental performance.

- **Monitoring**

*Determination the status of a system, a process or an activity.*

- **Measurement**

*Process to determine a value*

- **Environmental Performance**

*Performance related to the management of environmental aspects.*

## **9.1 Monitoring, measurement, analysis and evaluation - General**

- › The organisation shall determine:
  - › What needs to be monitored and measured and when;
  - › The methods for monitoring, measurement, analysis and evaluation;
  - › The criteria against which environmental performance will be evaluated, including appropriate indicators;
  - › When the results of monitoring and measuring shall be analysed and evaluated.



## **9.1 Monitoring, measurement, analysis and evaluation - General**

- › The organisation shall:
  - › Ensure that calibrated or verified equipment is used and maintained.
  - › Evaluate its environmental performance and the effectiveness of the EMS.
  - › Communicated performance information internally and externally.

## 7.4.1 Communication – General

- › The organisation shall establish a process for internal and external communications, including on what, when, with whom and how to communicate.
- › Communicated environmental information needs to be reliable and consistent with information generated by the EMS.

# Making the Most of Monitoring and Measurement

- Sources of data / information can include:



Utility meters /  
submeters



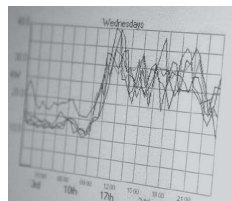
Bills, invoices,  
receipts, etc.

Monthly Waste Weights 2017



Date	Material	Net Weight (T)	Disposal Route	WTN	Total Cost
12/01/2017	Cardboard	3.440	Recycling	488171	£110.00
16/01/2017	City Water	0.908	Recycling	489082	£894.20
17/01/2017	Commercial Waste	2.580	Energy Recovery	490048	£559.68
20/01/2017	Wood	1.940	Recycling	491094	£267.62
23/01/2017	Cardboard	3.350	Recycling	491385	£110.00
27/01/2017	Commercial Waste	2.720	Energy Recovery	493185	£550.77
02/02/2017	Commercial Waste	2.720	Energy Recovery	493251	£550.94
08/02/2017	City Water	17.998	Recycling	498832	£1,534.87
09/02/2017	City Water	17.998	Recycling	498832	£1,534.87
10/02/2017	Wood	3.100	Recycling	498519	£276.90
10/02/2017	Cardboard	3.780	Recycling	497022	£110.00

Contractor Data



BMS / Control  
System Data



Maintenance /  
Service Records



Observations





## **Making the Most of Monitoring and Measurement**

- The quality of monitoring and measurement is influenced by the availability and quality of data / information and its analysis.
- Data / information collection frequency should be sufficient to identify trends and be reflective of variation – the more frequent the better.
- Data are best quality when based on actual measurements, but can be based on calculated estimates.

# Choosing Indicators

- **Indicator**

*"Measurable representation of the condition or status of operations, management or conditions"*

Source: ISO 14001 : 2015

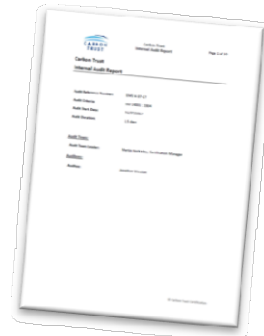
Examples:

## Operations



Total waste sent to landfill  
(tonnes / annum)

## Management



No. legal breaches  
identified

## Conditions



Contaminant concentration in  
ambient air (ppm)



## Choosing Indicators

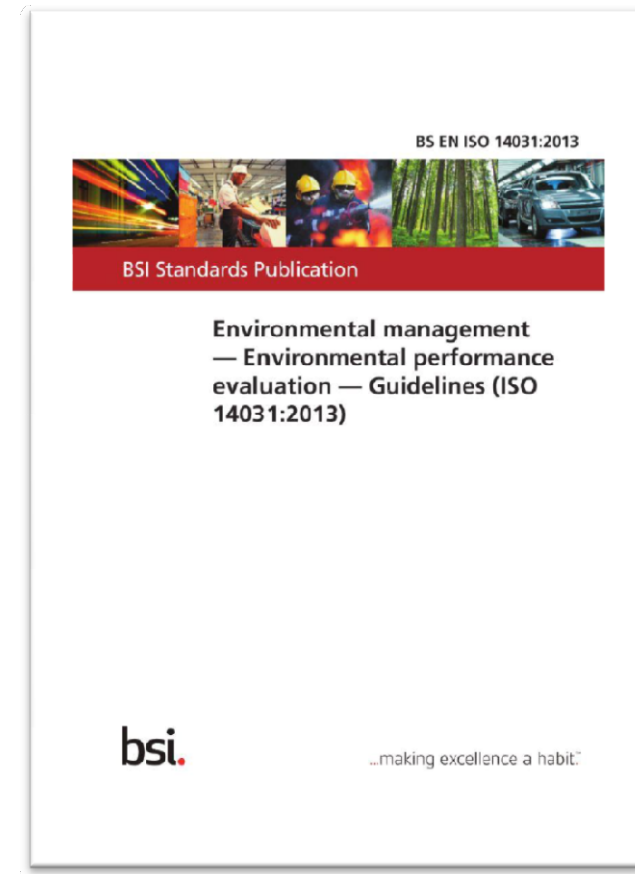
- Data usage – what do we need to understand?
  - Quantify impacts – where do we need to change?
  - Continual improvement – how are we performing against targets?
  - Compliance – are we meeting permit limits?
  - Benchmarking – how do we compare to competitors / industry standards?
- What variables can affect the data?
- Absolute or relative?
- Internal or external focus – who is the audience?



# Choosing Indicators

## ISO 14031 : 2013

- Guidance standard for environmental performance evaluation
- Provides additional guidance on the selection and use of indicators, with examples



## Driving Change with Data

- Analysis and evaluation is key – what do the data tell us?



**Is performance poor?**

Use as the business case  
for making change



**Is performance good?**

Validate existing  
initiatives and secure  
further improvements

Don't let data go unused!



## Contact Us

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## Who are we?



# Driving positive change through reporting

- Very important to Landsec!
- Internal and external benefits
- Gives confidence to our key customers





# Measuring for success

- But what?...
- Focus on key material issues
  - danger of monitoring everything!
- Long term commitments and targets
  - supported by interim metrics



# Data reliability

- Accuracy issues
  - Direct measurement
  - Indirect measurement
- Monitoring and analysis
  - competency of those responsible
- Internal / external assurance



# Communicating

Who wants to know what, when?...

- Interested parties -
  - Internal
  - External
    - Regulatory
- Assurance - independent
  - Gives credibility



# Evaluation of Compliance



## Legal register

- Reviewed three times per year

## Compliance

- Managed onsite

## Internal audit

- Regular intervals – risk based

## Performance trends

- Bi-annual



Thank you



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...making excellence a habit.™

## Questions?

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**Visit our website for more information:**

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