RCBC Update

NFRC Spring Meeting – March 2017

RCBC Agenda

- Grid Research / Add-on
- 3-pt Trendline
- Implementation of Methodology
- Other Ballot Comments

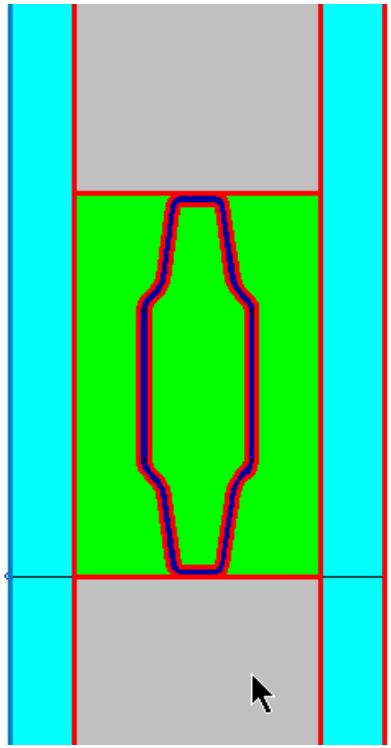
GRID RESEARCH - ADD-ON

Grid Research

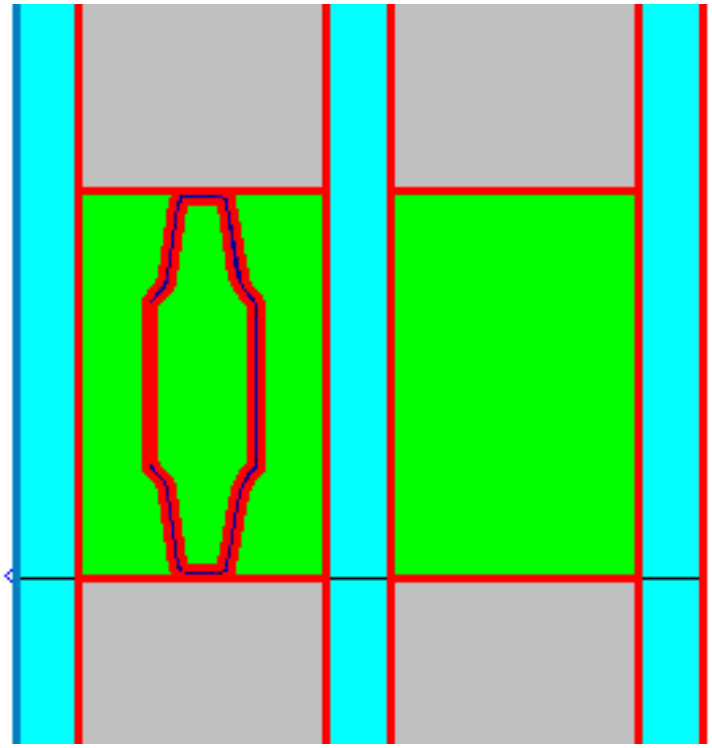
- 5.5mm x 18mm contour aluminum divider
- Started with 3.00mm gap reduced 0.12mm
- Glazing configurations:
  - softcoat^2 / hardcoat^2 / clear
  - DG Air, and DG 95% Arg,
  - TG Air, and TG 95% Arg
  - Total 312 data points

Therm Files

Dual Glazed



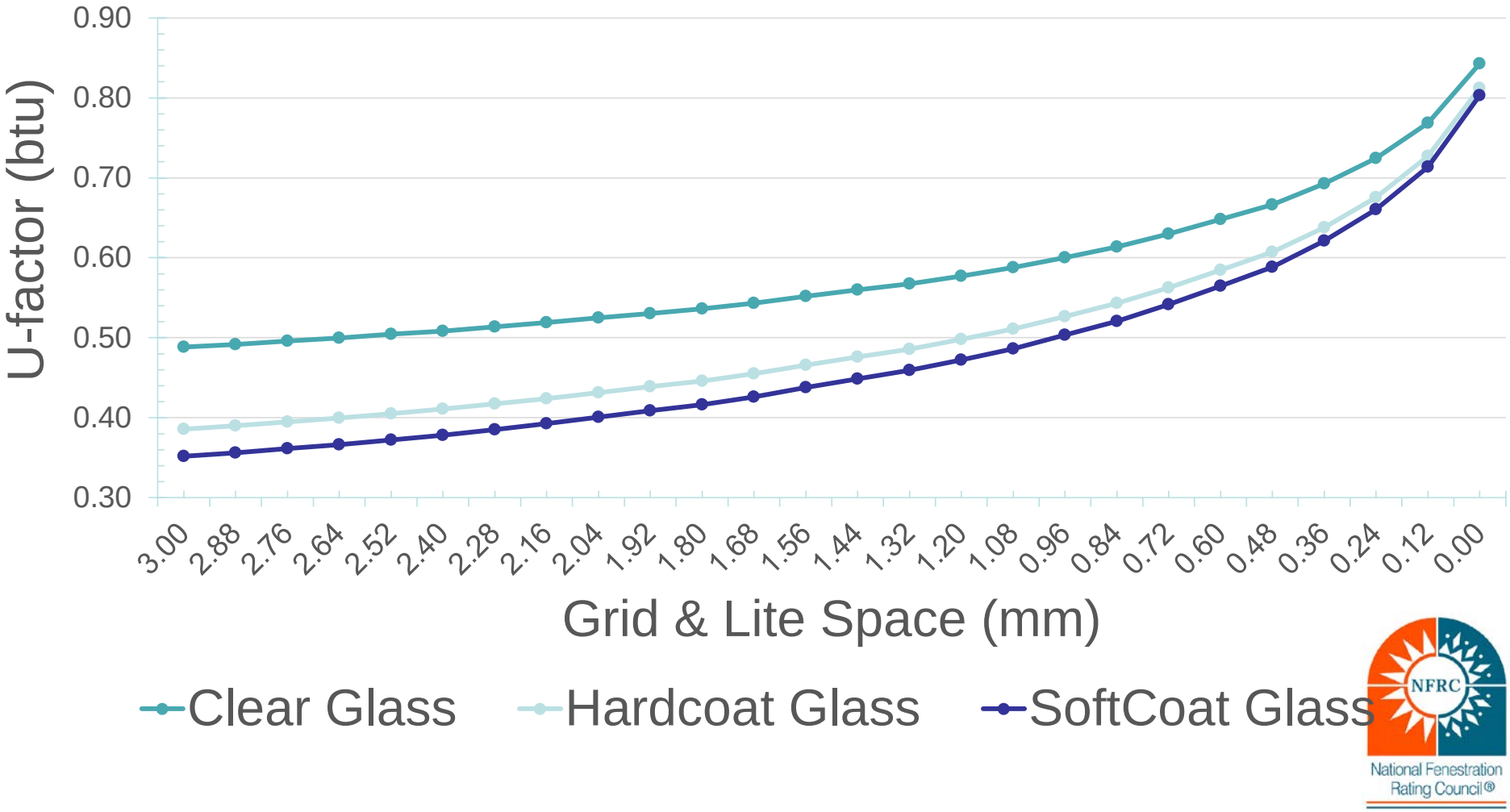
Triple Glazed



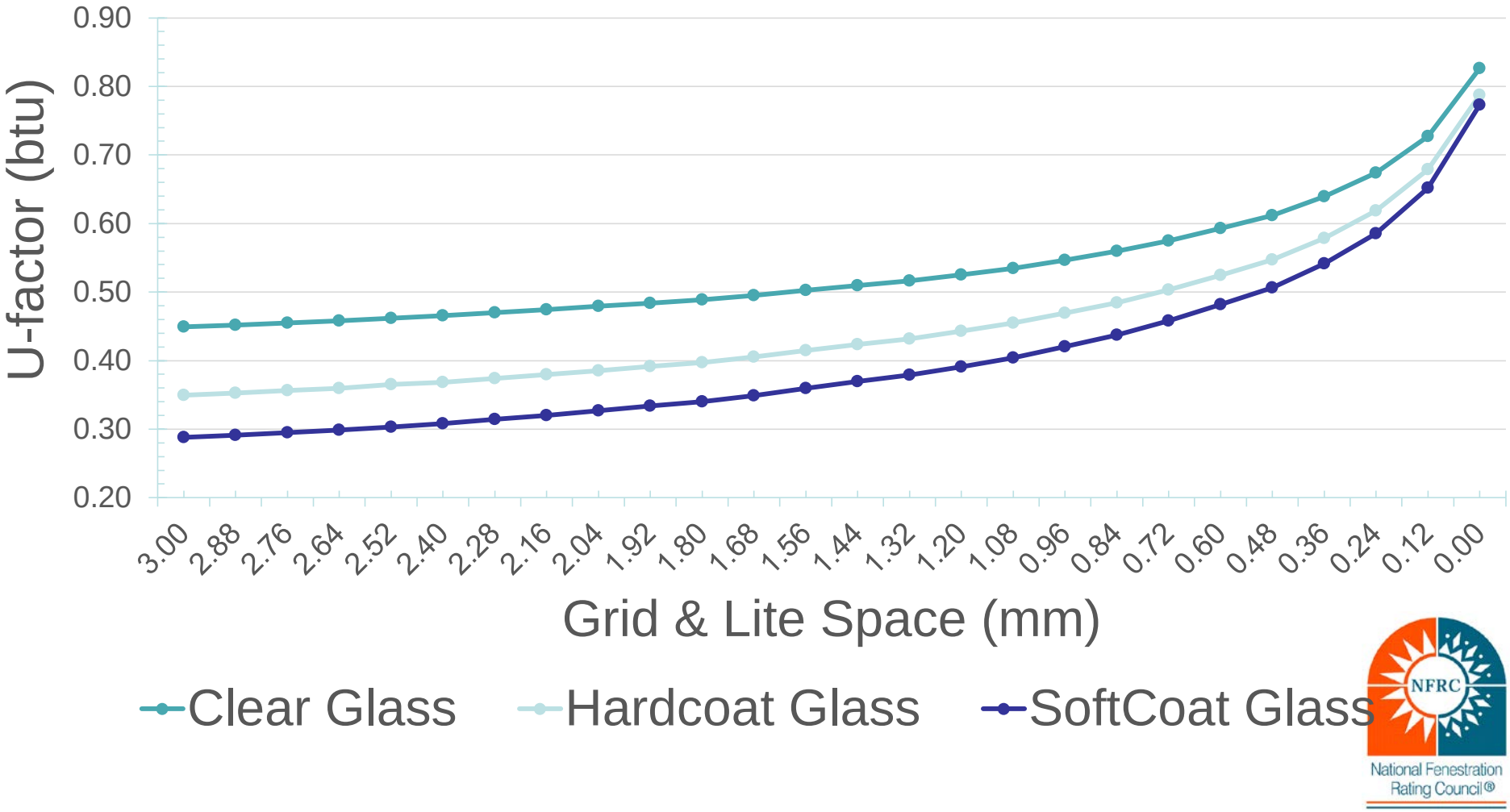
Frame vs. Div-Edge / Surface Gap

GRID RESEARCH

DG Air – Frame vs. Gap



DG Argon – Frame vs. Gap



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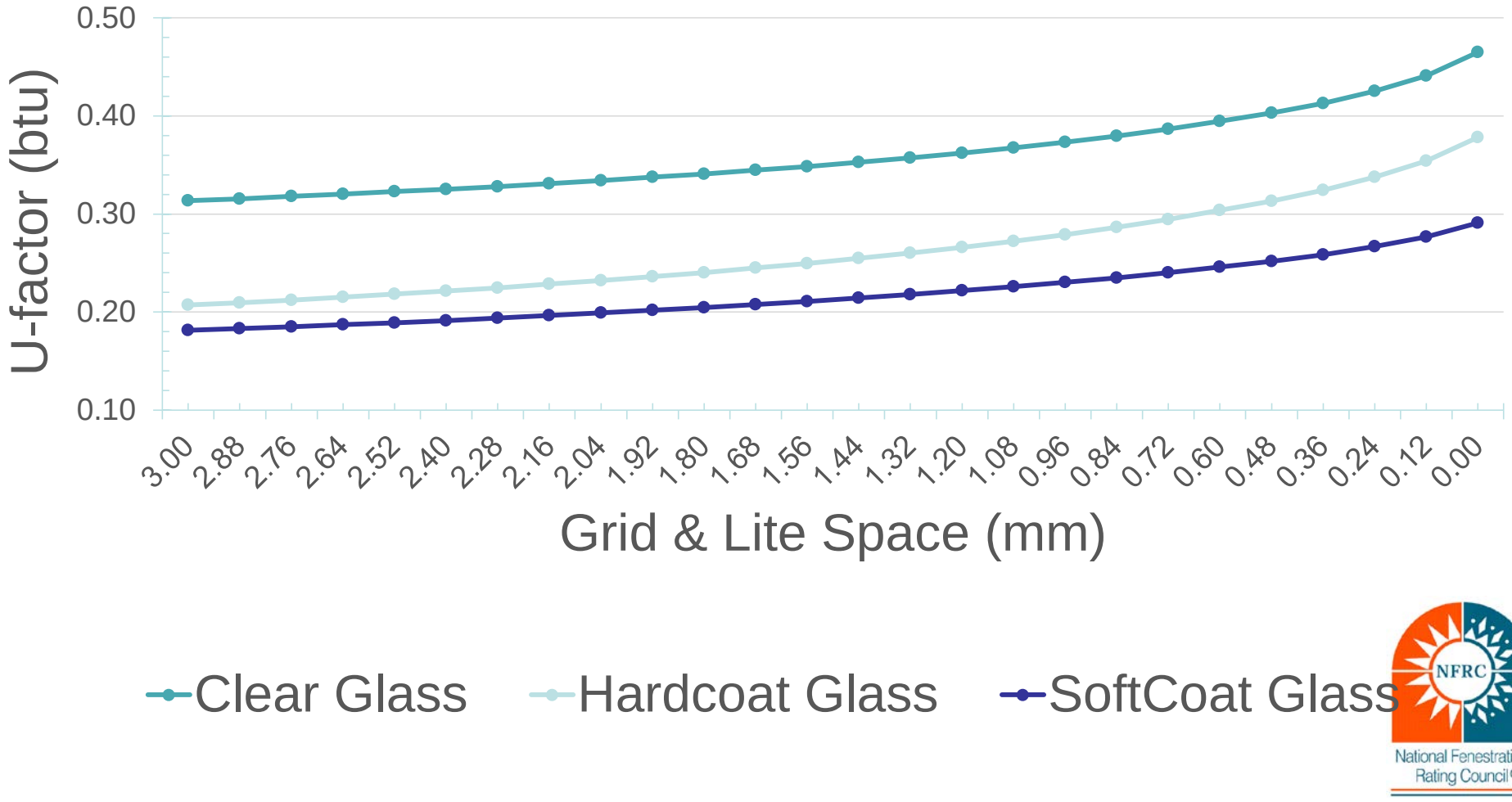
TG Air – Frame vs. Gap



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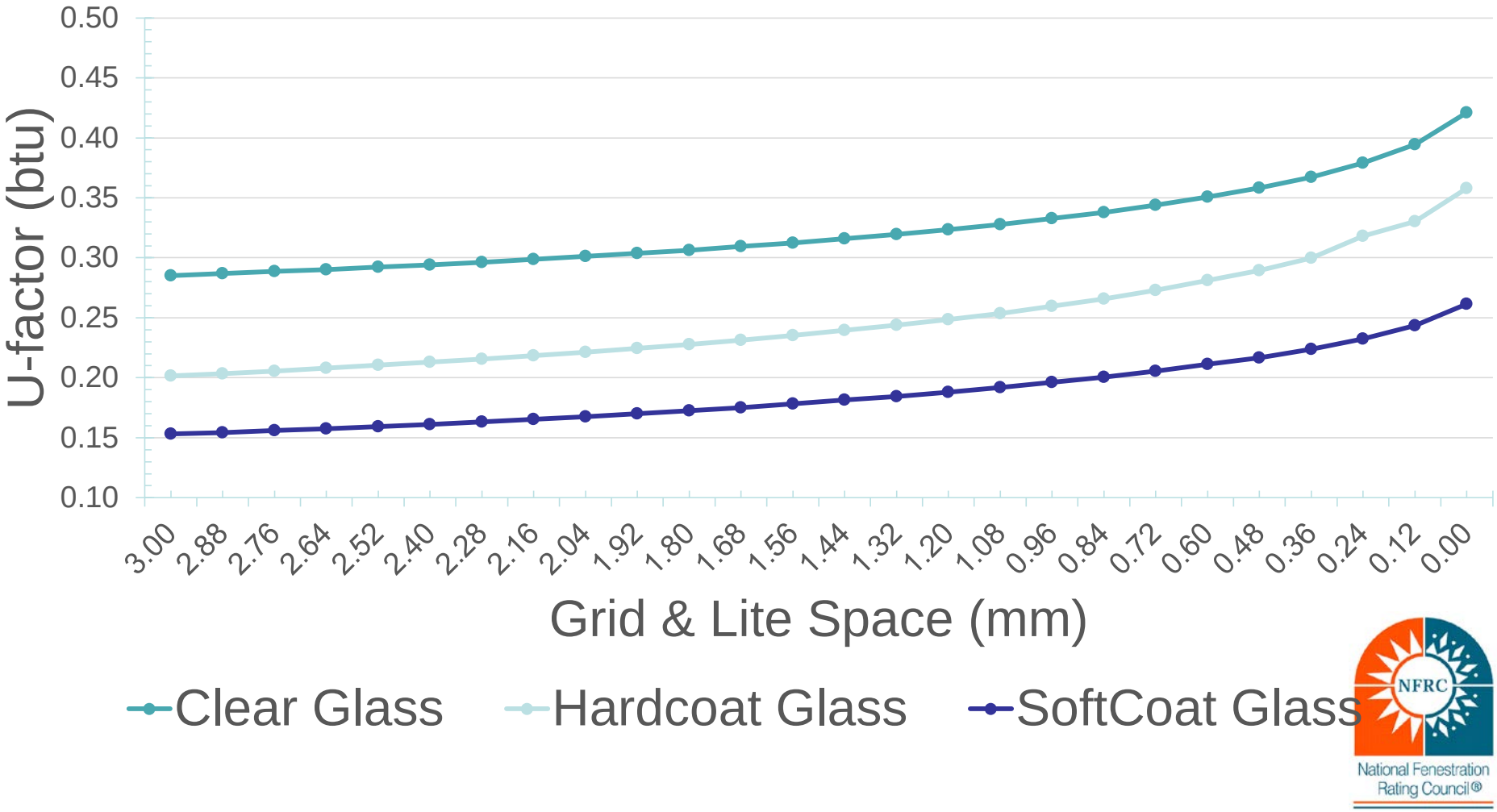
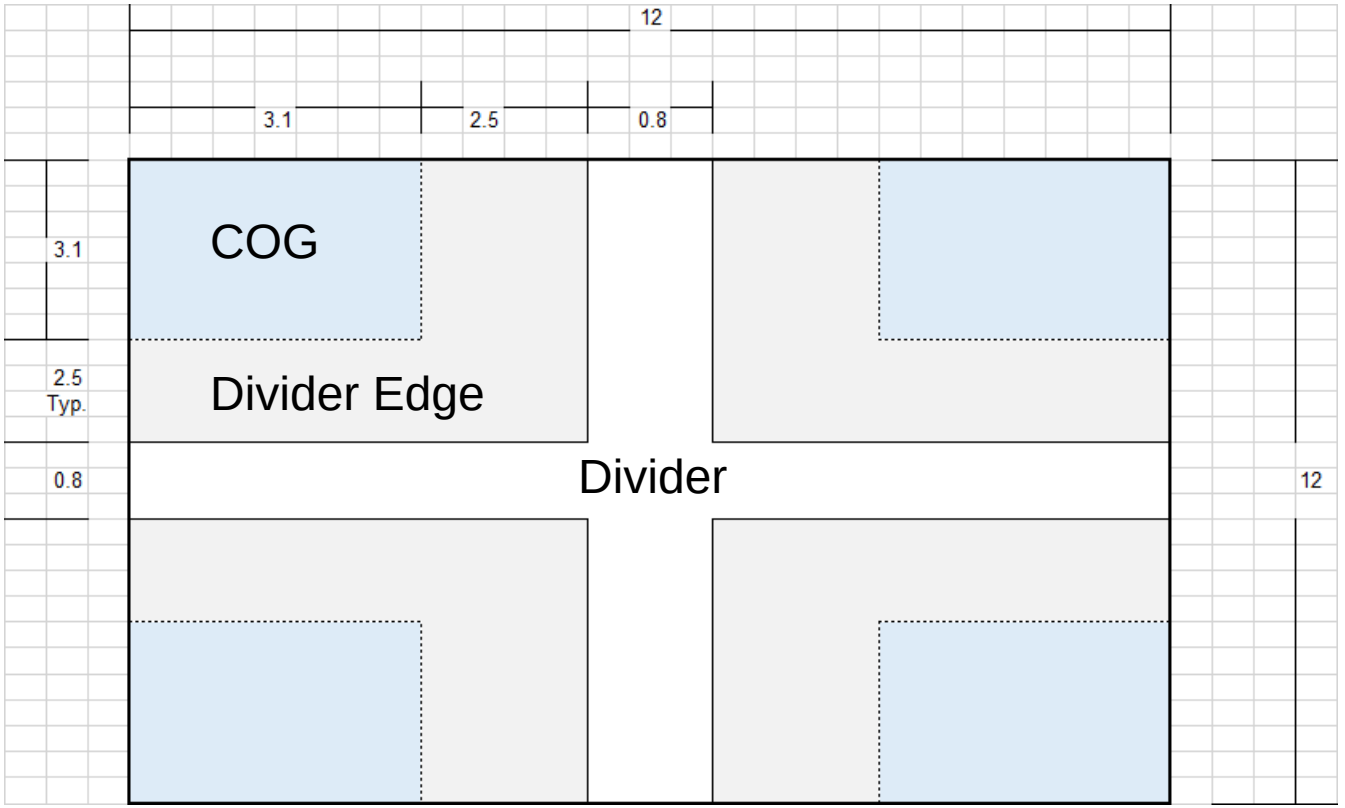
TG Argon – Frame vs. Gap



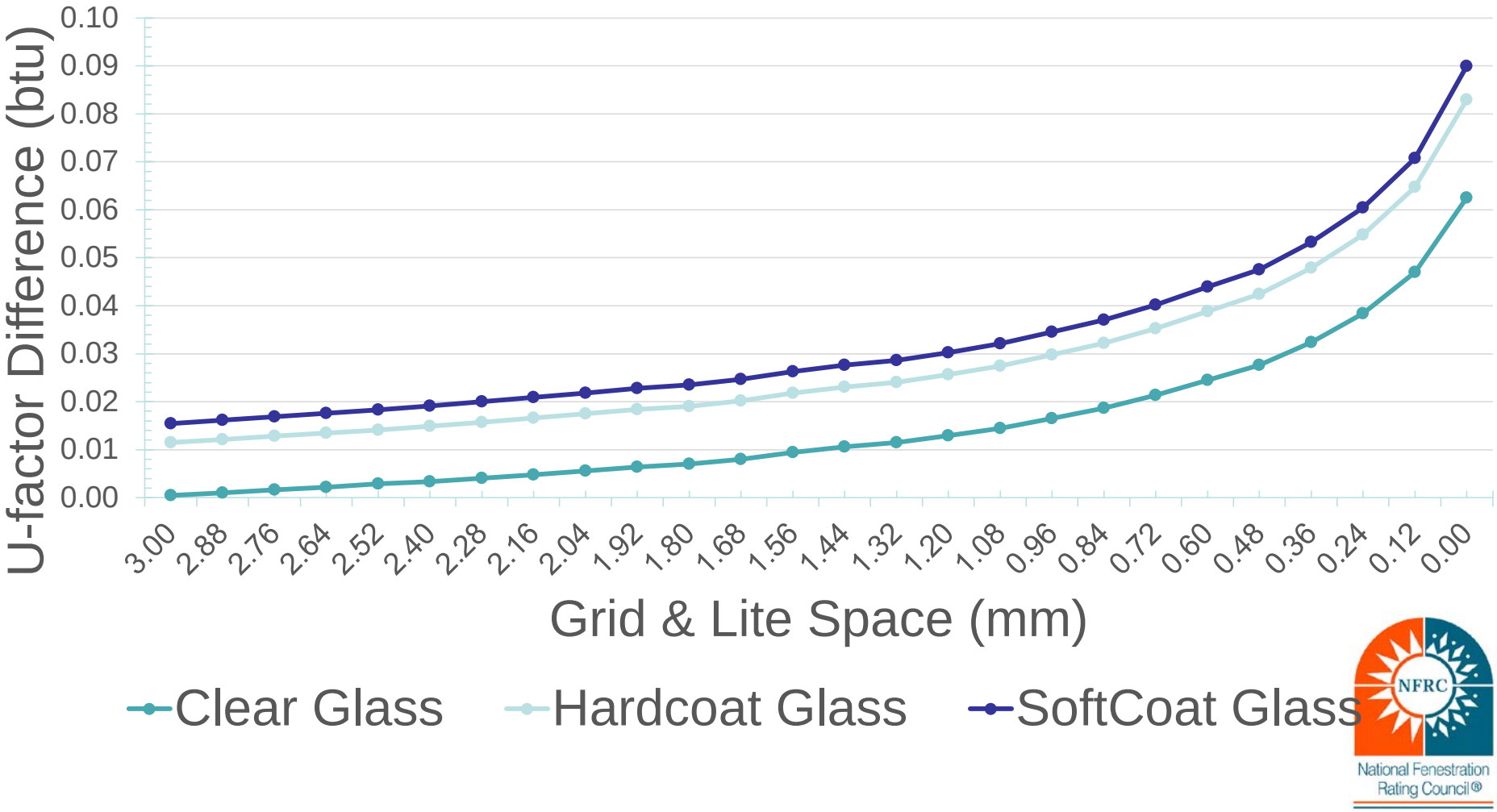
Area Weight Divider vs. COG

GRID RESEARCH

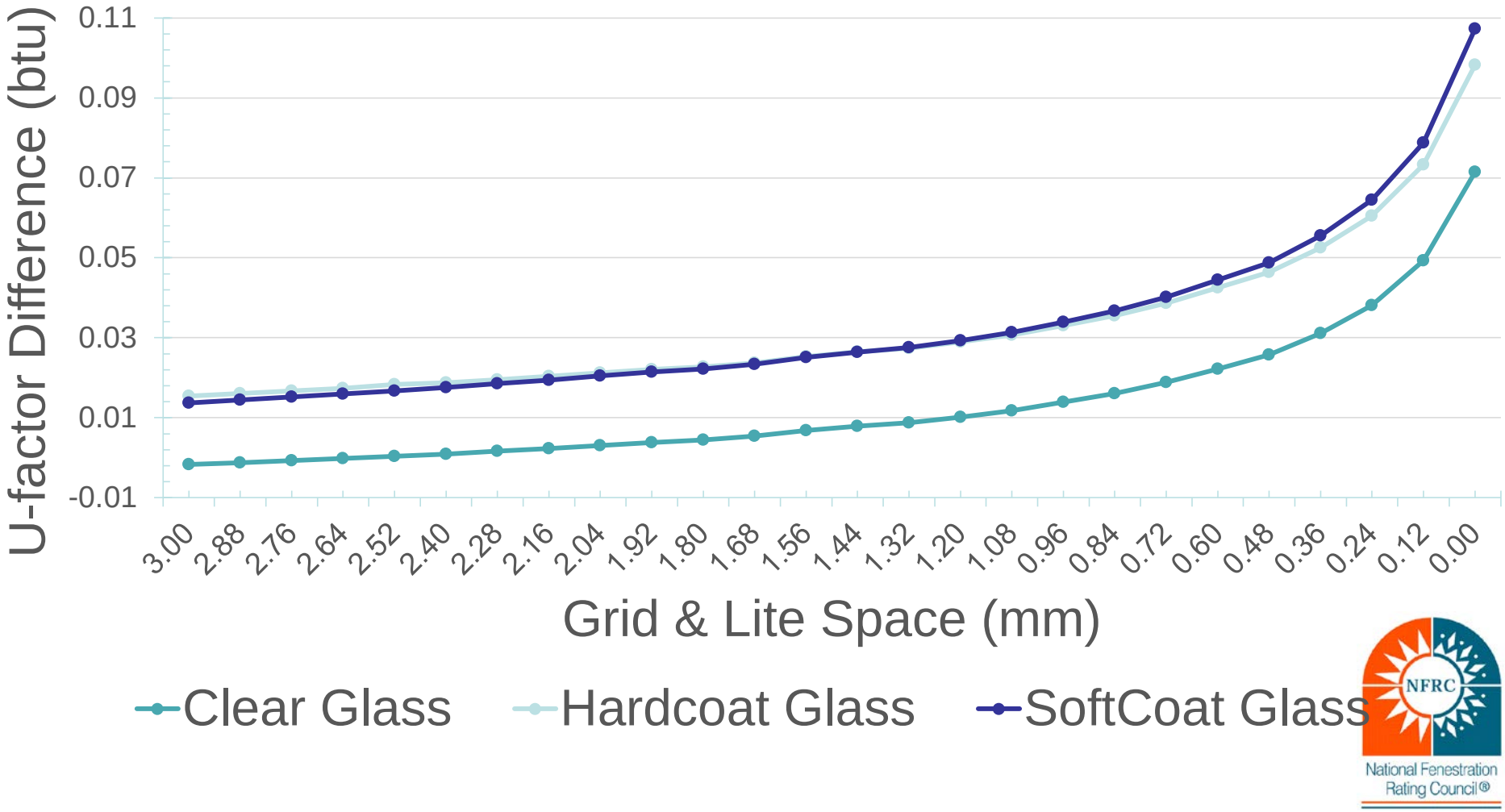
Area Weight Pattern



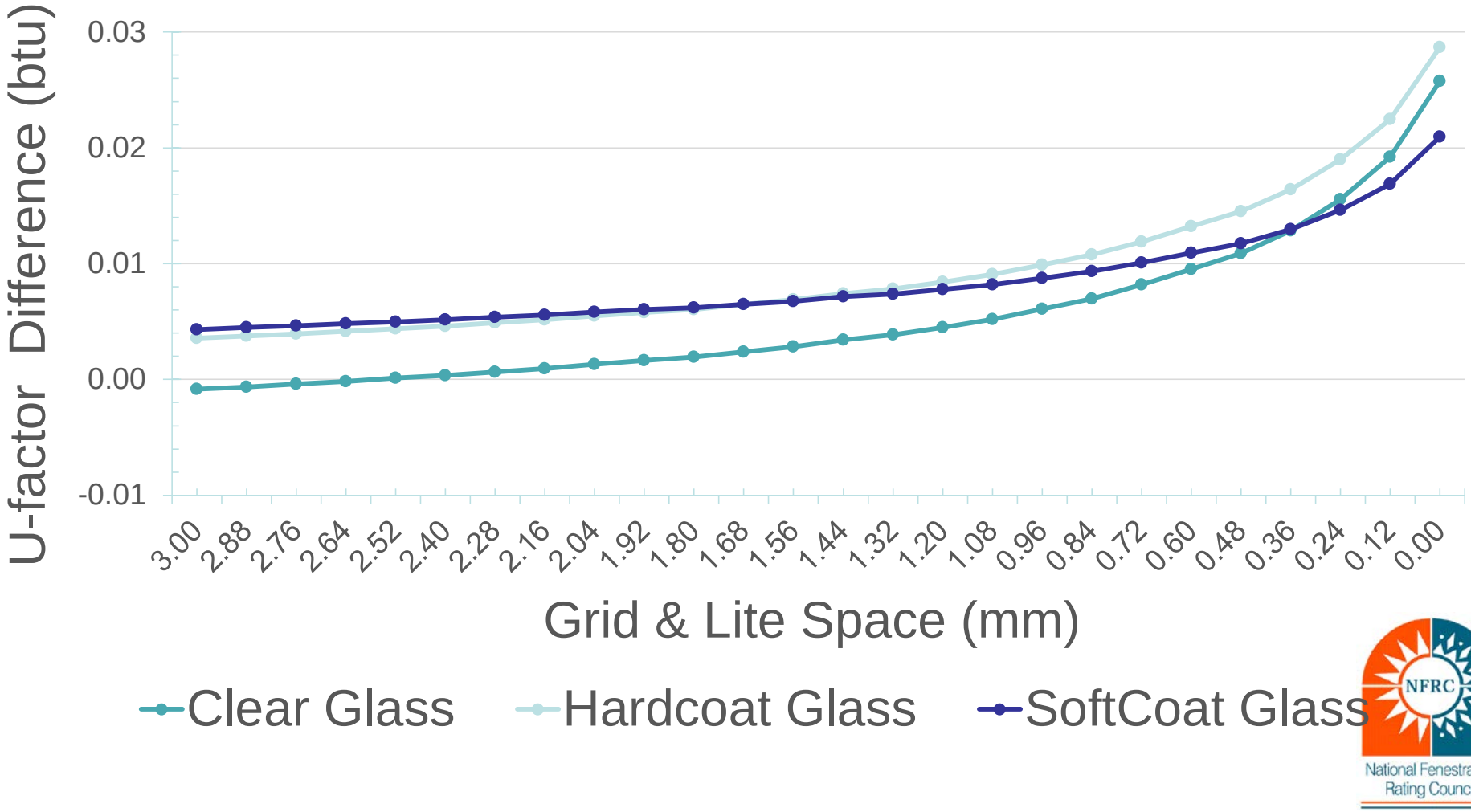
DG Air – AW vs. COG



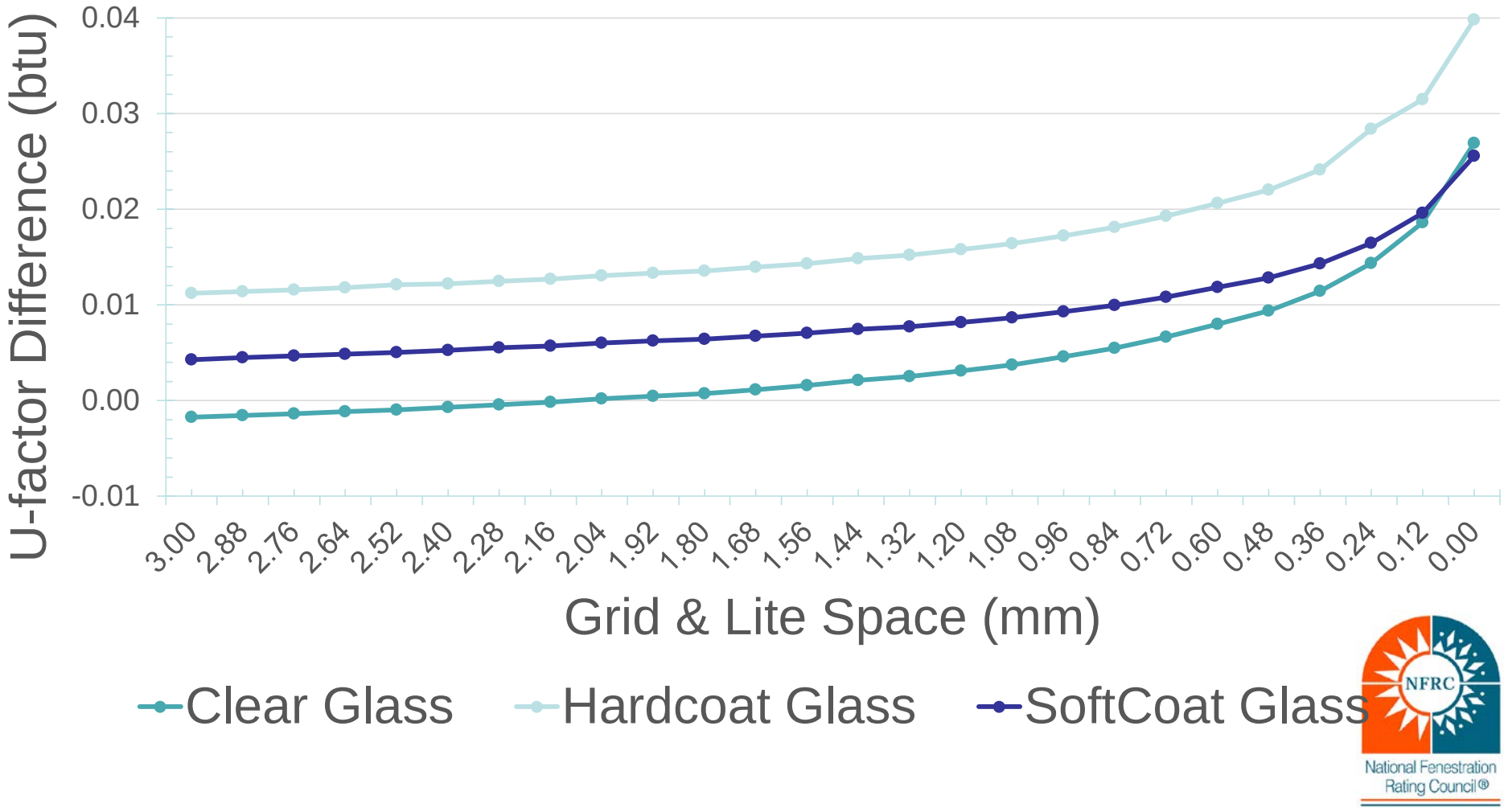
DG Argon – AW vs. COG



TG Air – AW vs. COG



TG Argon – AW vs. COG



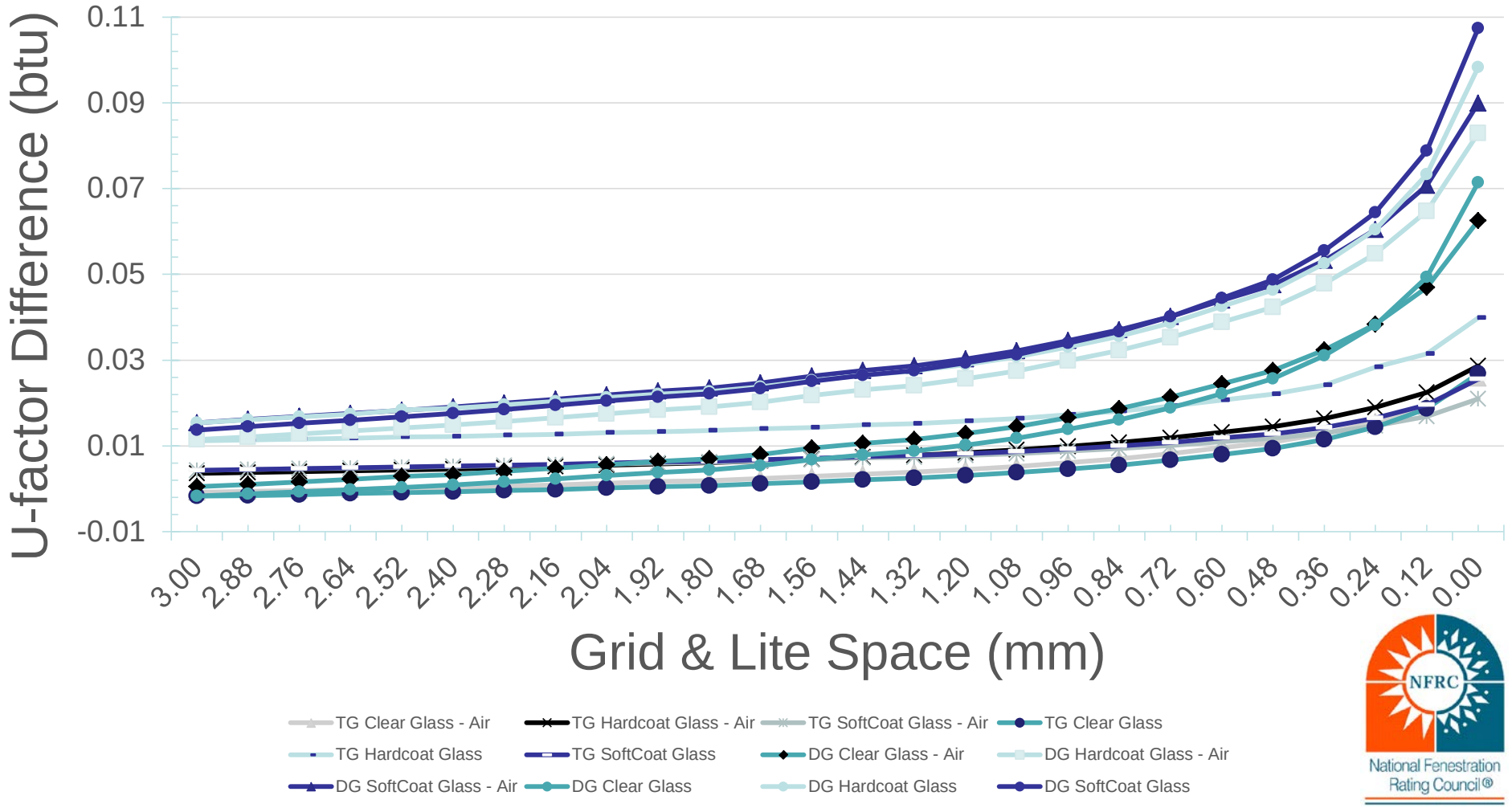
Develop Add-on Ranges

GRID RESEARCH

Develop Add-on Ranges

- Separate DG and TG
- Separate Clear and Low-e
- Separate Softcoat and Hardcoat (TG only)
- Add-on is COG

All AW vs COG



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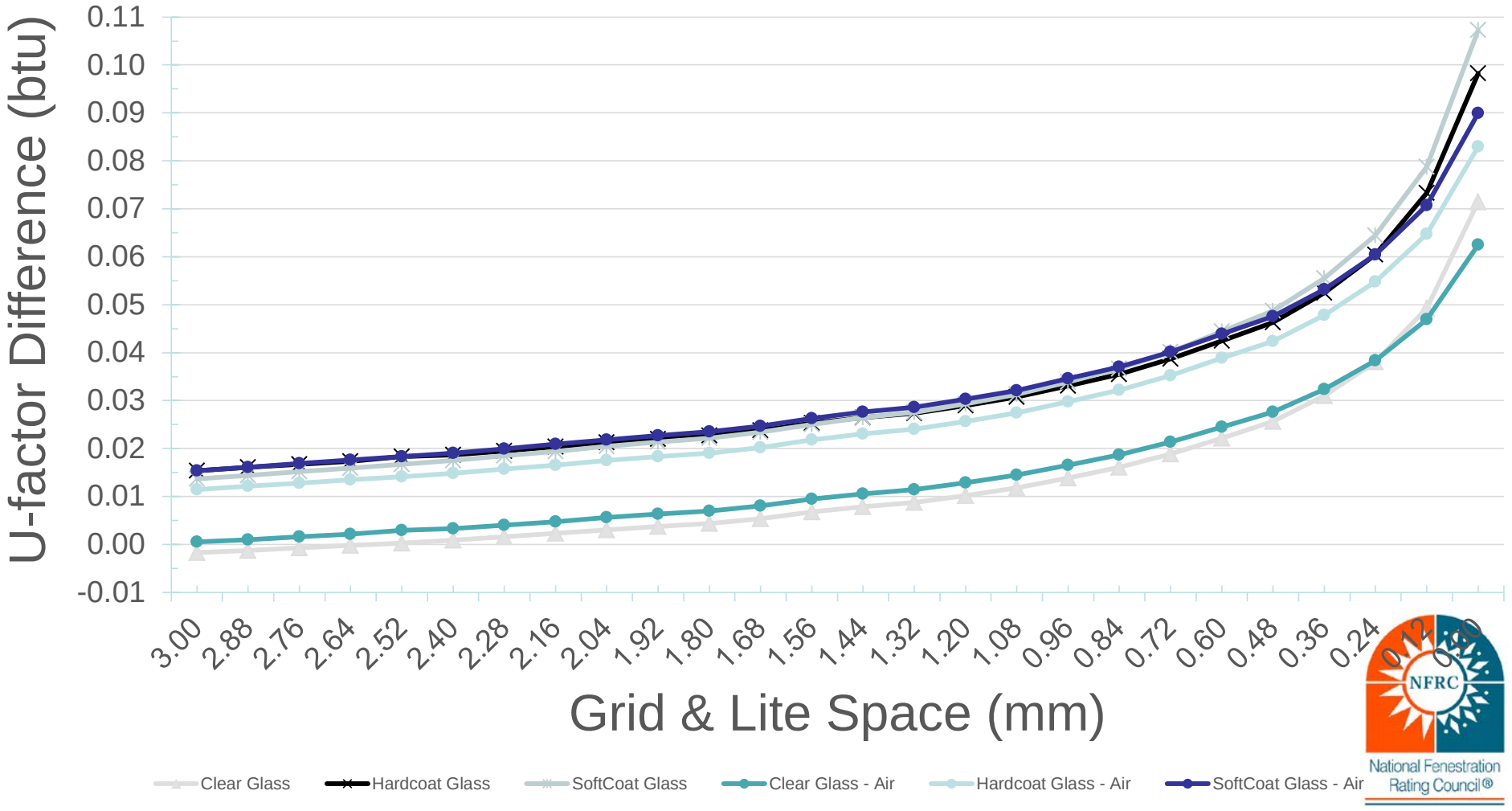
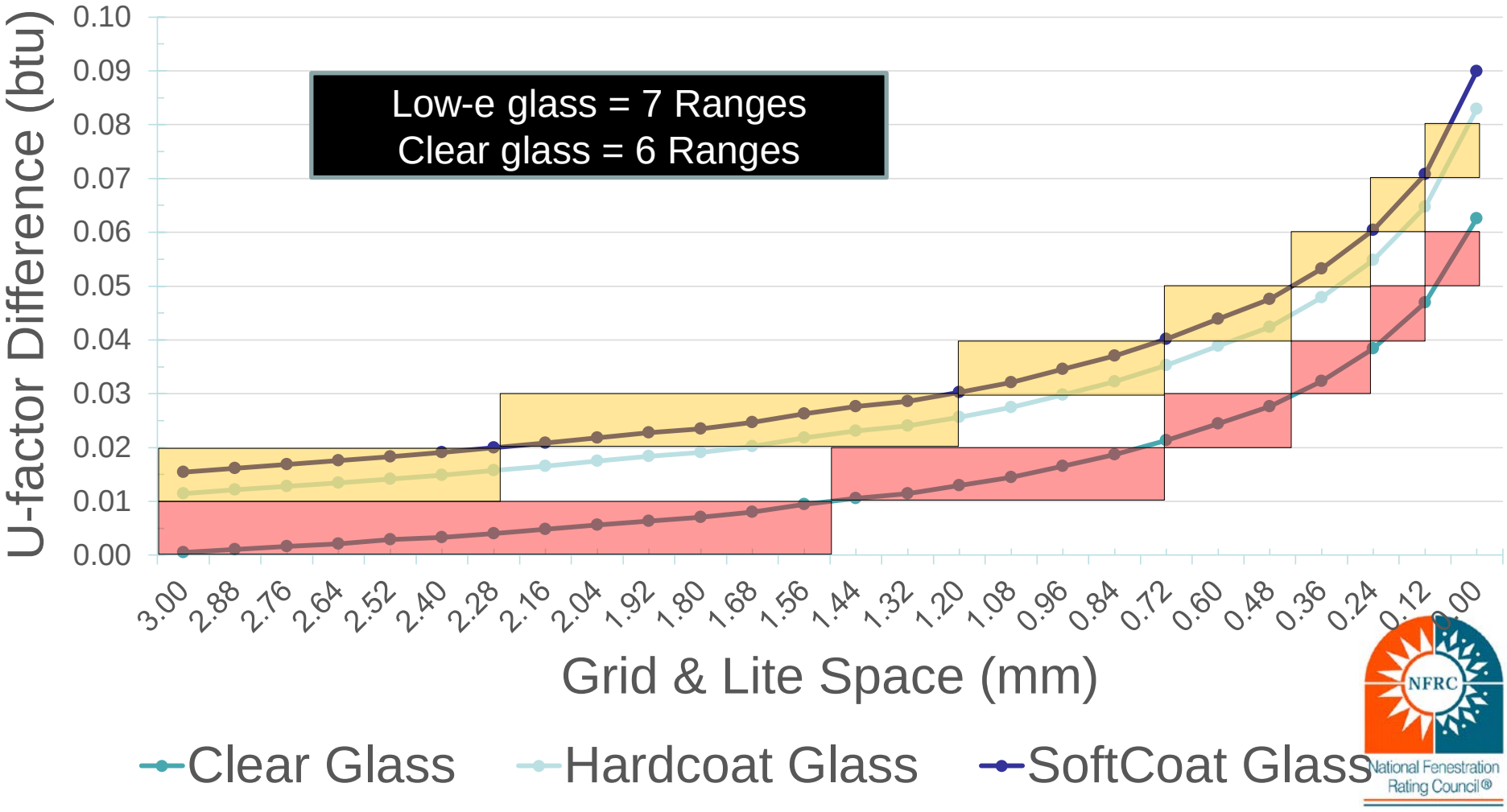
DG Options – AW vs. COG



DG Air Options – AW vs COG



DG Air Ranges

COG Add-on	Clear	Low-E
0.01	2.99mm – 1.50mm	n/a
0.02	1.49mm – 0.72mm	2.99mm – 2.28mm
0.03	0.71mm – 0.42mm	2.27mm – 1.20mm
0.04	0.41mm – 0.24mm	1.19mm – 0.72mm
0.05	0.23mm – 0.12mm	0.71mm – 0.42mm
0.06	0.11mm – 0.00mm	0.41mm – 0.24mm
0.07	n/a	0.23mm – 0.12mm
0.08	n/a	0.11mm – 0.00mm

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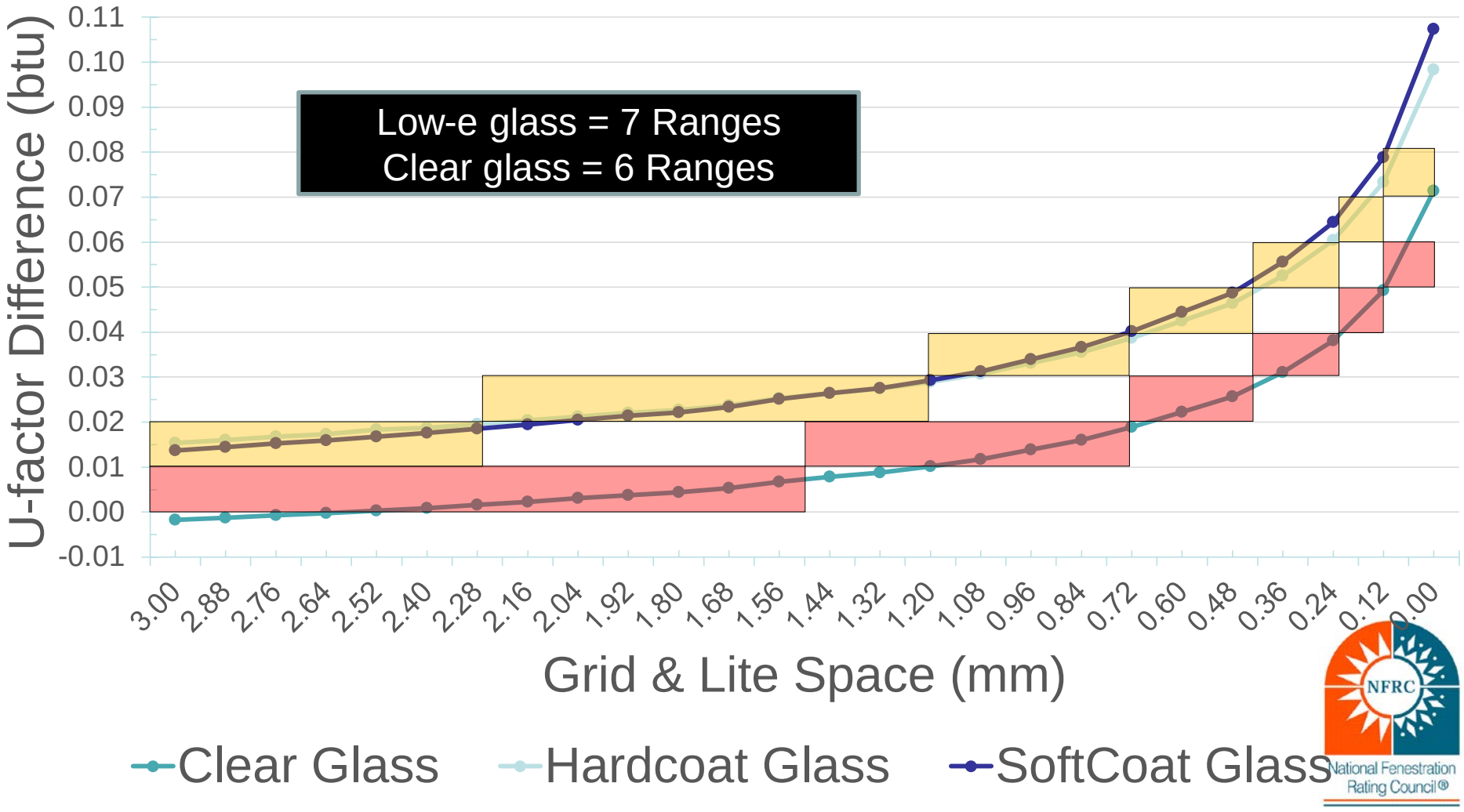
DG Argon Options – AW vs COG



DG Argon Ranges

COG Add-on	Clear	Low-E
0.01	2.99mm – 1.50mm	n/a
0.02	1.49mm – 0.72mm	2.99mm – 2.28mm
0.03	0.71mm – 0.42mm	2.27mm – 1.20mm
0.04	0.41mm – 0.24mm	1.19mm – 0.72mm
0.05	0.23mm – 0.12mm	0.71mm – 0.42mm
0.06	0.11mm – 0.00mm	0.41mm – 0.24mm
0.07	n/a	0.23mm – 0.12mm
0.08	n/a	0.11mm – 0.00mm

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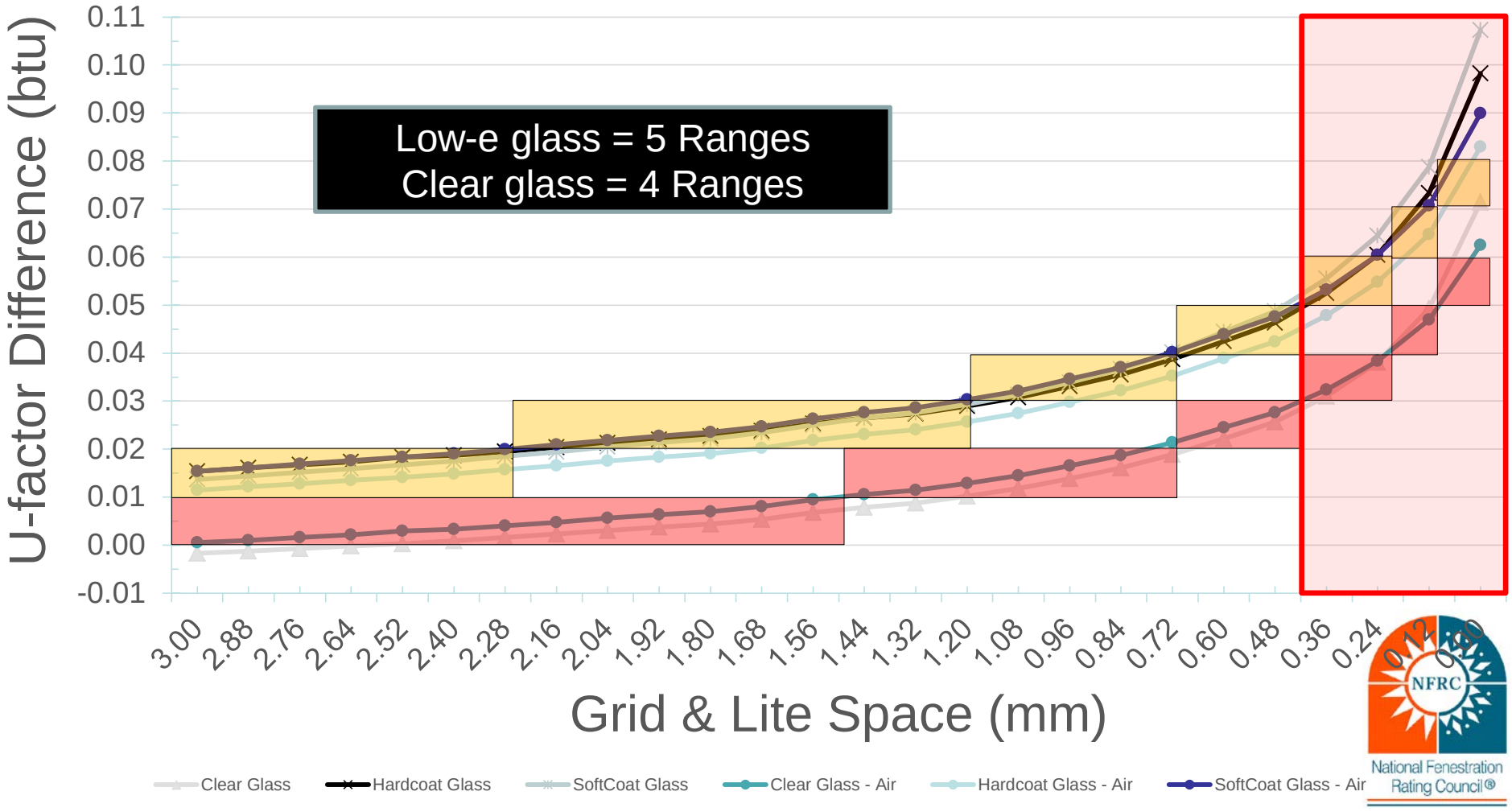
DG Options – Graph Add-on



DG Add-ons

COG Add-on	Clear	Low-E
0.01	2.99mm – 1.50mm	n/a
0.02	1.49mm – 0.72mm	2.99mm – 2.28mm
0.03	0.71mm – 0.42mm	2.27mm – 1.20mm
0.04	0.41mm – 0.00mm	1.19mm – 0.72mm
0.05		0.71mm – 0.42mm
0.06		0.41mm – 0.00mm
0.07		
0.08		

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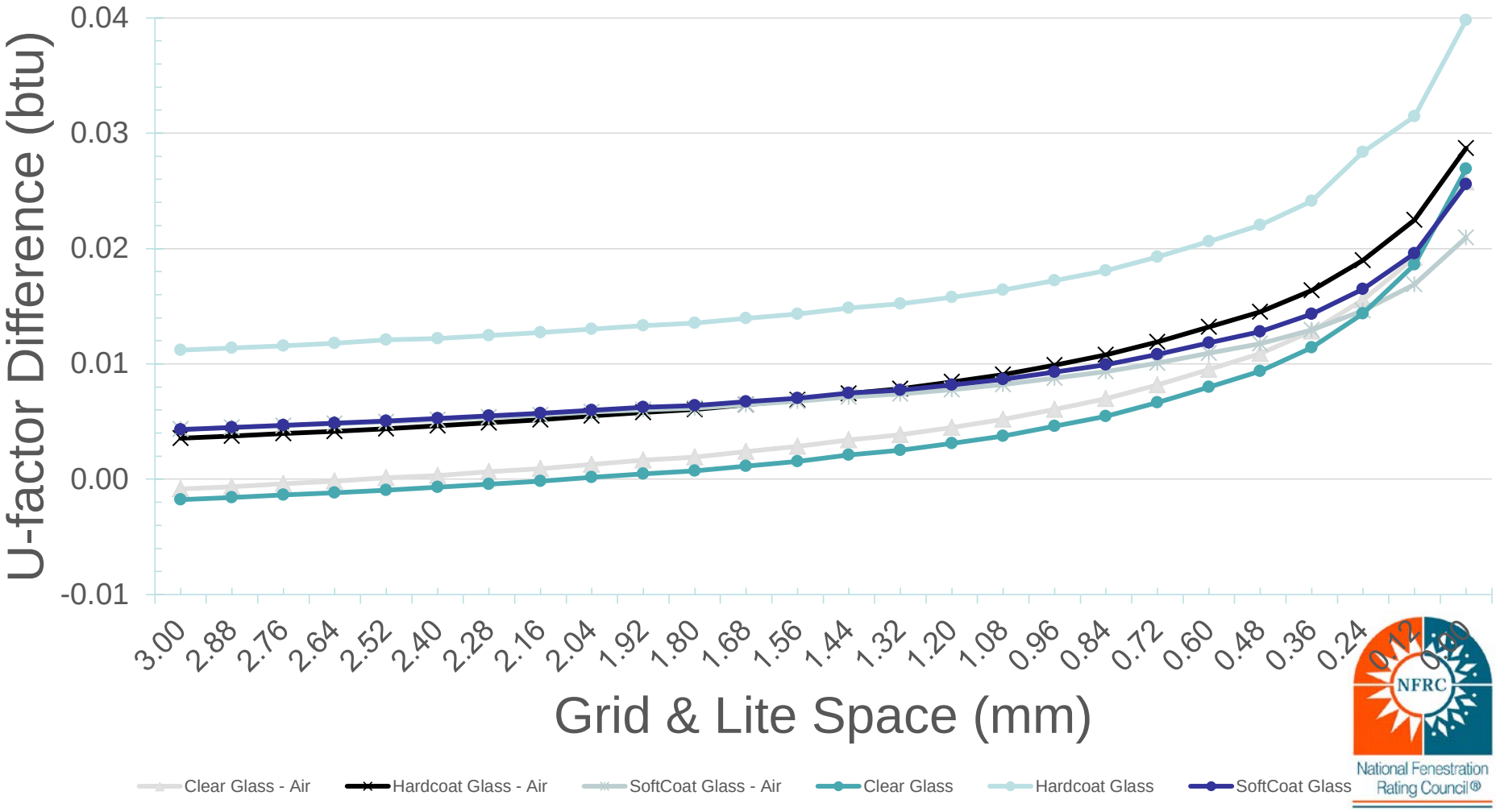
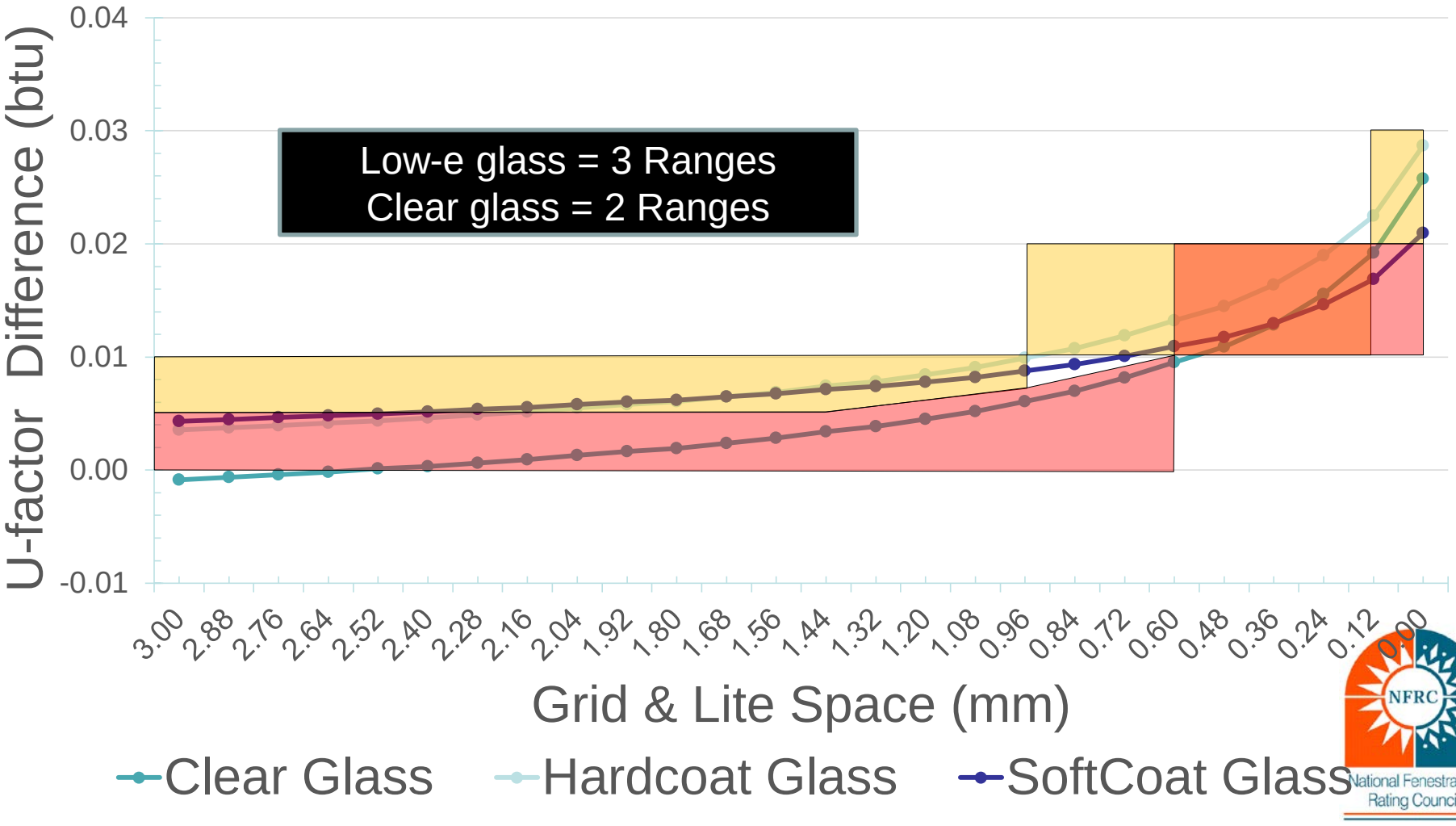
TG Options – AW vs. COG



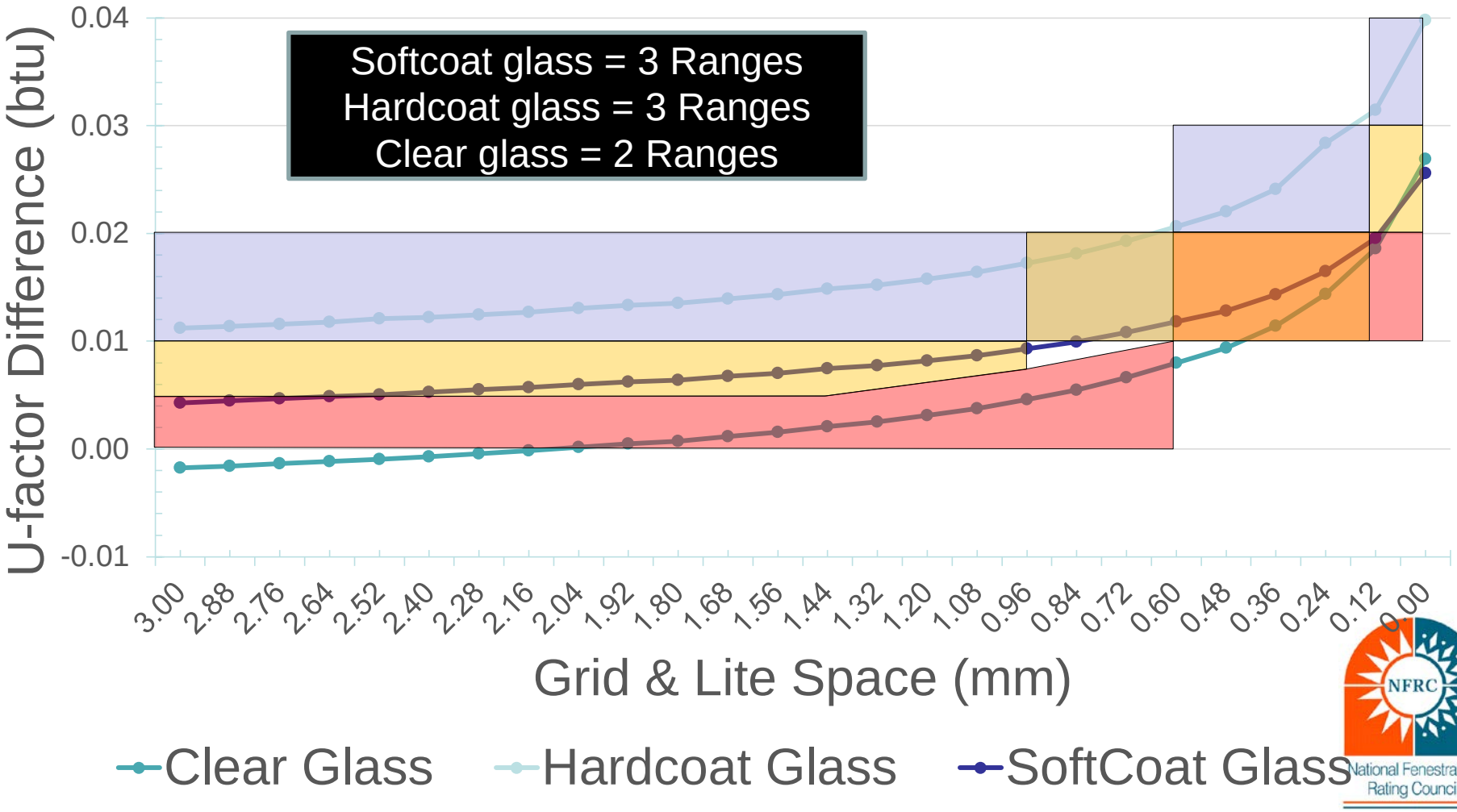
TG Air Options – AW vs. COG



TG Air Ranges

COG Add-on	Clear	Low-E
0.01	2.99mm – 0.60mm	2.99mm – 0.96mm
0.02	0.59mm – 0.00mm	0.95mm – 0.12mm
0.03	n/a	0.11mm – 0.00mm
0.04	n/a	n/a

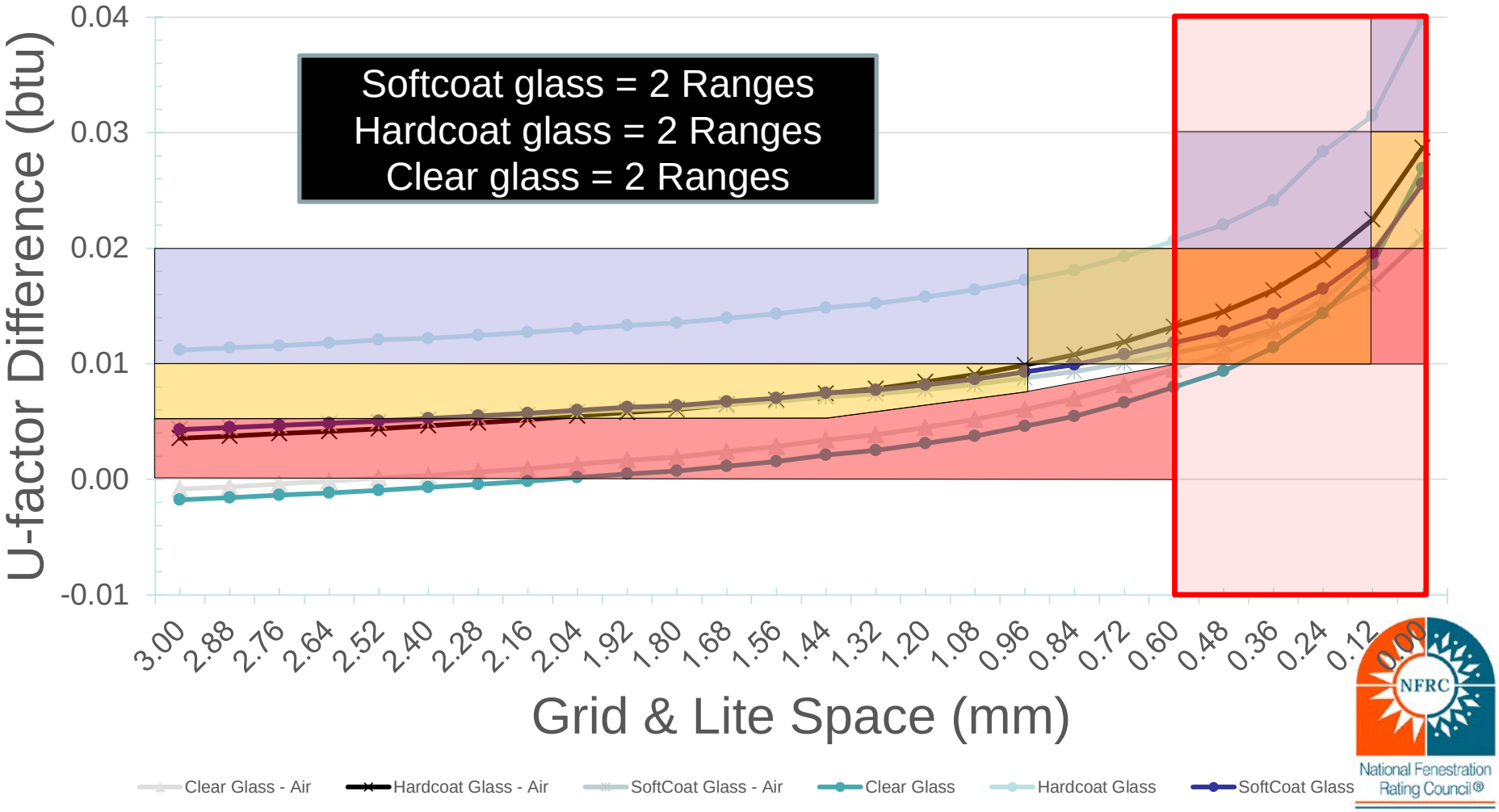
TG Argon Options – AW vs. COG



TG Argon Ranges

COG Add-on	Clear	Softcoat Low-E	Hardcoat Low-E
0.01	2.99mm – 0.60mm	2.99mm – 0.96mm	n/a
0.02	0.59mm – 0.00mm	0.95mm – 0.12mm	2.99mm – 0.60mm
0.03	n/a	0.11mm – 0.00mm	0.59mm – 0.12mm
0.04	n/a	n/a	0.12mm – 0.00mm

TG Options – Graph Add-on



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TG Add-ons

COG Add-on	Clear	Softcoat Low-E	Hardcoat Low-E
0.01	2.99mm – 0.60mm	2.99mm – 0.96mm	n/a
0.02	0.59mm – 0.00mm	0.95mm – 0.00mm	2.99mm – 0.60mm
0.03	n/a	n/a	0.59mm – 0.00mm

Captures the product line's characteristics

COG ADD-ON

Future Work

- Depends on today's discussion
- Add add-on language and ballot

3 POINT TRENDLINE

3 Point Trendline

- Reduce trendline error
- Visible confirmation
- R^2 value to determine TL acceptance
- Data results are favorable

Balloted language

- Quanex language from 2016-10 ballot

Future Work

- Depends on today's discussion
- Revise language and ballot

IMPLEMENTATION OF METHODOLOGY

Implementation of Methodology

- Negatives to make methodology optional

OTHER BALLOT NEGATIVES

Other Ballot Negatives

- Grid add-on optional
- Single simulation methodology
- Grammatical / document references
- Additional options – 15% criteria

Thank You

Questions