



**Are we recording?!**

6 May 2022

**Non-confidential - Standard**

# NEC ECC4 Engineering & Construction Contract

## X29 Climate change

# NEC Contracts

## Advisory services

### Disclaimer

**This presentation is intended for internal use within the Mott MacDonald group of companies only. No person may rely on the content, information or any views expressed in this presentation. We accept no duty of care, responsibility or liability to any recipient of this presentation. This presentation is confidential and contains proprietary intellectual property.**

**Nothing in this presentation constitutes financial, insurance or legal advice or opinion and it should not serve as an alternative to obtaining specialist legal advice from a professional legal services provider in relation to any specific circumstances. If you have any specific questions about any legal matter you should consult a professional legal services provider.**

**No representation, warranty or undertaking, express or implied, is made and no responsibility or liability is accepted by us to any party as to the content of this presentation including, without limitation, its accuracy, completeness or reliability.**

**We disclaim all and any liability whether arising in contract, tort or otherwise from the receipt, or use, of this presentation or any material contained in it, or from any action or decision taken as a result of the receipt, or use, of this presentation or any such material.**

### Copyright

**The copyright (and any and all other intellectual property rights) in all material in this presentation is vested in Mott MacDonald Limited. You may not copy any part of this presentation or do any other act in relation to any part of this presentation which is protected by copyright (or any other intellectual property right) other than printing the presentation or any other part of it or saving it to a local hard disk for your personal use only.**

**Apart from this you may not reproduce or store any part of this presentation in any form, or for any purpose, without our prior written consent.**

**The above consents do not authorize you to incorporate any part of this presentation in any commercial document or in any material sold or otherwise made available to any third party, whether or not for profit, without our prior written consent.**

**The content of this disclaimer shall be governed and construed in accordance with the laws of England and Wales.**

Richard Patterson

BA MBA CEng FICE

Mott MacDonald NEC  
Advisory Services

**35** Years with  
Mott MacDonald

---

**27** Years with  
The NEC

---

Part of NEC's team for NEC4.  
One of 4-person team that drafted X29,  
Climate change

---



# X-29



A Grumman X-29 in flight

---

NEC contracts  
to save the  
world?

---



# PAS 2080:2023

Carbon management in buildings and infrastructure

Demonstrate your decarbonization commitment

[Download PAS 2080](#)

Revised PAS 2080 framework unites organizations to decarbonize building and structures



# History

**1**

ICE Carbon  
Group

**2**

X29 developed  
by small team  
led by NEC  
Board member,  
Ian Heaphy  
including  
Richard  
Patterson, Mott  
MacDonald

**3**

Draft  
published  
April 2022

**4**

Feedback  
closed  
13 May 2022

**5**

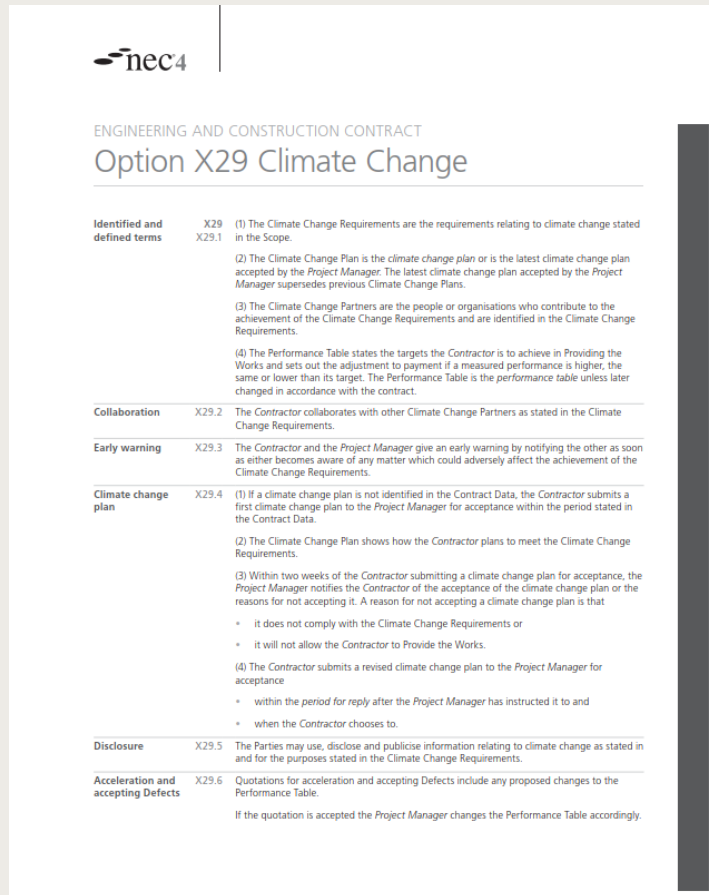
Published  
**26 July 2022**

**Versions and  
guide notes for  
all NEC  
contracts  
....except the  
short contracts**



# The words

3 pages



The screenshot shows the NEC4 logo and the title 'ENGINEERING AND CONSTRUCTION CONTRACT Option X29 Climate Change'. Below the title is a table with two columns: 'Identified and defined terms' and 'X29 X29.1'. The table contains several rows of text defining terms related to climate change requirements, collaboration, early warning, climate change plans, disclosure, and acceleration/accepting defects.

Identified and defined terms	X29 X29.1
	(1) The Climate Change Requirements are the requirements relating to climate change stated in the Scope. (2) The Climate Change Plan is the climate change plan or is the latest climate change plan accepted by the Project Manager. The latest climate change plan accepted by the Project Manager supersedes previous Climate Change Plans. (3) The Climate Change Partners are the people or organisations who contribute to the achievement of the Climate Change Requirements and are identified in the Climate Change Requirements. (4) The Performance Table states the targets the Contractor is to achieve in Providing the Works and sets out the adjustment to payment if a measured performance is higher, the same or lower than its target. The Performance Table is the performance table unless later changed in accordance with the contract.
Collaboration	X29.2 The Contractor collaborates with other Climate Change Partners as stated in the Climate Change Requirements.
Early warning	X29.3 The Contractor and the Project Manager give an early warning by notifying the other as soon as either becomes aware of any matter which could adversely affect the achievement of the Climate Change Requirements.
Climate change plan	X29.4 (1) If a climate change plan is not identified in the Contract Data, the Contractor submits a first climate change plan to the Project Manager for acceptance within the period stated in the Contract Data. (2) The Climate Change Plan shows how the Contractor plans to meet the Climate Change Requirements. (3) Within two weeks of the Contractor submitting a climate change plan for acceptance, the Project Manager notifies the Contractor of the acceptance of the climate change plan or the reasons for not accepting it. A reason for not accepting a climate change plan is that <ul style="list-style-type: none"><li>• it does not comply with the Climate Change Requirements or</li><li>• it will not allow the Contractor to Provide the Works.</li></ul> (4) The Contractor submits a revised climate change plan to the Project Manager for acceptance <ul style="list-style-type: none"><li>• within the period for reply after the Project Manager has instructed it to and</li><li>• when the Contractor chooses to.</li></ul>
Disclosure	X29.5 The Parties may use, disclose and publicise information relating to climate change as stated in and for the purposes stated in the Climate Change Requirements.
Acceleration and accepting Defects	X29.6 Quotations for acceleration and accepting Defects include any proposed changes to the Performance Table. If the quotation is accepted the Project Manager changes the Performance Table accordingly.

# The guidance

5 pages

- Links above for NEC Engineering and Construction Contract (ECC)

---

# Climate Change Requirements

---

---

## Performance Table

---

---

# Climate Change Requirements

---

# Scope

## Climate Change Requirements

X29.1 (1) 'The Climate Change Requirements are the requirements relating to climate change stated in the Scope.'

Possibly some (more) from Bidder in 'Scope provided by *Contractor* for its design'?

“

could include things such as levels of recycling, use of renewable power on-site or electric vehicles, reducing waste generation, designing out waste, designs that reduces carbon emission etc..

”



Do not place undue risk upon the Contractor. If the Climate Change Requirements are unduly onerous this may lead to bidders refusing to bid for the work or including substantial risk allowances within their bids.



Non-compliance of a Climate Change Requirement **relating to the ‘works’** will be a ‘Defect’ and:

- *Contractor* required to correct within *defect correction period*
- Option for agreement to accept Defect
- If not corrected, *PM* can assess cost of having Defect corrected – *Contractor* pays

Non-compliance with a Climate Change Requirement **relating to the ‘how the Contractor Provides the Works** will **NOT** be a ‘Defect’ but:

- *PM* can stop the job
- *Contractor* gets nothing

# Climate Change Requirements

X29.1 (3) 'The Climate Change Partners are the people or organisations who contribute to the achievement of the **Climate Change Requirements** and are identified in the Climate Change Requirements.'

X29.2 'The *Contractor* collaborates with other Climate Change Partners as stated in the Climate Change Requirements. '

X29.4 (2) The Climate Change Plan shows how the *Contractor* plans to meet the Climate Change Requirements.

X29.4(3) Climate Change Plan has to comply with **Climate Change Requirements**

X29.5 'The Parties may use, disclose and publicise information relating to climate change as stated in and for the purposes stated in the **Climate Change Requirements.**'



# Climate Change Plan

X29.4(2) The Climate Change Plan shows how the *Contractor* plans to meet the Climate Change Requirements

X29.4(4) Revised when *PM* instructs or when *Contractor* chooses

NOT in compensation event process

X29.1(2) and X 29.4(1)  
Either submitted by Bidder and pointed to from Contract Data or submitted within period stated in Contract Data

X29.4(3) *PM* accepts within two weeks or states reasons for not accepting.  
Climate Change Plan has to comply with Climate Change Requirements

Light touch!

---

# Performance Table

---

Instead of, and combining

X17

X20

**Negative** 'performance  
damages' for missing targets

---

**Positive** payments for beating  
targets

---

**damages**

**bonuses**

# performance table

Subject	Target <i>(will need measurement rules)</i>	Units	Dates when performance is to be measured	<b>Amount paid by Contractor if performance does NOT meet target</b>	Limit on amount paid (if any)	<b>Amount paid to Contractor if performance exceeds or meets target</b>	Limit on amount paid (if any)	Reporting frequency
---------	---	-------	--	--	-------------------------------	---	-------------------------------	---------------------

Ref	Subject / issue to be addressed	Target	Units	Date when performance is to be measured	If performance does not meet the target stated in the Performance Table, the Contractor pays the amount stated (sum or rate)	Limit on sum to be paid by the Contractor (if any)	If performance exceeds or meets the target stated in the Performance Table, the Contractor is paid the amount stated (sum or rate)	Limit on sum to be paid to the Contractor (if any)	Reporting frequency (weekly/ monthly/ at completion)
-----	---------------------------------	--------	-------	---	--	--	--	--	--

# Performance Table

Space also for **limits on overall amounts** to be paid by *Contractor* and/or paid to *Contractor*

Targets could be:

- **set by *Client*** and/or
- **offered by Bidder** and so possibly included in tender evaluation

***performance table*** included in Contract Data – logically part two if some targets to be offered by Bidder  
Example in Guide notes.

# Performance Table

X29.12(1)  
Reports (on performance) are provided at the intervals stated in the Performance Table.

X29.12(3) At the dates stated in the Performance Table,

- if the relevant performance does not meet the target stated in the Performance Table, the Contractor pays the amount stated in the Performance Table,
- if the relevant performance exceeds or meets the target stated in the Performance Table, the Contractor is paid the amount stated in the Performance Table.

X29.12(4)  
Information in the Performance Table is not Scope.

X29.13 If secondary Option X18 applies, an excluded matter is amounts payable by the *Contractor* as stated in the Performance Table.

# Targets for things affecting whole life cost?

Power?

Chemicals?

- anything you can test.

Assess bids on whole life cost.

Performance targets used to enforce the promises.

29 November 2022

## Using NEC4 and option X29 to achieve lowest whole-life cost

<https://www.neccontract.com/news/using-nec4-and-option-x29-to-achieve-lowest-whole-life-cost>





# Targets for carbon?

Can we  
measure it?

---

*Will Clients*  
include lower  
carbon in its  
evaluation – ie  
**pay** for carbon

---

# Built Environment Carbon Database (#BECD)

October 2023:

The new free-to-access carbon database for buildings and infrastructure – the **Built Environment Carbon Database (#BECD)** – is now available.

You can access the tool here: <https://mottm.ac/46o11b1>

*"The clock is ticking and we can no longer hold back on sharing anything that could help in our fight against climate change. If Mott MacDonald can do it, what's stopping everyone else?"*

James Fiske, CEO, BCIS

Mott MacDonald is the first company to provide client-approved, detailed #CarbonData for completed construction projects, to the newly developed BECD, created by the Building Cost Information Service (BCIS).

The BECD will allow calculation of the embodied carbon in all elements of a project.

Could include targets for  
**anything**

- Not just climate change
- social value?
- Biodiversity Net Gain (BNG)





- [Transforming the delivery and measurement of social value](#)
- Richard Patterson, Caron Dunlop
- Mott MacDonald
- New Civil Engineer (NCE)
- July 2023

# How NEC contracts can incentivise Biodiversity Net Gain

[Link](#)

Julia Baker, Nature Services

Richard Patterson, NEC and Procurement Specialist

# Where to put my requirements

Include requirements in:	Pros	Cons
<b>Climate Change Requirements</b>	Can be changed unilaterally by <i>Project Manager</i>	No direct commercial incentive Can only 'police' as a Defect (if it relates to the <i>works</i> ) or stopping the job if it relates to 'how the <i>Contractor Provides the Works</i> '
<b>Performance Table</b>	Direct commercial direct incentive to comply	Can be changed only via compensation events or an (agreed) addendum (12.3) Needs very clear measurement rules

**What comes first?**

Probably the Performance Table?

To make it into the Performance Table

- important enough?
- under the control of the *Contractor*?
- measurable?

# Might have targets for.....

Operational  
costs

Embodied  
carbon &  
operational  
carbon

Biodiversity

Circular  
economy

Social value

Other?




# Targets in the Performance Table

## – a possible way of structuring them

	Set by the <b><i>Client</i></b>	Set / offered by the <b><i>Contractor</i></b> as part of the bid – and so logically used in bid evaluation
Relating to the ‘end product’ - the <b><i>works</i></b>		
Relating to how the <b><i>Contractor</i></b> ‘Provides the Works		

Avoid overlap between  
Climate Change  
Requirements and  
targets in Performance  
Table



**NEC has a working group on X29 to**

- **gather case studies and**
- **issue guidance.**

**If interested contact:**

Francesco Salau

<francesco.salau@neccontract.com>

So how will we use this to help *Clients* with climate change, net zero, social value and BNG?

# Our article on X29, Aug 2022



Locale: Global (English)



Your procurement approach

1/1 < | >

[Home](#) / [Views](#) / [Using procurement to drive climate change action](#)

[Share](#) | [Subscribe](#)

## Using procurement to drive climate change action



**Thank you**

# Contractor's proposals – re matters which affect climate change

X29.11 (1) (1) The *Contractor* may propose ....that the Scope is changed in order to **reduce the impact of the creation, operation, maintenance or demolition of the works on climate change.**

X29.11 (2) Detailed quotation

X29.11 (3) Consult, accept or not accept **for any reason**

X29.11 (5) When a quotation to reduce the impact of .... .....on climate change is accepted the *Project Manager* changes the Scope, the Prices, the Performance Table, the Completion Date and the Key Dates accordingly and accepts the revised programme. The change to the Scope is not a compensation event.

**It's a deal!**

# Compensation events

X29.7 clauses to fit the **Performance Table** into the standard compensation event notification process

X29.8 'Quotations for compensation events include proposed changes to the **Performance Table** assessed by the *Contractor*. '

X29.9 (1) 'A change to the **Performance Table** is assessed as the effect of the compensation event upon the targets, amounts and dates stated in the **Performance Table**.

Not going to be easy to assess!



# Publications

Title	Author	Organisation	Where published
<a href="#">How NEC contracts can incentivise Biodiversity Net Gain (BNG) (X29)</a>	Julia Baker, Richard Patterson	Mott MacDonald	LinkedIn
<a href="#">Transforming the delivery and measurement of social value (X29)</a>	Richard Patterson, Caron Dunlop	Mott MacDonald	New Civil Engineer (NCE)
<a href="#">Using NEC4 and option X29 to achieve lowest whole life cost</a>	Richard Patterson, Alec Kowalski	Mott MacDonald	NEC Newsletter, November 2022
<a href="#">Using procurement to drive climate change action (X29)</a>	Richard Patterson, Priyesh Depala	Mott MacDonald	Mott MacDonald website
<a href="#">Introducing Secondary Option X29 Climate Change</a>	Ian Heaphy, NEC Board, and Richard Patterson, Siu Fa Ng, Stacey Collin and Veronica Flint Williams	NEC Board with support from Mott MacDonald, Pinsent Masons and Environment Agency	NEC website