



*The use of CEEQUAL in  
'teaching' project teams to  
deliver more-sustainable  
infrastructure*

**Professor Roger Venables**

*CEng CEnv FICE MCIM*

**Chief Executive, CEEQUAL**

**Managing Director, Crane Environmental  
and Visiting Professor in Engineering Design  
for Sustainable Development, Queen's  
University, Belfast**

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*CEEQUAL –  
The **Civil Engineering**  
**Environmental QUALity** Assessment  
& Awards Scheme*

*Improving Sustainability in Civil Engineering*

[www.ceequal.com](http://www.ceequal.com)



# *An Introduction to CEEQUAL*

- **Scope**

- **CEEQUAL overview**

- Why we started it
    - What it is
    - CEEQUAL & Sustainability
    - What it covers
    - How it works
    - Example of awards
    - Progress so far

- **Motivations, Benefits and Learning from its use**

- **Questions**















Institution of Civil Engineers

**CEEQUAL: The Civil Engineering Environmental Quality Assessment and Awards Scheme**

**Whole Project Award**

**Excellent – 91.9%**

achieved by

Project	Grayabbey and Kircubbin Wastewater Treatment Works
Client	Water Service, Northern Ireland
Designers	Design Group, Water Service, Northern Ireland
Contractors	Geda / EPS Consortium
Assessor	Danny Glynn, Construction Service, Northern Ireland
Verifier	Rachel Waggett, Faber Monseil
Date	June 2003 (Version 2003/1)

President  
Institution of Civil Engineers

Chairman  
CEEQUAL Project  
Advisory Group



**No ... We can't !**



# *An Introduction to CEEQUAL*



- **Why CEEQUAL?**
- **ICE's Overall Objective:**
  - to improve the environmental quality of civil engineering projects ... by providing the incentive of an award scheme and associated assessment methods
  - so the scheme is a means to an end, not an end in itself





# *An Introduction to CEEQUAL*

- **So, what in essence is CEEQUAL?**
  - a tool for Project Teams to use, to assess how well they have dealt with the environmental issues – and many social issues – on their projects
  - a mechanism for having those assessments externally and independently verified and recognition gained
  - an *evidence*-based assessment, not an *assertion*-based assessment
  - a question set that Project Teams can use and learn from, to influence the development of design and/or construction management



# *An Introduction to CEEQUAL*

- **CEEQUAL and Sustainability**





**Economic  
Success**

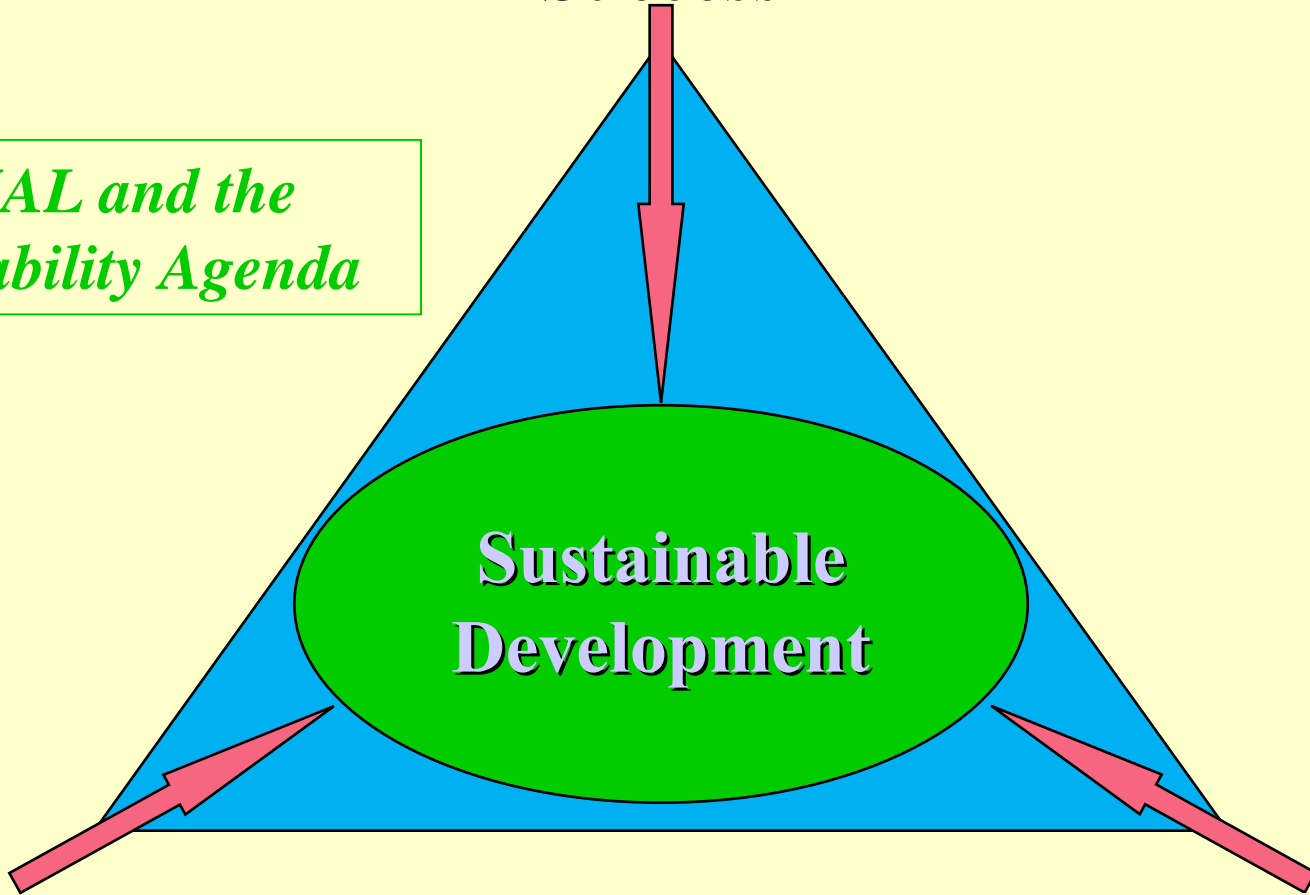
*CEEQUAL and the  
Sustainability Agenda*

**Sustainable  
Development**

**Social  
Success**

**High  
Environmental  
Quality**

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*CEEQUAL and the  
Sustainability Agenda*

**Economic  
Success**

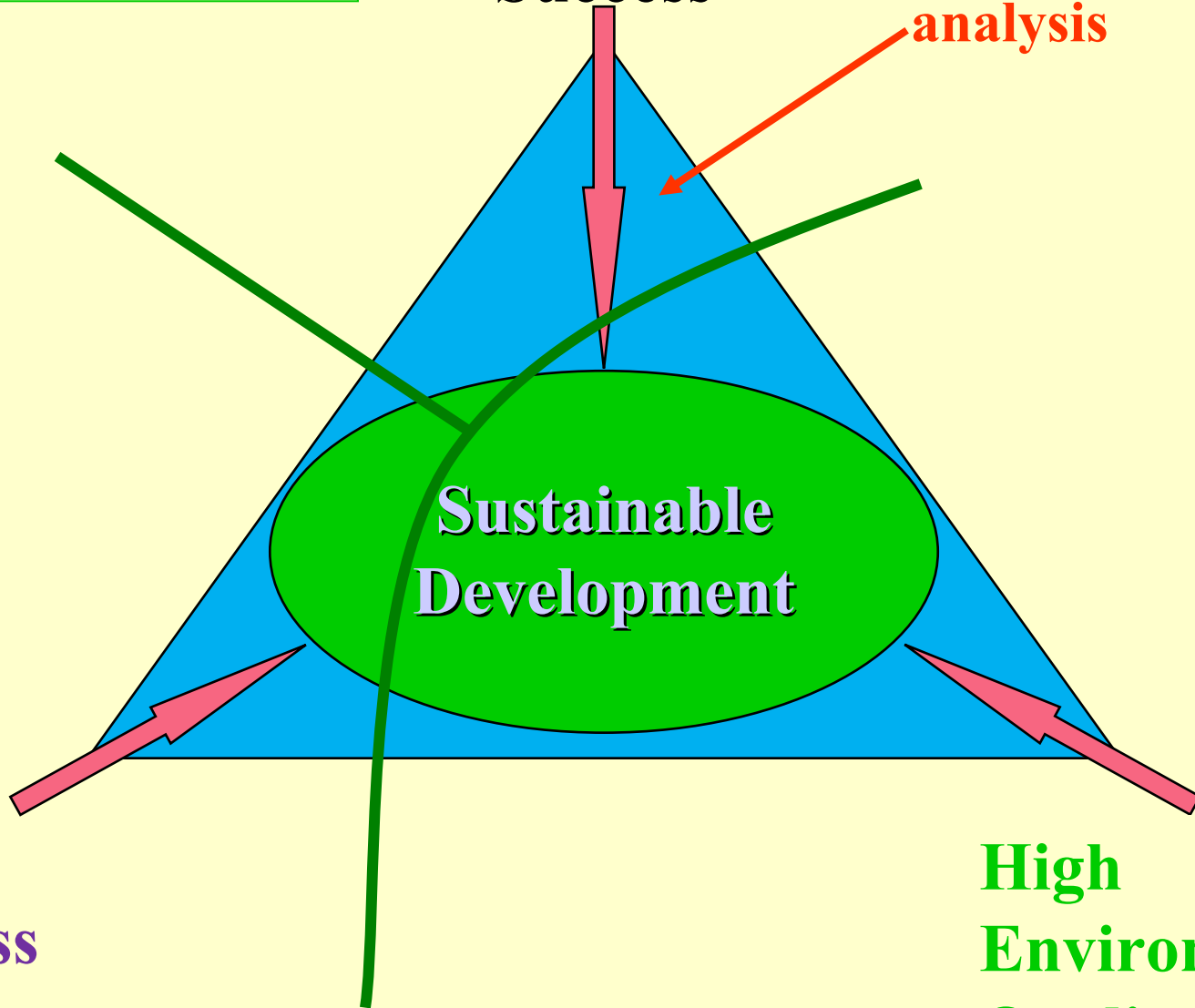
**Client's economic  
analysis**

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*CEEQUAL and the  
Sustainability Agenda*

**Economic  
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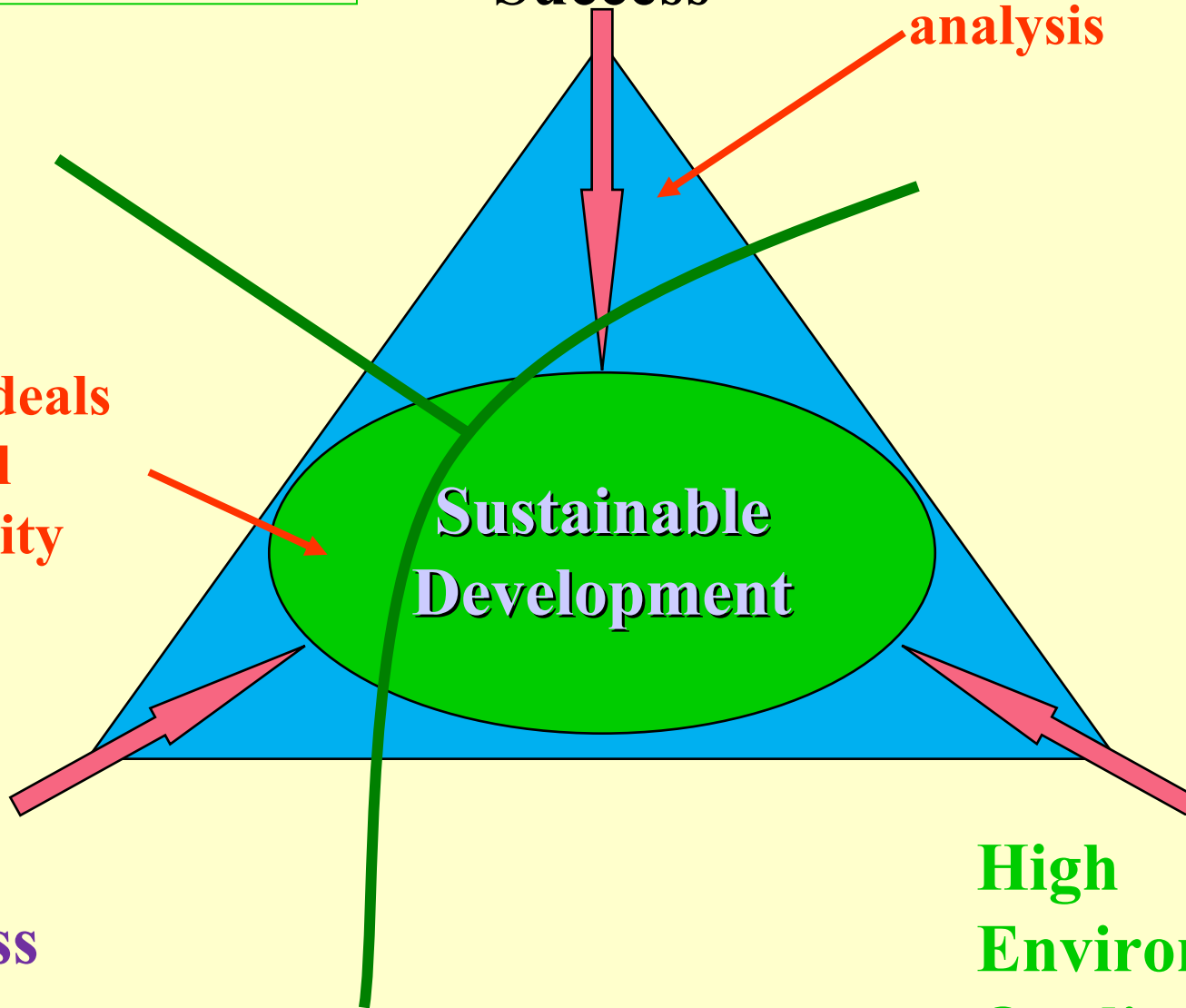
**Client's economic  
analysis**

**Planning  
approval deals  
with social  
acceptability**

**Sustainable  
Development**

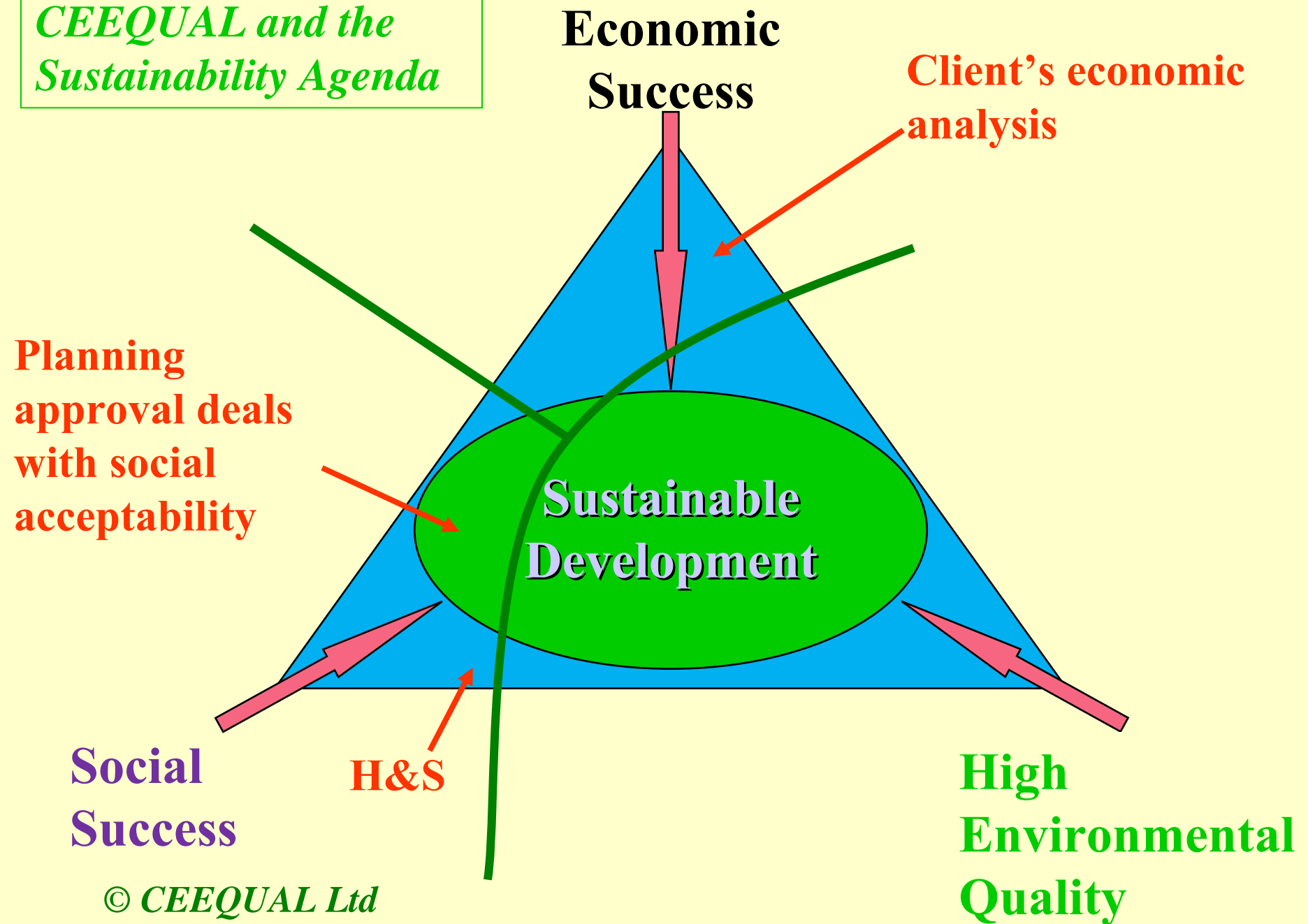
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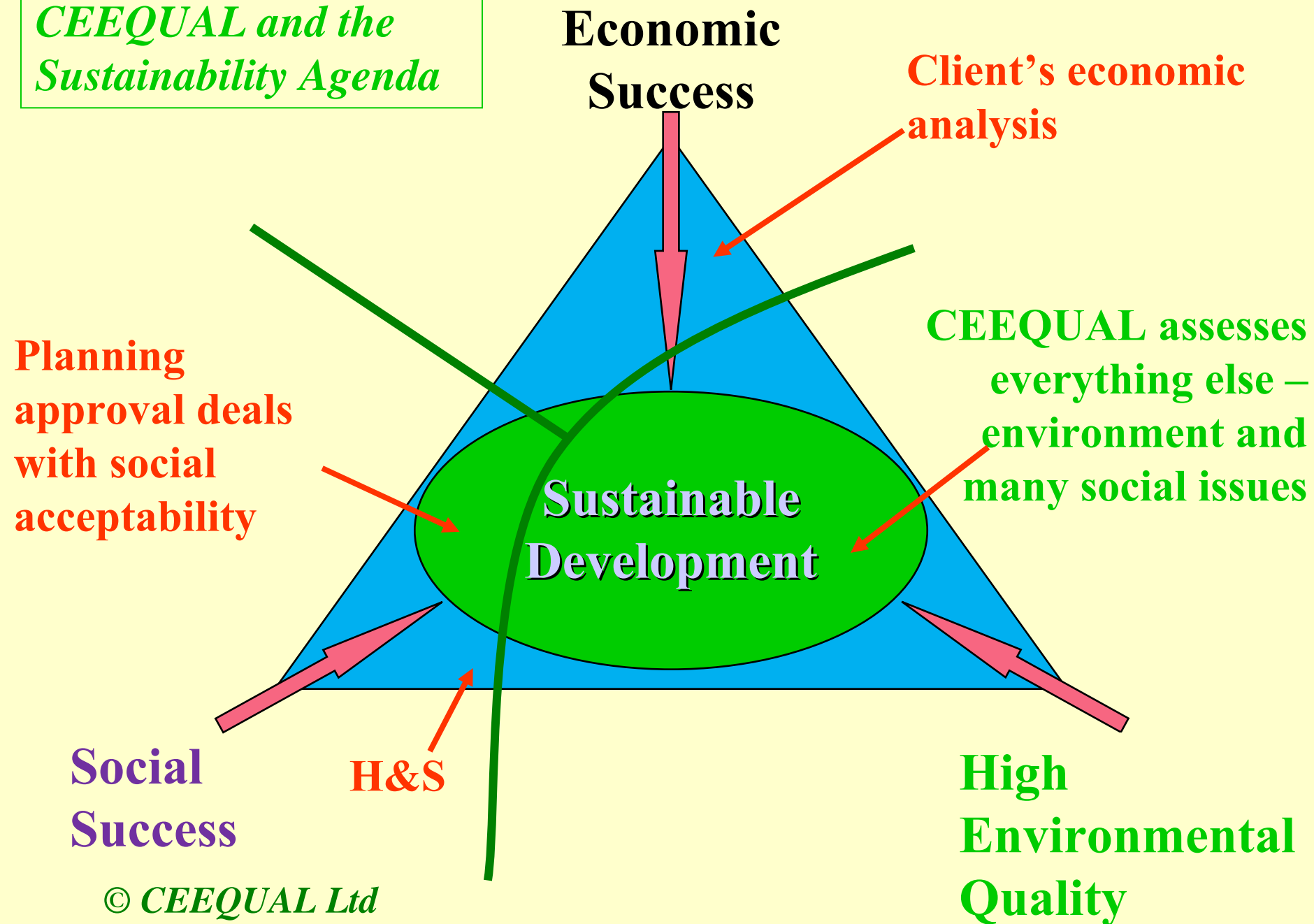




*CEEQUAL and the  
Sustainability Agenda*



*CEEQUAL and the  
Sustainability Agenda*



# *An Introduction to CEEQUAL*

- What environmental and social issues does CEEQUAL address?
- 208 Qs, 2000 points
  - 1) Project Management
  - 2) Land Use
  - 3) Landscape (rural landscape *and* townscape)
  - 4) Ecology & Biodiversity
  - 5) The Historic Environment
  - 6) Water Resources and the Water Environment





# *An Introduction to CEEQUAL*

- **CEEQUAL section headings 7 to 12**

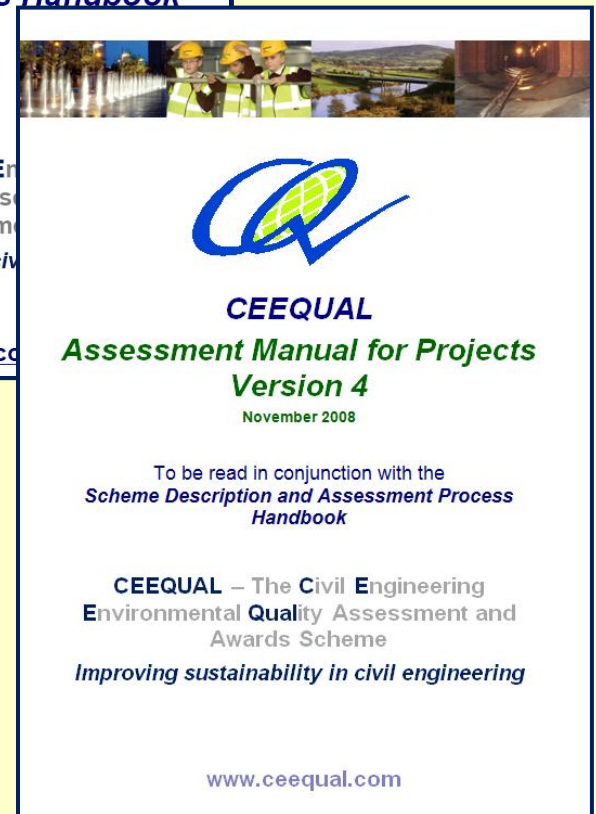
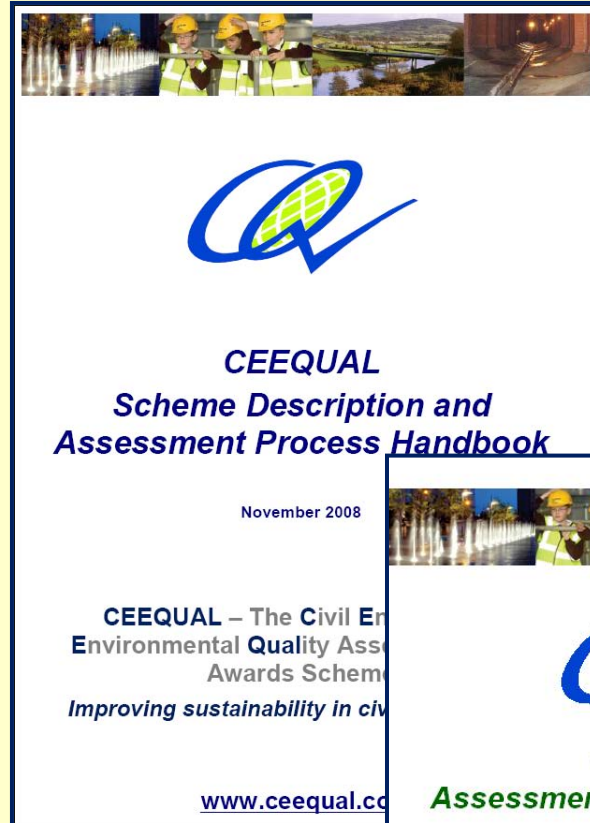
- 7) Energy and Carbon
- 8) Materials Use
- 9) Waste Management
- 10) Transport
- 11) Effects on Neighbours
- 12) Relations with the Local Community and Other Stakeholders



# *An Introduction to CEEQUAL*

- **How does it work?**

- **Manual** – assessment questions, scores and guidance on how to do the assessment



# CEEQUAL – Overview of how it works

- **How does it work?**

- **Manual** – assessment questions, scores and guidance on how to do the assessment
- **Spreadsheet Scoring Tables**

The screenshot shows a Microsoft Excel spreadsheet titled 'Scoring Reference Sheet'. The interface includes a menu bar (File, Edit, View, Insert, Format, Tools, Data, Window, Help) and a toolbar with various icons. The spreadsheet is organized into columns labeled A through M. The main data area is divided into sections for assessment questions and scoring. The first section (rows 9-17) contains question 111: 'Was there a documented commitment to consider and assess the environmental aspects for each stage of the project?'. The second section (rows 18-22) contains question 112: 'Is there clear evidence that a member of the project team was identified as responsible for managing the environmental aspects of the project and was aware of the duties and responsibilities involved?'. Both questions are marked with 'NSO' in red. The scoring table for each question includes columns for 'Max Score', 'Assessor Score', 'Verified Score', and 'Ratified Score'. The 'Max Score' column is shaded grey. The 'Assessor Score' column is currently empty. The 'Verified Score' and 'Ratified Score' columns are also empty. The 'Evidence for scores awarded or reason for scoping out / Verifiers comments / Ratifiers comments' column is a large text area for providing details. The bottom of the spreadsheet shows a navigation bar with tabs for 'Section 1' through 'Section 12' and 'Scoring Reference Sheet'.

Section and Question Numbers	Section Titles & Question Topics	Scope Out? 'Y' or 'N'	Client	Design	Construct	Total	Evidence for scores awarded or reason for scoping out / Verifiers comments / Ratifiers comments
111	Was there a documented commitment to consider and assess the environmental aspects for each stage of the project?	NSO					
112	Is there clear evidence that a member of the project team was identified as responsible for managing the environmental aspects of the project and was aware of the duties and responsibilities involved?	NSO					





# *CEEQUAL – Overview of how it works*

- **How does it work?**

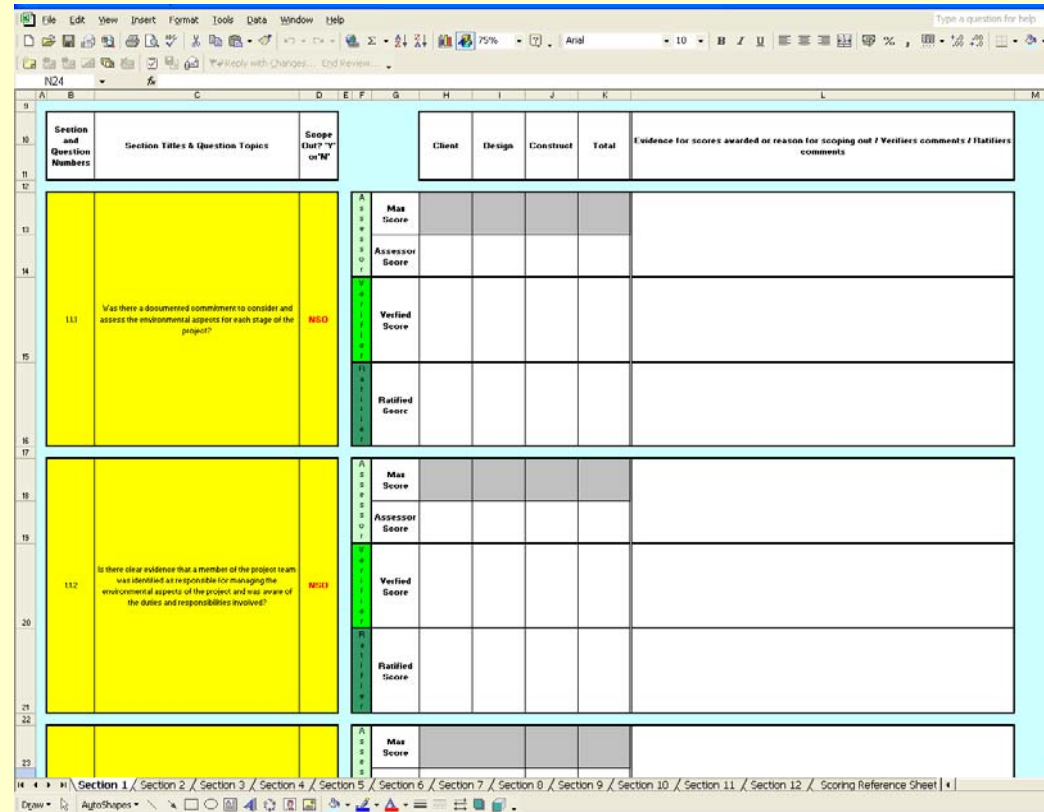
- **Manual** – assessment questions, scores and guidance on how to do the assessment
- **Spreadsheet Scoring Tables**
- **Accredited CEEQUAL Assessors and Verifiers**



# CEEQUAL – Overview of how it works

- **How does it work?**

- **Manual** – assessment questions, scores and guidance on how to do the assessment
- **Spreadsheet Scoring Tables**
- **Accredited CEEQUAL Assessors and Verifiers**
- **Scoping out questions not relevant**
- **Scoring (with weighting embedded)**



Section and Question Numbers	Section Titles & Question Topics	Scope that? "Y" or "N"	Client	Design	Construct	Total	Evidence for scores awarded or reason for scoping out / Verifiers comments / Ratifiers comments
111	Has there a documented commitment to consider and assess the environmental aspects for each stage of the project?	N/R					
112	Is there clear evidence that a member of the project team was identified as responsible for managing the environmental aspects of the project and was aware of the duties and responsibilities involved?	N/R					



# *CEEQUAL – Overview of how it works*

- **How does it work?**

- **Manual** – assessment questions, scores and guidance on how to do the assessment
- **Spreadsheet Scoring Tables**
- **Accredited CEEQUAL Assessors and Verifiers**
- **Scoping out** questions not relevant
- **Scoring** (with weighting embedded)
- **5 Awards & 4 levels**

- **Four levels of achievement**



- exceed by 25% – Pass
- exceed by 40% – Good
- exceed by 60% – Very Good
- exceed by 75% – Excellent



# CEEQUAL – Overview of how it works

- **How does it work?**

- **Manual** – assessment questions, scores and guidance on how to do the assessment
- **Spreadsheet Scoring Tables**
- **Accredited CEEQUAL Assessors and Verifiers**
- **Scoping out questions not relevant**
- **Scoring (with weighting embedded)**
- **5 Awards & 4 levels**
- **Award presentation + ICE link**

  
[Institution of Civil Engineers]

**CEEQUAL: The Civil Engineering Environmental Quality Assessment and Awards Scheme**

**Whole Project Award**

**Excellent (83.7%)**

achieved by

Project	A470 Dolwyddelan to Pont Yr Afranc Improvement
Client	Transport Wales, Welsh Assembly Government
Client's Agents	Halcrow Group Ltd, and WynThomasGordonLewis Ltd
Contractor	Laing O'Rourke Civil Engineering Ltd
Contractor's Designer	Arup
Assessor	Rob McCarthy, Laing O'Rourke Civil Engineering Ltd
Verifier	Dr Mark Robinson, British Waterways
Date	June 2005 (Version 3.0)

**President**  
Institution of Civil Engineers

**Chairman**  
CEEQUAL Ltd







# CEEQUAL – Overview of how it works

## • How does it work?

- **Manual** – assessment questions, scores and guidance on how to do the assessment
- **Spreadsheet Scoring Tables**
- **Accredited CEEQUAL Assessors and Verifiers**
- **Scoping out questions not relevant**
- **Scoring (with weighting embedded)**
- **5 Awards & 4 levels**
- **Award presentation**
- **Overall, it is an independently verified self-assessment**



[Institution of Civil Engineers]

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CEEQUAL Ltd



# *CEEQUAL – Overview of how it works*

## **Five award types**

### ➤ **Whole-Project Award**

- *applied for on behalf of the whole team – client, designers and constructors.*

### ➤ **Design-only Award**

### ➤ **Construction-only Award**

### ➤ **Design and Build Award**

### ➤ **Client and Design Award**

- *all four applied for by team members either to seek reward for their individual effort or because one or more of the parties do not wish to participate in the application.*

## **...and a sixth use**

### ➤ **Interim Client & Design en route to a WPA**



# *CEEQUAL – Overview of how it works*

- **Weighting...**

- **12 Sections weighted for their relative importance**

- Developed through wide consultation both within and outside the industry.

- **Nominal 2000 points allocated across the sections on basis of these weightings**

- so, 9.4% weighting equals 188 points

- **2 or 3 Reviewers allocated these points to each question to reflect their relative importance**

- **The aim has been to give every point equal value across all sections**



# *An Introduction to CEEQUAL*

- **Examples of Awards so far**





# *Newtownstewart Bypass*



- **Award Recipients:**
  - **Northern Ireland Roads Service**
  - **Scott Wilson & Ferguson McIlveen**
  - **Whitemountain Quarries**
- **Very Good Award**



# *Reading Sewage Treatment Plant*



- **Award Recipients:**
  - **Thames Water**
  - **Faber Maunsell and Black & Veatch**
  - **Target Alliance**  
(Taylor Woodrow Construction and Black & Veatch)
- **Excellent Award – 79.5%**



# *Twin Rivers Diversion, Terminal 5*



- **Award Recipients:**
  - BAA plc
  - Black & Veatch
  - KBR
  - Hyland Edgar Driver,
  - TPS Consult
  - Laing O'Rourke
- **Excellent Award – 92.7%**





# *A470 North Wales*



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[Institution of Civil Engineers

**CEEQUAL: The Civil Engineering Environmental  
Quality Assessment and Awards Scheme**

**Whole Project Award**

**Excellent (83.7%)**

achieved by

Project **A470 Dolwyddelan to Pont Yr Afranc Improvement**

Client **Transport Wales, Welsh Assembly Government**

Client's  
Agents **Halcrow Group Ltd, and  
WynThomasGordonLewis Ltd**

Contractor **Laing O'Rourke Civil Engineering Ltd**

Contractor's  
Designer **Arup**

Assessor **Rob McCarthy, Laing O'Rourke Civil Engineering Ltd**

Verifier **Dr Mark Robinson, British Waterways**

Date **June 2005 (Version 3.0)**

**President**  
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**Chairman**  
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*Cardiff International Sports Village Remediation & Revetment by Taylor Woodrow – Design & Build Award – Excellent 91.9%*





# *Snaresbrook embankment*



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**CEEQUAL: The Civil Engineering Environmental  
Quality Assessment and Awards Scheme**

**Design & Build Award**

**Very Good (73%)**

achieved by

**Project** Snaresbrook to South Woodford  
Embankment Stabilisation

**Client** Metronet & Trans4m Alliance

**Contractor** Cementation Foundations Skanska

**Designer** Cementation Foundations Skanska

**Assessor** **Ruth Bacon, Atkins**

**Verifier** **Ed King, King Consultancy**

**Date** December 2005 (Version 3.0)

**President**  
Institution of Civil Engineers

**Chairman**  
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# *Carran Hill Water Treatment Works*



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**CEEQUAL: The Civil Engineering Environmental  
Quality Assessment and Awards Scheme**

**Whole Project Award**

**Excellent (82.1%)**

acknowledged by

Project Carran Hill Water Treatment Works, Crossmaglen  
Client DRD – Water Service  
Contractor Farrans (Construction) Ltd and ETEL  
Designer McAdam Design  
Assessor Alex Anderson, Farrans Construction Ltd  
Verifier Catherine Pinney, Bovis Lend Lease  
Date June 2006 (Version 3.0)

President  
Institution of Civil Engineers

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# *Alkborough Tidal Defence Scheme*



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# *East London Line Project*



- **Interim Client & Outline Design Award**

- **Award Recipients:**

- **Transport for London**

- **Mott Macdonald**

- **Excellent Award – 89.5%**



# *M60 Junctions 5-8 Widening*



- **Whole project Award**

- **Award Recipients:**

- **Highways Agency**

- **AMEC**

- **McAlpine Venture**

- **Halcrow**

- **Excellent Award –  
82.4%**





# *Rushall Canal Improvements Scheme*



- **Whole project Award**
- **Award Recipients**
  - **British Waterways**
  - **British Waterways Technical Services**
  - **Morrison Construction Services**
- **Very Good Award**



# *N7 Naas Road Widening / Interchange Scheme, Eire*



- **Award Recipients:**
  - Kildare County Council
  - South Dublin County Council
  - Halcrow Barry
  - Laing O'Rourke
- **Very Good Award**



# *Custom House Square Belfast: Public Realm Works*



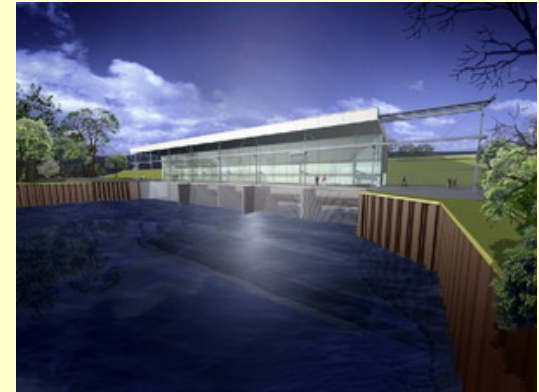
## **Award Recipients:**

- Client – Laganside Corporation
- Designer – McAdam Design
- **Very Good Award 74%**



# *The New St Germans Pumping Station*

- **Interim Client & Outline Design Award**
- **Award Recipients:**
  - Middle Level Commissioners
  - WS Atkins Consultants Ltd
  - Costain Ltd
  - KSB
  - Birse Water
- **Very Good Award**





# *Weymouth and Portland Olympic and Paralympic Sailing Venue: WPNSA Marine Enhancement Works*

## **Award Recipients:**

- **Olympic Delivery Authority**
- **White Young Green**
- **Royal Haskoning**

● **Excellent Award 87.4%**



# *Victoria Footbridge Major Maintenance and Repair*

- **Whole Project Award**
- **Award Recipients:**
  - Herefordshire Council
  - Owen Williams,  
Part of Amey plc
  - Interserve Project  
Services Ltd
- **Excellent Award –  
75.8%**





# *Dartford Creek Flood Defences*



- **Whole Project Award**
- **Award Recipients:**
  - **Environment Agency**
  - **Ove Arup & Partners Ltd**
  - **Mackley Construction  
part of Team Van Ord**
- **Excellent Award – 84.6%**



# *Bristol Water's Northern Strategic Support Scheme Mains Reinforcement between Barrow and Hicks Gate*



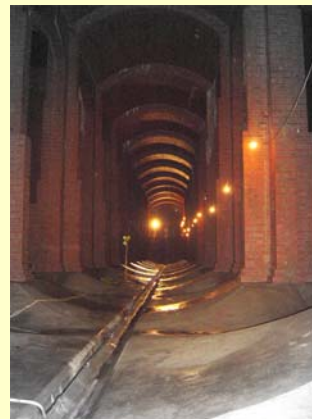
- **Whole Project Award**
- **Award Recipients:**
  - **Bristol Water**
  - **Black & Veatch**
  - **Costain Ltd**
- **Good Award**



# *Thames Water Ring Main Extension – Stoke Newington to New Riverhead*

- **Interim Client & Outline Design Award**
- **Award Recipients:**
  - **Thames Water Utilities Ltd**
  - **London Clean Water Network**
  - **Mott MacDonald**
- **Excellent Award – 87.2%**

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# *A30 Bodmin to Indian Queens (ECI) Scheme*



- **Whole project Award**

- **Award Recipients**

- **Highways Agency**

- **Mouchel**

- **Scott Wilson**

- **Alfred McAlpine  
Project Services**

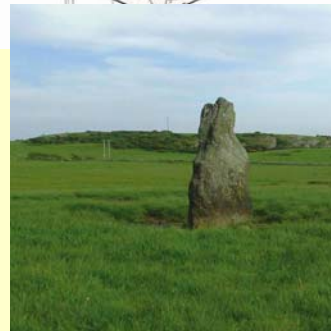
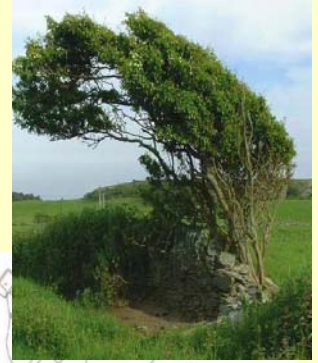
- **Excellent Award 86.2%**





# *Parc Cybi*

- Interim Client & Outline Design Award
- Award Recipients:
  - Welsh Assembly Government
  - Atkins, Austin-Smith: Lord
  - Jones Bros (Ruthin) Ltd
- Excellent Award – 91.4%



# *An Introduction to CEEQUAL*

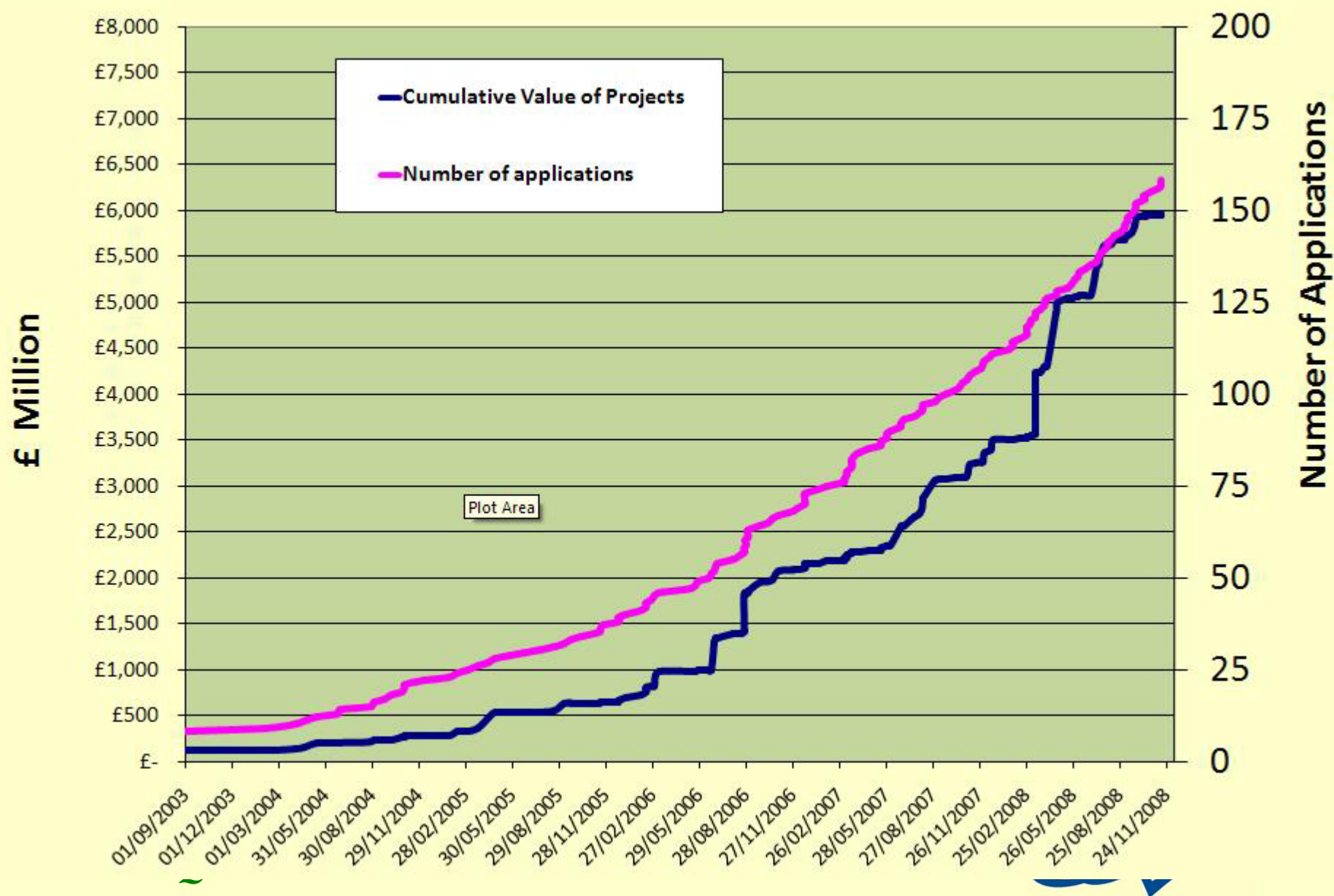
- **Progress so far - 1**

- 42 Assessor Training Courses →  $\approx$  430 Assessors
- 30 Verifiers
- 159 Applications so far, incl all infrastructure & public realm at Olympic Park
- Total construction value  $\approx$  £6 billion
- 75 Client users, 60 Designers, 50 Contractors
- Interim Client & Design Award introduced
- 45 Awards with 10 Interim – 31 Excellents, 12 Very Goods, 2 Goods
- $\approx$  30-40 per year in 2009-11





## *Value of Projects that have been or are being assessed under CEEQUAL*





CEEQUAL – The Civil Engineering  
Environmental Quality and  
Assessment Scheme

**Scheme Manual for  
Projects**  
Version 3.1



**CEEQUAL  
Scheme Description and  
Assessment Process Handbook**

November 2008

CEEQUAL – The Civil Engineering  
Environmental Quality Assessment and  
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*Improving sustainability in civil engineering*

[www.ceequal.com](http://www.ceequal.com)



**CEEQUAL  
Assessment Manual for Projects  
Version 4**  
November 2008

To be read in conjunction with the  
*Scheme Description and Assessment Process  
Handbook*

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## *How does CEEQUAL work?*

- **Updates (Version A.Y to A.Z)**
  - Guidance and clarification on questions and evidence
  - Recent changes
    - e.g. English Nature to Natural England + equivalents
  - Updating legislation
- **Upgrade (Version A to B)**
  - Questions added/deleted
  - Re-weighting and scoring
  - Scope out changes



# *How does CEEQUAL work?*



## **CEEQUAL** *Scheme Description and Assessment Process Handbook*

November 2008

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## **CEEQUAL** *Assessment Manual for Projects* **Version 4** November 2008

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- **Key changes in Version 4.0**
  - All sections & questions reviewed
  - New Questions on Carbon in renamed Energy & Carbon Section
  - Revised sections on Historic Environment and Effects on Neighbours
  - Re-weighting exercise with more participants
  - Re-scoring of all questions and revisions to NSO



# *An Introduction to CEEQUAL*

- **Motivations and Benefits – Why use the Scheme?**
- **Learning points – What improvements result?**



# *An Introduction to CEEQUAL*

- **Benefits and motivations for having projects assessed – from existing applicants**
  - **Public recognition and public relations**
  - **Team reward and team-building**
  - **Improvements to projects and best practice**





# *An Introduction to CEEQUAL*

- **Benefits and motivations**

- **Public recognition and public relations**

- delivery of an applicant's environmental policy and aspirations
    - reputation with clients and/or stakeholders
    - client or stakeholder persuasion
    - delivery of government targets



# *An Introduction to CEEQUAL*

- **Benefits and motivations for having projects assessed – from existing applicants**
  - Public recognition and public relations
  - **Team reward and team-building**
    - Rewarding teams that have ‘gone the extra mile’ on the environmental issues they face
    - Binding and building project teams – especially those that apply early – to a positive environmental agenda
    - Engendering a positive “we must score well here” attitude
    - Demonstration to staff management’s commitment to environmental matters



# *An Introduction to CEEQUAL*

- **Benefits, motivations and learning points**
  - Improvements to projects and best practice
  - Can trigger actions that improve environmental performance *and* save money
    - whole-life costing
    - waste minimisation
    - energy consumption reduction
    - water consumption reduction
    - minimising complaints
    - minimising costs of environmental incidents
    - minimising costs of dealing with protesters



# *An Introduction to CEEQUAL*

- **Learning points from experience so far**
  - **More-sustainable infrastructure needs**
    - more thinking time up-front
    - active consideration of issues and options *at the right stage*
    - team work
    - commitment to delivery
  - **CEEQUAL prompts clients to do these things themselves, and to make them happen in their project teams**
  - **The CEEQUAL Question Set provides an extended checklist and related guidance on what to do when**
  - **Assessors using CEEQUAL from an early stage are plotting Questions and evidence production of project programmes**
  - **Different, better projects are the result**



# *An Introduction to CEEQUAL*

- **Learning points from experience so far**
  - Assessors driving learning by project teams
  - EMSs being adjusted accordingly
  - Designers using CEEQUAL to persuade some Clients & Contractors to address their responsibilities more actively
  - Ditto Contractors on some Designers
  - No 'control projects' but substantial anecdotal evidence of better outcomes
  - Need to keep up to date – yesterday's best practice = today's good
  - Upgrades will therefore be needed  $\approx$  every 2 years





# CEEQUAL

The Civil Engineering Environmental Quality Award

This is to certify that

*Cofin Cheeseman*

has successfully completed  
the two-day CEEQUAL  
training course on  
8 & 9 December 2005



*John Ellis*  
Chairman  
CEEQUAL Ltd

*Barry Malt*  
Course Leader



Institution of Civil Engineers

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## CEEQUAL

The Civil Engineering Environmental Quality Assessment and Award Scheme

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■ [Training Courses](#)



[What is CEEQUAL ?](#) | [Benefits of CEEQUAL](#) | [CEEQUAL Awards](#)

### CEEQUAL launches Version 4 of the Scheme Manual

Version 4 of the CEEQUAL Manual for Projects will be launched at CIVILS 2008 at Earls Court 2, London, on 18 November.

The new version of the Manual has been updated to reflect five years of changes in practice and legislation since Version 3 was developed, resulting in an updated and more comprehensive set of assessment questions, while the overall methodology remains the same.

In addition to being used for CEEQUAL Assessments, the questions in the Manual provide an important checklist and influencer for project teams wanting to enhance their project's environmental and social performance. The most significant changes are new questions on carbon, a thoroughly revised 'Historic environment' section, and improvements to the sections on 'Effects on neighbours' and 'Relations with the local community and other stakeholders'.

Copies of the new Manual can be ordered at the CEEQUAL stand at CIVILS 2008, E116, at the special Show price of £50.

### What is CEEQUAL?

CEEQUAL is the assessment and awards scheme for improving sustainability in civil engineering and public realm projects. It is being promoted by ICE and a group of committed industry organisations such as CIRIA, CECA and ACE. Its objective is to encourage the attainment of environmental excellence in civil engineering, and thus to deliver improved environmental and social performance in project specification, design and construction.

CEEQUAL celebrates the achievement of high environmental and social performance in civil engineering and public realm projects. Awards are made to projects in which the clients, designers and contractors go beyond the legal and environmental minima to achieve distinctive standards of performance.

#### CEEQUAL:

- promotes improved sustainability in project specification, design and construction

Improving sustainability  
in civil engineering

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Your Name

Your Company

**CIVILS**  
2008  
London, Earls Court 2  
18-20 November

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## CEEQUAL

A Civil Engineering Environmental Quality Assessment and Award Scheme

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### Downloads

Information:

- [Feescale for assessments \(PDF, 25Kb\)](#)
- [A4 flyer \(May 2008 update\) \(PDF, 733Kb\)](#)

Registration and booking forms:

- [Manual order form \(DOC, 243Kb\)](#)
- [Registration of interest form \(DOC, 228Kb\)](#)
- [Assessment registration form \(DOC, 131Kb\)](#)

Course booking forms:

- **27 & 28 November 2008** at the CEF Offices, Belfast
- **10 & 11 December 2008** at The Innovation Centre, Loughborough University
- **4 & 5 February 2009** at CIRIA, London
- **10 & 11 March 2009** in Exeter (venue to be confirmed)
- **28 & 29 April 2009** at CIRIA, London
- **9 & 10 June 2009** in Glasgow (venue to be confirmed)
- **8 & 9 July 2009** at CIRIA, London
- **9 & 10 September 2009** in Belfast (venue to be confirmed)
- **22 & 23 September 2009** at CIRIA, London
- **20 & 21 October 2009** in North West England (venue to be confirmed)
- **11 & 12 November 2009** at CIRIA, London
- **9 & 10 December 2009** in Loughborough

Press releases:

## CEEQUAL

A Civil Engineering Environmental Quality Assessment and Award Scheme

■ [Home](#) ■ [Background](#) ■ [How CEEQUAL works](#) ■ [Awards](#) ■ [Contact Us](#)



### Axbridge Raw Water Treatment Works.



91.2%

Whole Project Award

Project Team: **Bristol Water Plc** (client), **Black & Veatch** (designer), **Costain** (contractor)

### The Project

Aim of the project was to provide a replacement plant for the treatment of raw river water pumped from the River Axe and discharged into the Cheddar Reservoir. The site was equipped with large settlement tanks for a temporary treatment plant, erected some years before for drought relief. In addition, over a kilometer of unsightly overland pipeline, laid along the footpath rim of the Cheddar reservoir, had to be moved and buried at the embankment base.

The objective was to remove all of the temporary plant and pipeline, and to build a new state-of-the-art treatment works to remove silt, chemicals and organic matter from the river water for discharge into the reservoir. The reservoir itself is normally spring-fed from the Mendip Hills and it was feared that the River Axe water, if not treated to a high standard, could introduce nitrates and other chemicals to the water, causing algae blooms and excessive weed growth.

Adobe

Get Adobe  
Reader

Click on  
download  
of Adobe  
PDF files



Links to the other  
Projects:



**Cross Valley Link Road  
(CVLR)**



**Axbridge Raw Water  
Treatment Works.**



**A58 Blackbrook  
Diversion Scheme**



**A590 High and Low  
Newton Bypass**



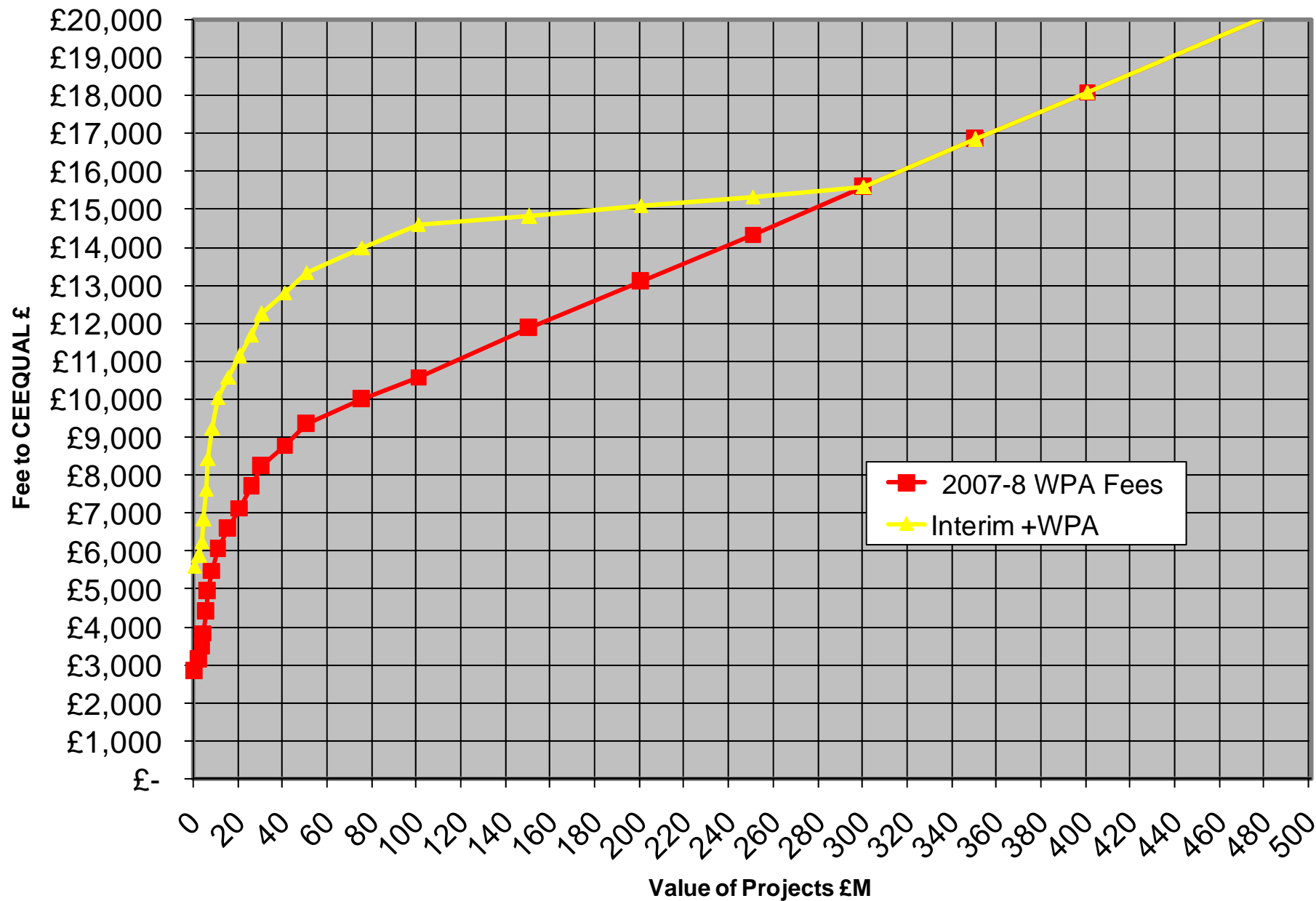
# *An Introduction to CEEQUAL*

- **Website**

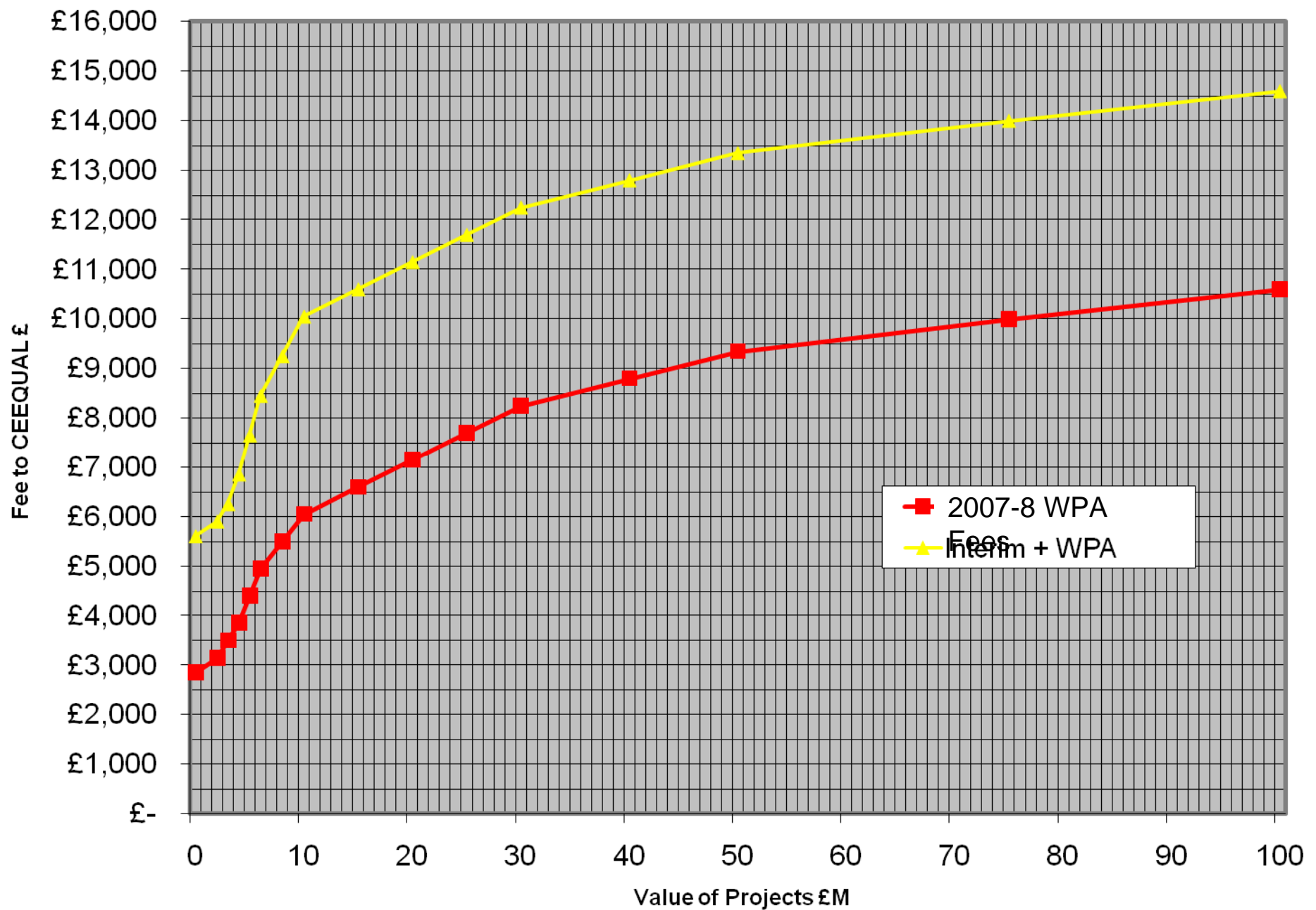
➤ [www.ceequal.com](http://www.ceequal.com)

- **Questions?**









# *How does CEEQUAL work?*

- **More detail on coverage of the 12 Sections in the Scheme (Version 4)**



# *How does CEEQUAL work?*

- **Project Management**
- **20 Questions, 218 pts**
  - **Overarching management issues**
    - environmental risk assessments
    - pro-active environmental management,
    - consideration of whole life approaches
    - delivering environmental and social issues
    - training,
    - the influence of contractual and procurement processes,



# *How does CEEQUAL work?*

- **Land Use**
- **19 Questions, 158 pts**
  - **site selection & previous use**
  - **design for minimum land-take**
  - **legal requirements**
  - **flood risk**
  - **ground investigations**
  - **land contamination and remediation measures**





# *How does CEEQUAL work?*

- **Landscape Issues (inc. rural landscape and townscape)**
- **15 Questions, 148 pts**
  - proper consideration of landscape issues
  - amenity features
  - local character
  - loss and compensation or mitigation of landscape features,
  - implementation and aftercare.



# *How does CEEQUAL work?*

- **Ecology & Biodiversity**
- **15 Questions, 176 pts**
  - impacts on sites of high ecological value,
  - protected species,
  - conservation & enhancement,
  - habitat creation measures,
  - monitoring and maintenance.



# *How does CEEQUAL work?*

- **The Historic Environment**
- 16 Questions, 134 pts
  - archaeology and cultural heritage
  - baseline studies/surveys,
  - consultations
  - design & construction measures to be taken
  - recording, reporting and access



# *How does CEEQUAL work?*

- **Water Resources and the Water Environment**
- 15 Questions, 170 pts
  - control of a project's impacts on the water environment
  - protection of the water environment,
  - legal requirements,
  - minimising water usage,
  - enhancement of the water environment.



# *How does CEEQUAL work?*



- **Energy and Carbon**
- **16 Questions, 190 pts**
  - life-cycle energy & carbon analyses
  - energy consumption & carbon emissions in use
  - energy performance on site





# *How does CEEQUAL work?*

- **Material Use**
- 26 Questions, 188 pts
  - minimising environmental impact of materials used,
  - minimising material use and waste,
  - responsible sourcing
  - selection of timber,
  - using re-used and/or recycled material,
  - minimising use and impacts of hazardous materials,
  - durability and maintenance,
  - future deconstruction.



# *How does CEEQUAL work?*

- **Waste Management**
- 20 Questions, 168 pts
  - design for waste minimisation,
  - legal requirements,
  - waste from site preparation,
  - on-site waste management.



# *How does CEEQUAL work?*

- **Transport**
- 14 Questions, 162 pts
  - location of a project in relation to transport infrastructure,
  - minimising traffic impacts of a project,
  - construction transport,
  - minimising workforce travel.



# *How does CEEQUAL work?*

- **Effects on Neighbours**
- **18 Questions, 140 pts**
  - minimising operation and construction-related nuisances,
  - legal requirements,
  - nuisance from construction noise and vibration,
  - air and light pollution,
  - visual impact, including site tidiness.





# *How does CEEQUAL work?*

- **Relations with the Local Community and Other Stakeholders**
- 14 Questions, 148 pts
  - community consultation,
  - community relations programmes and their effectiveness,
  - engagement with relevant local groups,
  - human environment, aesthetics and employment





## *How does CEEQUAL work – 2*





## CEEQUAL Scheme Description and Assessment Process Handbook

November 2008

CEEQUAL – The Civil Engineering  
Environmental Quality Assessment  
Awards Scheme  
Improving sustainability in civil engineering

[www.ceequal.com](http://www.ceequal.com)



## CEEQUAL Assessment Manual for Projects Version 4 November 2008

To be read in conjunction with the  
*Scheme Description and Assessment Process  
Handbook*

CEEQUAL – The Civil Engineering  
Environmental Quality Assessment and  
Awards Scheme  
Improving sustainability in civil engineering

[www.ceequal.com](http://www.ceequal.com)

# How does CEEQUAL work?

## 10. TRANSPORT

### 10.1 Basic Principles

Road transport is a major source of local air and noise pollution, and contributes significantly to CO<sub>2</sub> emissions. The World Health Organisation estimates that 7 times more people die as a result of traffic-based pollution than as a result of road collisions. Transport is the most pervasive source of noise in the environment and the EU estimates that 20% of the Union's population suffer from unacceptable noise levels.

Some civil engineering projects (for example, minor flood defence schemes) will only generate small amounts of traffic during construction and operation, and therefore have a negligible adverse effect, and the completed project produces a positive environmental impact. But some civil engineering projects (for example, roads and infrastructure schemes) will generate significant amounts of traffic in the short term, during the construction stage, and for some also in the long term. This will be true for both 'destinations' (e.g. airport terminals and railway stations) and for transport modes (e.g. roads, railway, air, water).

During all phases of a civil engineering project, a full understanding and appreciation of the relevant transport issues is essential if the negative environmental impacts of the project are to be minimised. Furthermore, an understanding of the transport issues is also essential if any possible opportunities for positive environmental impacts are to be achieved as a result of the project. The planning, design and construction of any civil engineering project must include the formulation and implementation of appropriate methods and strategies to deal with the relevant transport issues.

		Client	Design	Construct
10.1.1	Has the scheme been designed to take account of PPG 13 in England, PPS3 in Northern Ireland, Planning Policy Wales: Technical Advice Note 18 or equivalent?	8		
	If No, score 0; if Yes, score 8			

The main objectives of PPG 13 (Planning Policy Guidance Note on Transport) are:

- promote more sustainable transport choices for both people and moving freight;
- promote accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling; and
- reduce the need to travel, especially by car.

❖ Evidence could be found in EIA results or other planning document, or in design reports.

This would be to assess the movement of materials or people during construction and or operational phases. All modes of transport could be considered, although the assessment would normally focus on road traffic, and include such issues as traffic numbers, road geometry and capacity, sight lines etc. Evidence may be found in the EIA which should contain at least a summary of any TIA undertaken.

10.1.2	Has the location of the project been chosen to utilise or improve existing transport infrastructure?	22		
	If No, score 0; if Yes, score 22			

The need for this depends on the type of project and the amount of additional traffic it generates. Scope out if the completed project does not generate any traffic or if the client has no option on project location or, for a Design Only Award, where the designer had no influence over the location.

❖ Evidence: location of project near existing public transport links and evidence that this was one of the criteria for site selection.

## 8. MATERIAL USE

### 8.1. Basic Principles

The construction industry uses a significant volume of materials that are derived from natural resources, such as timber, aggregates, concrete and steel. The manufacture and supply of these materials can have an adverse environmental impact. It is important therefore that proper consideration is given to the responsible sourcing and use of construction materials.

There are many opportunities during the various stages of a civil engineering or public realm project to influence the supply and use of materials – through design, specification, selection, supply chain management, storage and use. There are also opportunities to conserve the use of material resources through the reduction, reuse and recycling of waste materials. (Aggregain Specifier, [www.aggregain.org.uk/specifier/index](http://www.aggregain.org.uk/specifier/index)) WRAP Quality Protocol)

It is acknowledged that there is some overlap between this section and Section 9 on Waste, and stressed that the impacts of materials' transport is covered in Section 10.

		Client	Design	Construct
8.1.1 NSO	Was a plan that makes recommendations for material use to minimise environmental impact* drawn up?  If No, score 0; if Yes, score 6	6		
8.1.2 NSO	Has this plan been implemented?  If No, score 0; if Yes, score 12		12	

\*This includes selection of materials on the basis of a 'reduce, re-use, recycle' approach and of environmental impact (such as the potential for pollutants leaching into the environment, transport impacts and design for waste minimisation).

*These questions cannot be scoped out because of the importance of the issues they address.*

To score 6 points on question 8.1.1 for a construction-only award, the existing plan must be developed to fit the conditions at construction stage, or, if no plan has been prepared earlier, one must be prepared from scratch.

'Implemented' in question 8.1.2 could be at design stage by incorporation of design solutions to minimise material environmental impact, which are subsequently constructed, and/or at construction stage through procurement of low-impact materials and components.

❖ Evidence could be a specific materials plan or a specific consideration recorded within design meeting records. Implementation of the recommendations could be demonstrated by incorporation into specifications and drawings, or through physical evidence such as photographs.

# • A typical page from the Manual

**Section Introduction**  
General guidance on the questions in this section

**The Question and Scores**

**NSO = No Scoping Out**  
This question is compulsory for all assessments

**Guidance on Answering the Question**



# A typical question

		Client	Design	Construct
4.1.2	Has consultation with a relevant nature conservation organisation* on the ecological impact of the proposals been undertaken and communicated to project team members at each stage of the project (planning, design and construction)?  If No, score 0; if Yes, score as indicated for each stage.	4	2	2

*This question should not be scoped out for the Client role as, even for a remote location with no apparent nature conservation interests, there may be organisations and groups that ought to be consulted.*

*If the initial consultation has established that there are no nature conservation matters to consider, the question may be scoped out for design and construction.*

\* for example, NE, CCW, SNH, the EA, SEPA, the local authority ecologist, or the local Wildlife Trust or equivalent.

❖ Evidence would be demonstration of the consultation in the form of a report, minutes or correspondence. Evidence of communication would be through team meeting minutes or other briefing note.

Allocation of Scores  
Scores awarded across 3 project stages or roles.

Score given for each stage or role  
Individual scores get combined appropriate to the award being sought.

Guidance on scoping out  
Always in *Italics*  
immediately below the question

Guidance on evidence required  
The last guidance provided always in a box

General guidance on the question  
Normal text always below scope out guidance.





# • More on scoring

## Point Scales (3 examples)

Instruction on  
how score can  
be awarded.

		Client	Design	Construct
1.4.6 (was 1.4.1)  <b>NSO</b>	At design stage, was an assessment of risk undertaken and/or a pollution control plan prepared to minimise emissions of the completed works to air, land and water?  If No, score 0; if Yes, Score 8		8	

**Box Greyed out**  
Question not  
relevant for that  
stage or role

8.2.4 (was 8.2.3)	What percentage by volume of excavated material that is suitable for use has been beneficially re-used on-site?  up to 15% re-used, score 0 15% to 30% re-used, score 2 more than 30 to 50% re-used, score 4 more than 50% re-used, score 6 more than 90% re-used, score 8 100% re-used, score 10		10	
-------------------------	--	--	----	--

**Boxes combined**  
Points can be  
scored by either  
role or at either  
stage, but only  
once per project

		Client	Design	Construct
4.2.2 (was 4.2.1)	If protected species were found on site, have plans for protecting these been:  – drawn up and approved?, Score 6 – monitored?, Score 5 – achieved?, Score 5  If No to all, score 0	6		10





# • More on scoring

		Client	Design	Construct
11.5.1 (a)	Is there evidence that appropriate measures have been taken in the design of the project to prevent light spillage to neighbouring areas during operation?	3		

Conditional Scoring

If No, score 0 for this question and for Question 11.5.1(b) below;  
if Yes, score 3

		Client	Design	Construct
12.1.1	Has a community consultation exercise been carried out and the results been passed to appropriate members of the project team and, as and where appropriate, the results fed back to consultees?  If No, score 0; if Yes score as indicated	5	10	3

Partial Scope Out

*This question should not be scoped out for the Client role as, even for a remote location with no immediate neighbourhood, there may be other stakeholder groups that ought to be consulted, such as parks and wildlife authorities, the Ramblers Association, Environment Agency etc.*

***If the initial consultation has established that there are no interested parties the question may be scoped out for design and construction.***




# *How does CEEQUAL work?*

- **The Scoring Spreadsheet**



A1	A	B	C	D	E	F	G	L	O	P	Q	R	S
1													
2													
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**Information required for use of the CEEQUAL  
Interim & Whole Project Award Scoring Sheet**

Instructions

Main Page

Section 1

**Please enter details of the project below:**

Project Name:

Location, including county:

Names of All Parties Involved (Name of Client, Designer and/or Contractor as appropriate, as you wish them to appear on the Award Certificate):

Project Scope (brief description - approximately, but not limited to, 100 words):

Total value of project (£):

Expected Start Date of Project:

Expected Duration of Project:

Approximate Number of People on Project at Peak:

Name of Assessor:

Name of 1st Verifier:

Name of 2nd Verifier:

**Navigation buttons**

**Information to help understand scope and scale of project**



**Questions**      **Scope out**      **Scores**      **Evidence & Comments**

File Edit View Insert Format Tools Data Window Help

K21

CEEQUAL WHOLE PROJECT AWARD

PROJECT NAME:

Section and Question Numbers	Section Titles & Question Topics	Scope Out? 'Y' or 'N'	Client	Design	Construct	Total	Evidence for scores awarded or reason for scoping out / Verifiers comments / Ratifiers comments
2.1.2	Has a desk study been undertaken that collated information on past and current land uses, site sensitivities and land condition, including ground stability, soil quality, groundwater, ground gases, residual man-made structures and surrounding land uses?	NSO					
2.1.3	Has the land-take of different scheme designs, process designs and layouts of the planned works been calculated and have these calculations influenced the design process and the land-use efficiency of the final design?						

Section 1 Section 2 Section 3 Section 4 Section 5 Section 6 Section 7 Section 8 Section 9 Section 10 Section 11 Section 12 Scoring Reference Sheet

**Sections totalled at bottom of each section**



Scope out questions Y/N

Max scores for question

Enter Initial assessment scores here

ies	Scope Out? 'Y' or 'N'		Client	Design	Construct	Total	Evidence for scores awarded or reason for scoping out / Verifiers comments / Ratifiers comments
ollated s, site ind stability, dual man- ises?	NSO	Assessor	Max Score	10		10	Enter Evidence or reasons for scope out
			Assessor Score				
		Verifier	Verified Score				Verifiers scoring and comments
		Ratifier	Ratified Score				Ratifiers scoring and comments
		Assessor	Max Score	6		6	

Enables full audit trail to be maintained





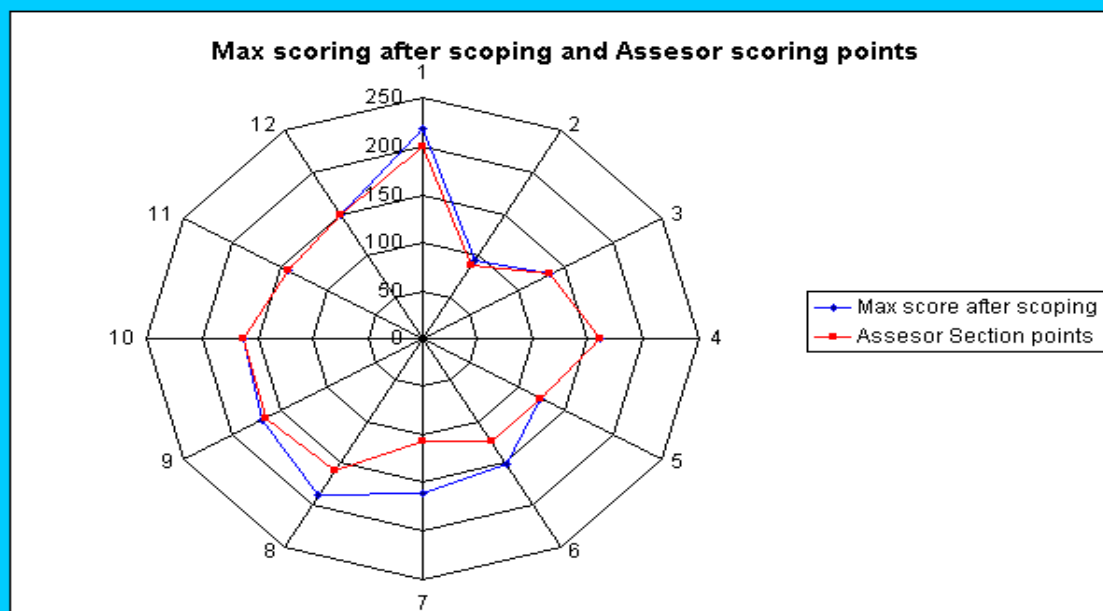
**Max Total Score changed to zero for Scoped Out Questions**



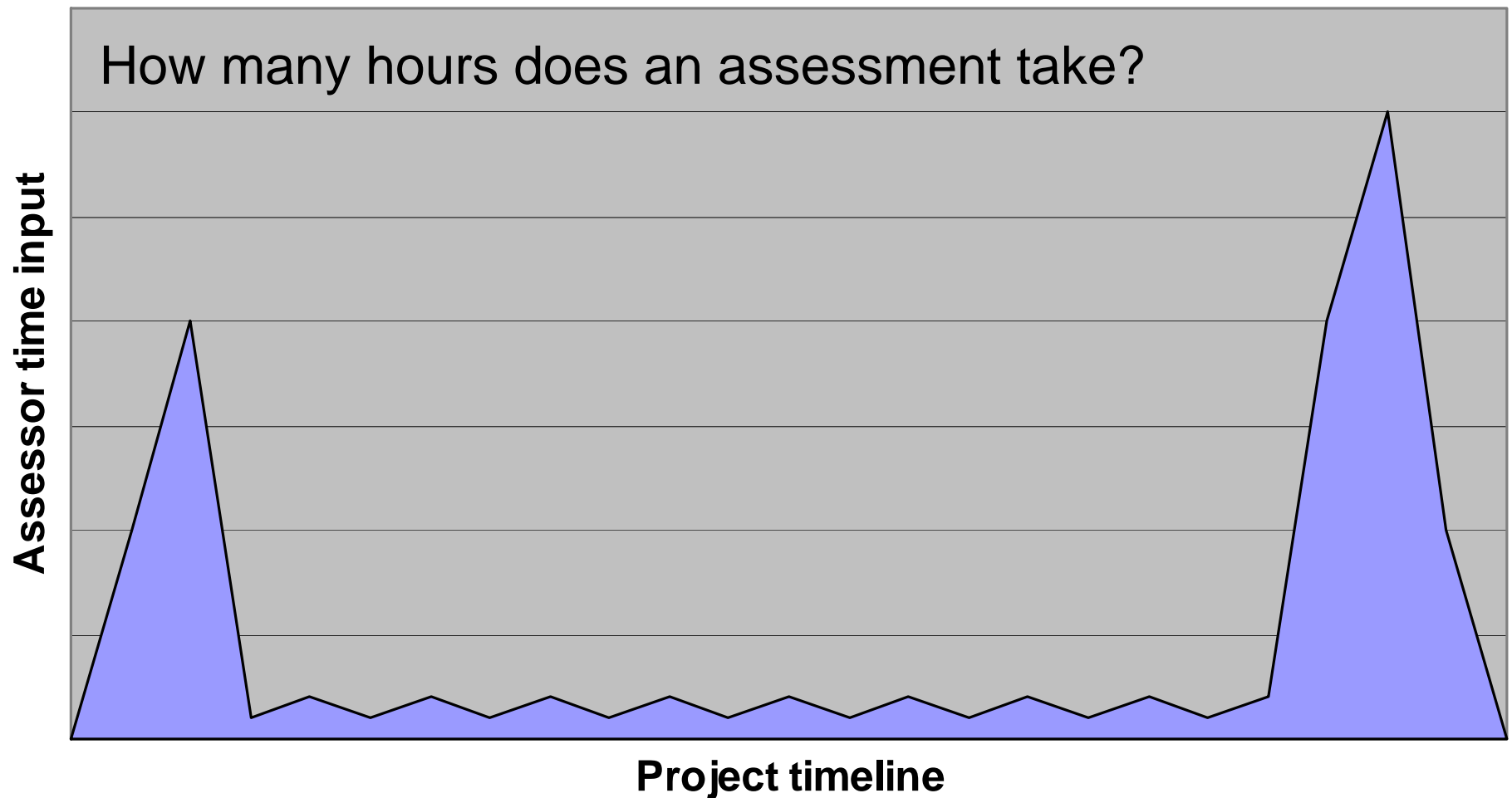
## CEEQUAL INTERIM & WHOLE PROJECT AWARD

### SECTION TOTALS SUMMARY

Section Number	Section Title	Max score before scoping	Max score after scoping	Initial Assessment		Verified Score		Ratified Score	
				Assesor Section points	Section %	Verified Section Points	Verified Section %	Ratified Section Points	Ratified Section %
1	Project Managemnet	218	218	200	91.7	187	85.8	187	85.8
2	Land Use	158	95	87	91.6	91	95.8	91	95.8
3	Landscape Issues (inc rural landscape and townscape)	148	134	134	100	123	91.8	123	91.8
4	Ecology and Biodiversity	176	161	161	100	138	85.7	138	85.7
5	The Historic Environment	134	124	124	100	113	91.1	113	91.1
6	Water Resources and the Water Environment	170	151	124	82.1	115	76.2	115	76.2
7	Energy and Carbon	190	161	107	66.5	47	29.2	47	29.2
8	Material Use	188	188	158	84	150	79.8	150	79.8
9	Waste Management	168	168	164	97.6	164	97.6	164	97.6
10	Transport	162	162	162	100	132	81.5	132	81.5
11	Effects on Neighbours	140	140	140	100	128	91.4	128	91.4
12	Relations with the local community and other stakeholders	148	148	148	100	148	100	148	100
<b>Total</b>		<b>2000</b>	<b>1850</b>	<b>1709</b>	<b>92.8</b>	<b>1536</b>	<b>83.8</b>	<b>1536</b>	<b>83.8</b>



# *How does CEEQUAL work?*



# *CEEQUAL – Interim Assessment*

- **Use on any project:**
  - where a formal award at a defined interim point is of benefit to the project team
  - of long duration
  - that is over £300m in value (automatically included)
- **To allow assessment & verification of an interim award at any point in Design process, e.g.:**
  - allows for award at point when client hands a project to a D&B team
  - OR in a traditional contract when the designer hands over to the contractor.
  - OR any point in between – including single team with no handover!



# *CEEQUAL – Interim Assessment*

- **Primary process difference is in the Scope-Out meeting:**
  - agreement on how many design points are included in the Interim Award.
  - Spreadsheet amended to allow for design points to be allocated between interim and final award stages
- **IRN or Verifier will explain the detailed process when you need it**





# *How does CEEQUAL work?*

- **Code of Conduct**
- **Requires everyone involved in the scheme to:**
  - **act fairly and impartially in undertaking Assessments and/or Verifications;**
  - **respect confidentiality and not disclose to third parties any information about the projects assessed or verified that is unconnected with the CEEQUAL assessment;**
  - **act with integrity;**
  - **follow the relevant CEEQUAL Procedures;**
  - **act with reasonable skill, care and diligence in all matters concerned with the Scheme.**



# *How does CEEQUAL work?*

- **Role of CEEQUAL Ltd**
  - **Train Assessors and Verifiers**
  - **Maintain register of Assessors and Verifiers**
  - **Appoint/confirm Verifier(s) to each project**
  - **Resolve disputes between parties**
  - **Ratify assessments & grant awards**
  - **Suggest/offer Verifiers as contracted assessors**
  - **Further develop the scheme**



# *How does CEEQUAL work?*

- **Role of Assessors**

- Arrange scoping and verification meetings
- Propose scoping and agree with Verifier
- Collect evidence and complete spreadsheet
- Submit assessment to Verifier
- Respond to Verifiers queries
- Comply with CEEQUAL Code of Conduct



# *How does CEEQUAL work?*

- **Role of Verifiers**

- Agree scoping out with Assessor
- Review completed assessment
- Act as ambassador for CEEQUAL Ltd
- Keep up to date with Scheme updates
- Act as Contracted Assessors as necessary or if desired
- Comply with CEEQUAL Code of Conduct



# *How does CEEQUAL work?*

- **What will the Verifier do?**
  - **Agree Scoping out.**
  - **Check the Spreadsheet**
    - **Does evidence match the score?**
  - **Annotate the spreadsheet where evidence is not sufficient**
    - **Mark the score down (or up if scoring too harsh)**
  - **View selected evidence at verification meeting**
    - **Provide comfort level of robustness**
    - **Adjust scores further as necessary**





# *How does CEEQUAL work?*

- **Key needs for Assessment**

- Good knowledge of the project
- Scoping out must not seek to skew result
- Orderly approach
- Need for evidence to support assessment and scores awarded
- A CEEQUAL File is suggested, to gather supporting evidence as it is produced
- Interim assessments available for long-duration projects



# *How does CEEQUAL work?*

- **Relationship with EIAs, EMSs and legislation**
  - CEEQUAL assesses projects at end of construction
  - ... goes beyond the minimum required by law
  - ... does not replace EIA, though may act as checklist, especially on projects not requiring EIA
  - ... does not replace EMS, but projects with EMS likely to score well



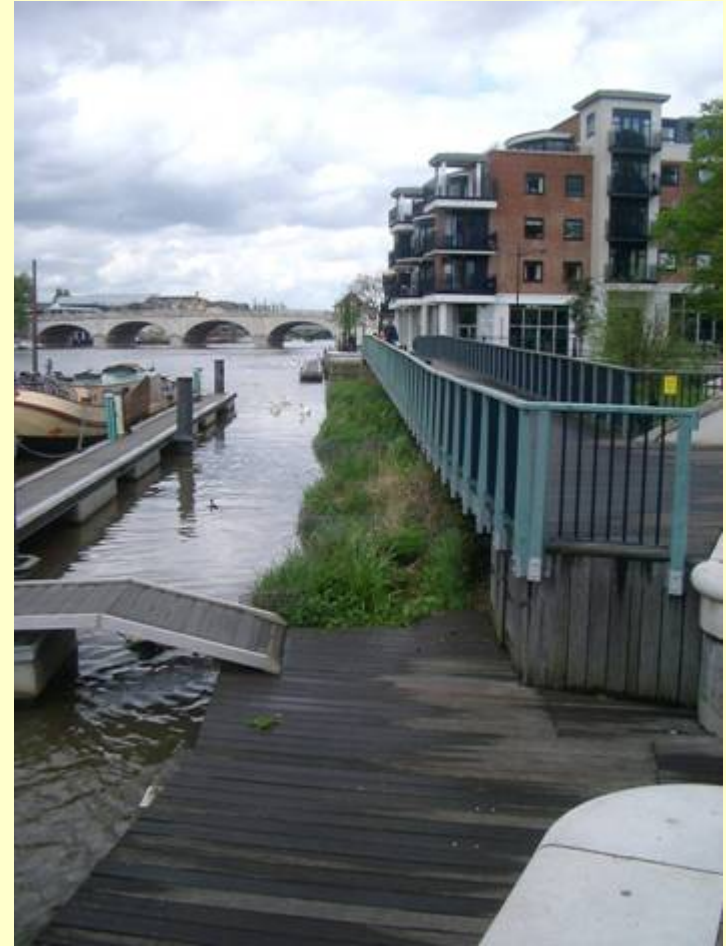
# *How does CEEQUAL work?*

- **Relationship with EIAs, EMSs and legislation**
  - CEEQUAL as a whole seeks to go beyond minimum implied by legislation
  - In a few areas, penalises failure to comply with legislation
  - In a few areas, points awarded just for compliance.



# *How does CEEQUAL work?*

- **Comparison with BREEAM**
  - CEEQUAL is a civil engineering equivalent to BREEAM – but very different in detail
  - One scheme for all projects, not a family of schemes
  - Some building developments are seeking a CEEQUAL Award for the infrastructure, and BREEAM Awards for individual buildings



# *How does CEEQUAL work?*

- **Process vs Outcomes**

- CEEQUAL is applicable to *all* civil engineering projects
- So assessment has to focus on processes aimed at delivering good outcomes, not on the outcomes themselves
- Initial scheme will be developed over time to include more outcome-specific questions and scores





## *How does CEEQUAL work?*

- **CEEQUAL website as a source of information about the Scheme and projects with verified assessments**
- **CEEQUAL Schedule of Fees for Awards**
  - **Under ‘Downloads’ on [www.ceequal.com](http://www.ceequal.com)**



# *An Introduction to CEEQUAL*

- **Website**

➤ [www.ceequal.com](http://www.ceequal.com)

- **Questions?**



**More details needed?**

**Go to [www.ceequal.com](http://www.ceequal.com)**

**or call**

**Scheme Management Team at Crane Environmental –**

**Roger Venables, Melanie Manton or Ian Moodie**

**020 8399 4389 or**

**[melanie.manton@ceequal.com](mailto:melanie.manton@ceequal.com)**

**or**

**Scheme Manager at CIRIA**

**Philip Charles – 020 7549 3325 or**

**[philip.charles@ceequal.com](mailto:philip.charles@ceequal.com)**





*CEEQUAL –  
The **Civil Engineering**  
**Environmental QUALity** Assessment  
& Awards Scheme*

[www.ceequal.com](http://www.ceequal.com)

[enquiries@ceequal.com](mailto:enquiries@ceequal.com)

[roger.venables@ceequal.com](mailto:roger.venables@ceequal.com)