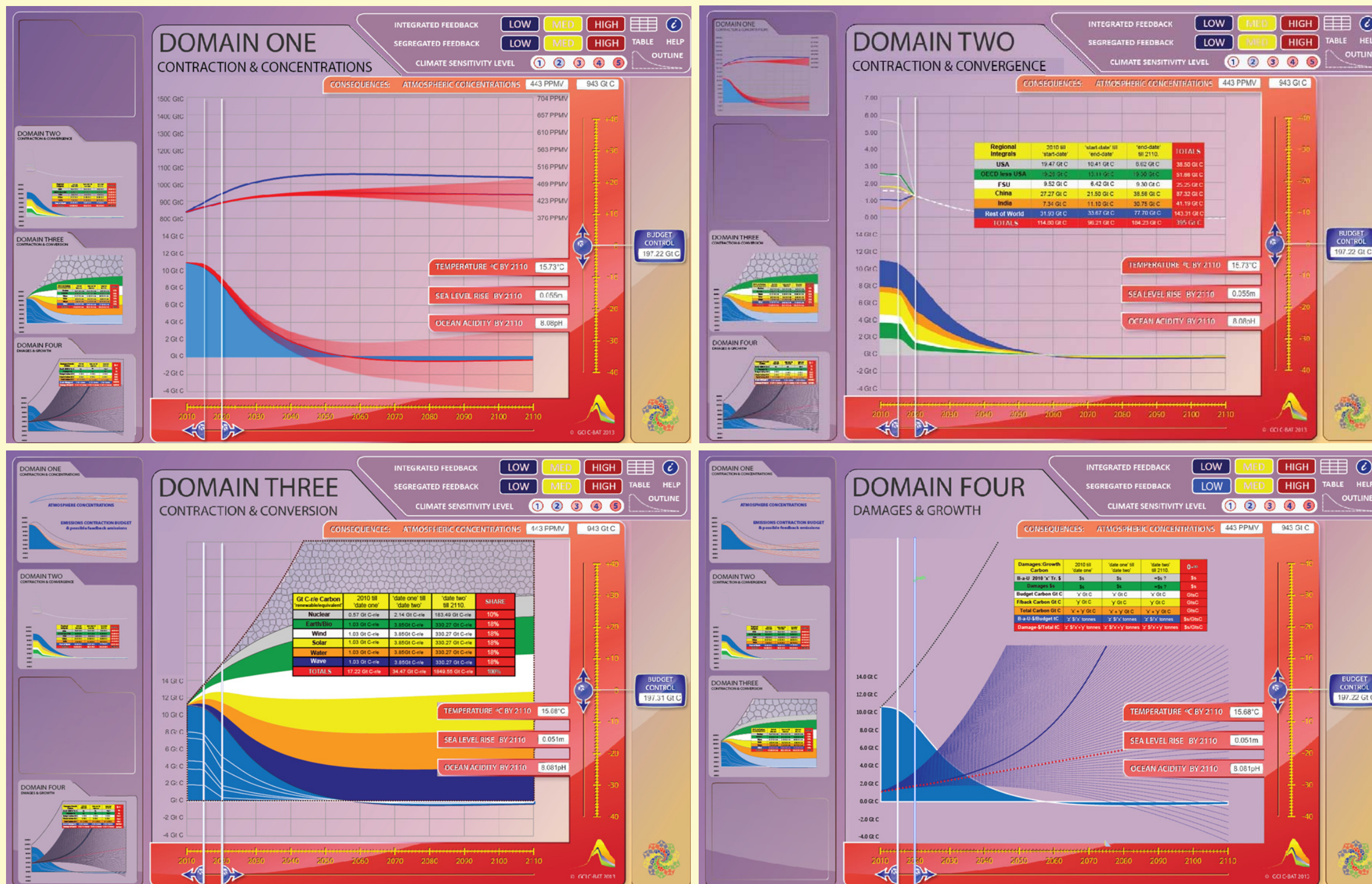


# The simplicity:symmetry:beauty of the 4 Sequenced 'Heads of Argument' for UNFCCC-Compliance in 'CBAT' (the 'Carbon Budget Analysis Tool'). \*

D1 Contraction & Concentrations; D2 Contraction & Convergence; D3 Contraction & Conversion; D4 Damages & Growth.

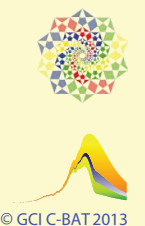
CHOOSE, using Sliders to Shape/Size/Weigh [D1]; Share [D2]; Replace [D3]; the 'Carbon Budget' in the light of Damages [D4].

*"If we want to do enough soon enough to achieve UNFCCC-Compliance, COP negotiations must be based on this sequence."*



The 'Carbon Budget Analysis Tool' - "Truly excellent; just an incredible tool." "Brilliant". "Beautiful." "Wonderful." "Of great value to negotiators."

CBAT here: - [http://www.gci.org.uk/CBAT\\_Ra.html](http://www.gci.org.uk/CBAT_Ra.html) More reactions here: - [http://www.gci.org.uk/CBAT\\_Responses.html](http://www.gci.org.uk/CBAT_Responses.html)





# DOMAIN ONE CONTRACTION & CONCENTRATIONS

INTEGRATED FEEDBACK

LOW

MED

HIGH



SEGREGATED FEEDBACK

LOW

MED

HIGH

TABLE

HELP

CLIMATE SENSITIVITY LEVEL

1

2

3

4

5

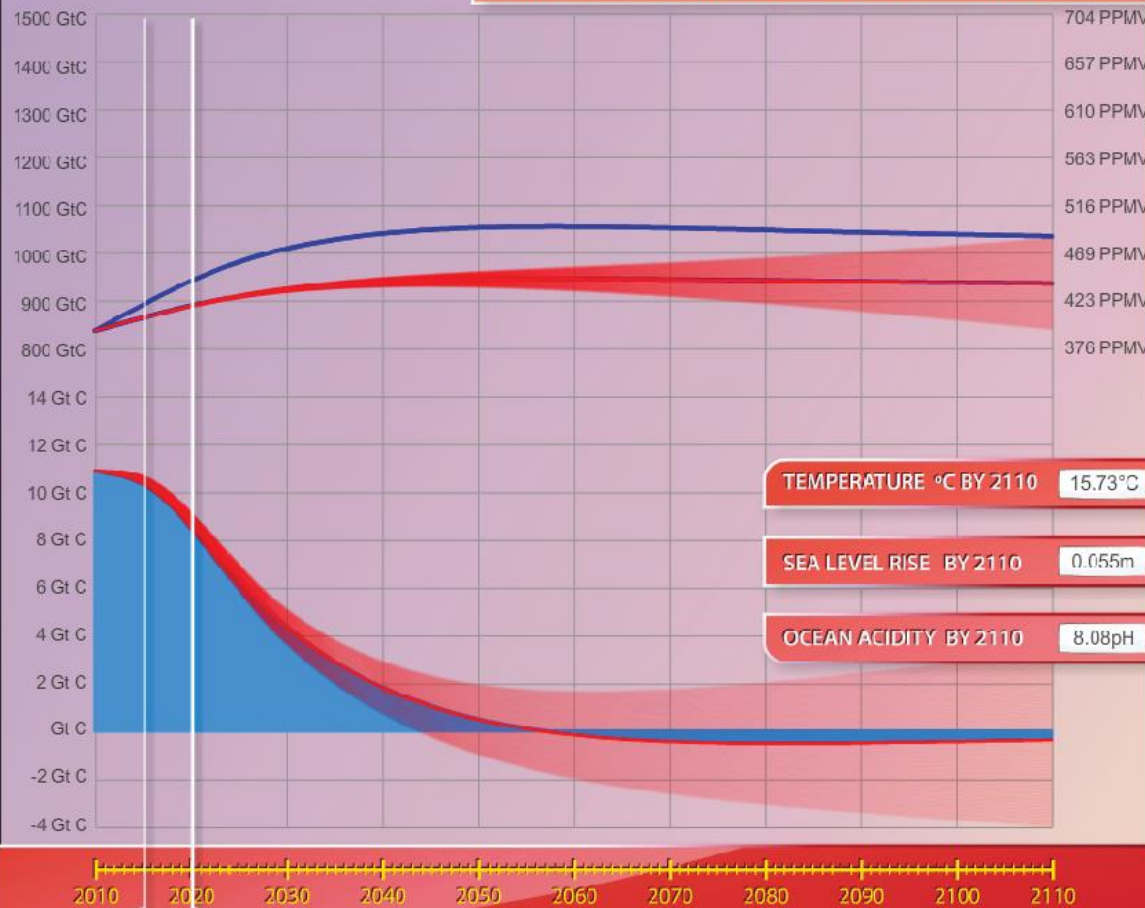
OUTLINE

OUTLINE

CONSEQUENCES: ATMOSPHERIC CONCENTRATIONS

443 PPMV

943 Gt C



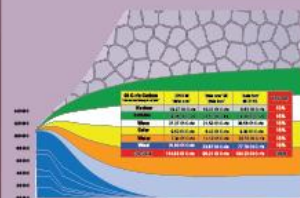
BUDGET CONTROL

197.22 Gt C

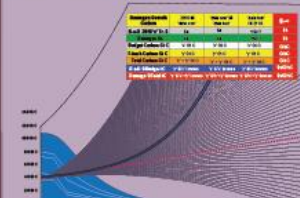
## DOMAIN TWO CONTRACTION & CONVERGENCE



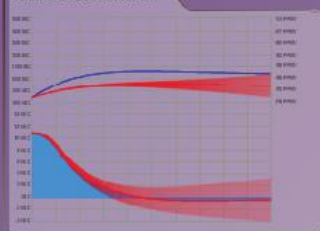
## DOMAIN THREE CONTRACTION & CONVERSION



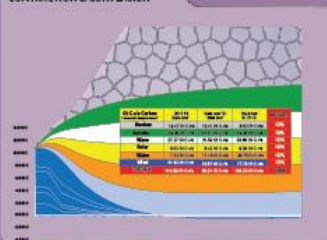
## DOMAIN FOUR DAMAGES & GROWTH



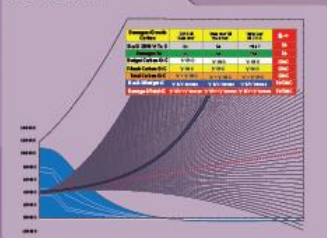
# DOMAIN ONE CONTRACTION & CONCENTRATIONS



# DOMAIN THREE CONTRACTION & CONVERSION



# DOMAIN FOUR DAMAGES & GROWTH



# DOMAIN TWO CONTRACTION & CONCENTRATIONS

INTEGRATED FEEDBACK

LOW

MED

HIGH

SEGREGATED FEEDBACK

LOW

MED

HIGH

CLIMATE SENSITIVITY LEVEL

1

2

3

4

5



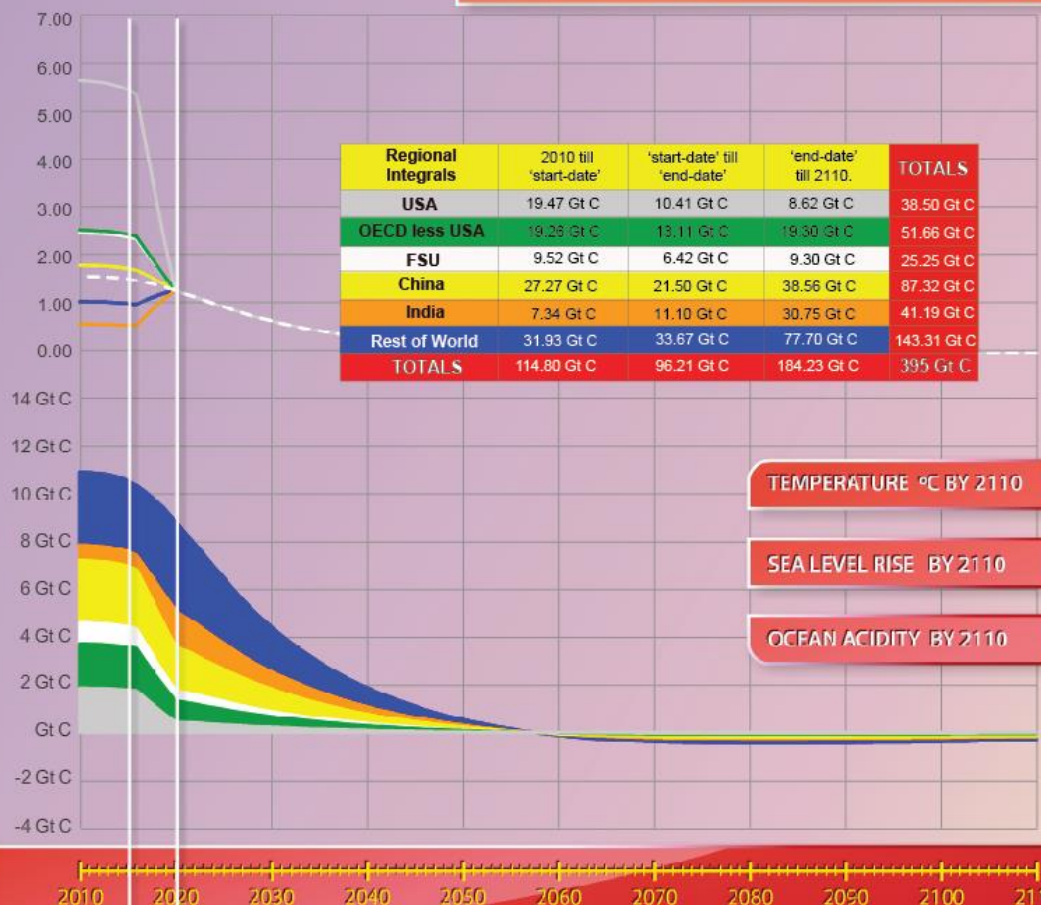
TABLE



HELP

OUTLINE

CONSEQUENCES: ATMOSPHERIC CONCENTRATIONS 443 PPMV 943 Gt C



Regional Integrals	2010 till 'start-date'	'start-date' till 'end-date'	'end-date' till 2110.	TOTALS
USA	19.47 Gt C	10.41 Gt C	8.62 Gt C	38.50 Gt C
OECD less USA	19.28 Gt C	13.11 Gt C	19.30 Gt C	51.66 Gt C
FSU	9.52 Gt C	6.42 Gt C	9.30 Gt C	25.25 Gt C
China	27.27 Gt C	21.50 Gt C	38.56 Gt C	87.32 Gt C
India	7.34 Gt C	11.10 Gt C	30.75 Gt C	41.19 Gt C
Rest of World	31.93 Gt C	33.67 Gt C	77.70 Gt C	143.31 Gt C
TOTALS	114.80 Gt C	96.21 Gt C	184.23 Gt C	395.23 Gt C

TEMPERATURE °C BY 2110 15.73°C

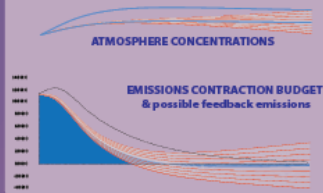
SEA LEVEL RISE BY 2110 0.055m

OCEAN ACIDITY BY 2110 8.08pH

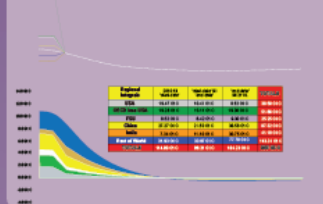
BUDGET CONTROL  
197.22 Gt C



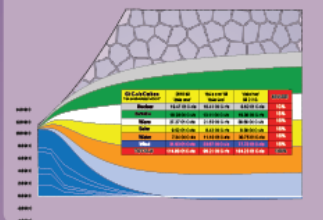
# DOMAIN ONE CONTRACTION & CONCENTRATIONS



# DOMAIN TWO CONTRACTION & CONVERGENCE



# DOMAIN THREE CONTRACTION & CONVERSION



# DOMAIN FOUR DAMAGES & GROWTH

INTEGRATED FEEDBACK

LOW

MED

HIGH

SEGREGATED FEEDBACK

LOW

MED

HIGH

CLIMATE SENSITIVITY LEVEL

1

2

3

4

5



TABLE

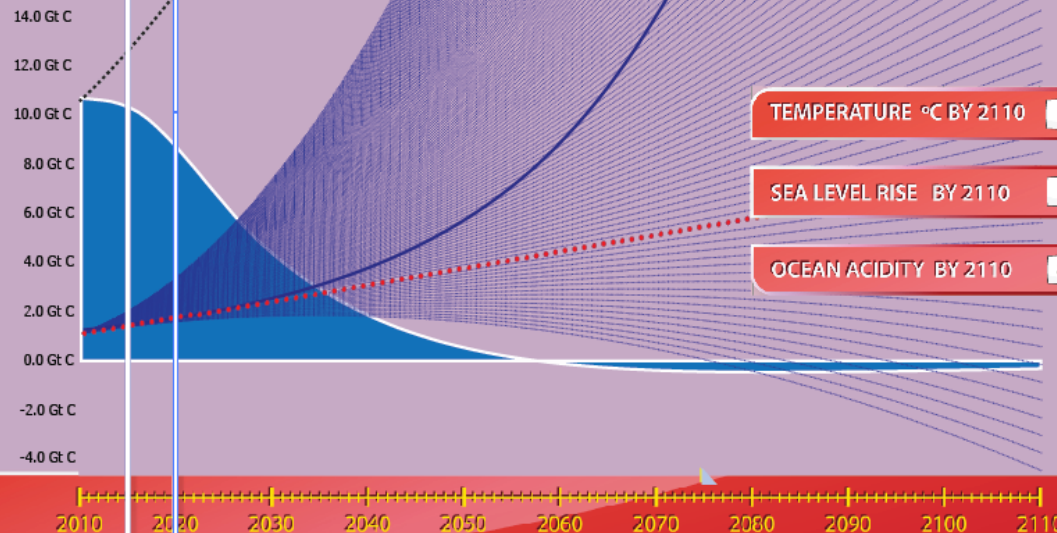


HELP

OUTLINE

CONSEQUENCES: ATMOSPHERIC CONCENTRATIONS 443 PPMV 943 Gt C

Damages:Growth Carbon	2010 till 'date one'	'date one' till 'date two'	'date two' till 2110.	0-∞
B-a-U 2010 'x' Tr. \$	\$s	\$s	≈\$s ?	\$s
Damages \$s	\$s	\$s	≈\$s ?	\$s
Budget Carbon Gt C	'x' Gt C	'x' Gt C	'x' Gt C	GtsC
Feedback Carbon Gt C	'y' Gt C	'y' Gt C	'y' Gt C	GtsC
Total Carbon Gt C	'x' + 'y' Gt C	'x' + 'y' Gt C	'x' + 'y' Gt C	GtsC
B-a-U-\$/Budget tC	'z' \$/'x' tonnes	'z' \$/'x' tonnes	'z' \$/'x' tonnes	\$s/GtsC
Damage-\$/Total tC	'z' \$/'x'+ 'y' tonnes	'z' \$/'x'+ 'y' tonnes	'z' \$/'x'+ 'y' tonnes	\$s/GtsC

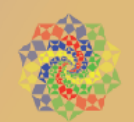


TEMPERATURE °C BY 2110 15.68°C

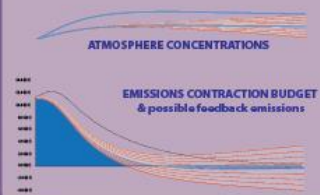
SEA LEVEL RISE BY 2110 0.051m

OCEAN ACIDITY BY 2110 8.081pH

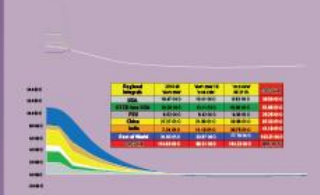
BUDGET CONTROL  
197.22 Gt C



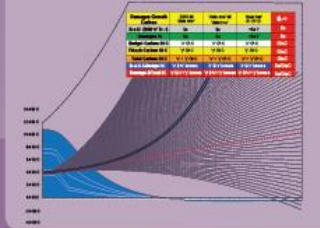
# DOMAIN ONE CONTRACTION & CONCENTRATIONS



# DOMAIN TWO CONTRACTION & CONVERGENCE



# DOMAIN FOUR DAMAGES & GROWTH



# DOMAIN THREE CONTRACTION & CONVERSION

INTEGRATED FEEDBACK

LOW

MED

HIGH

SEGREGATED FEEDBACK

LOW

MED

HIGH

CLIMATE SENSITIVITY LEVEL

1

2

3

4

5



TABLE

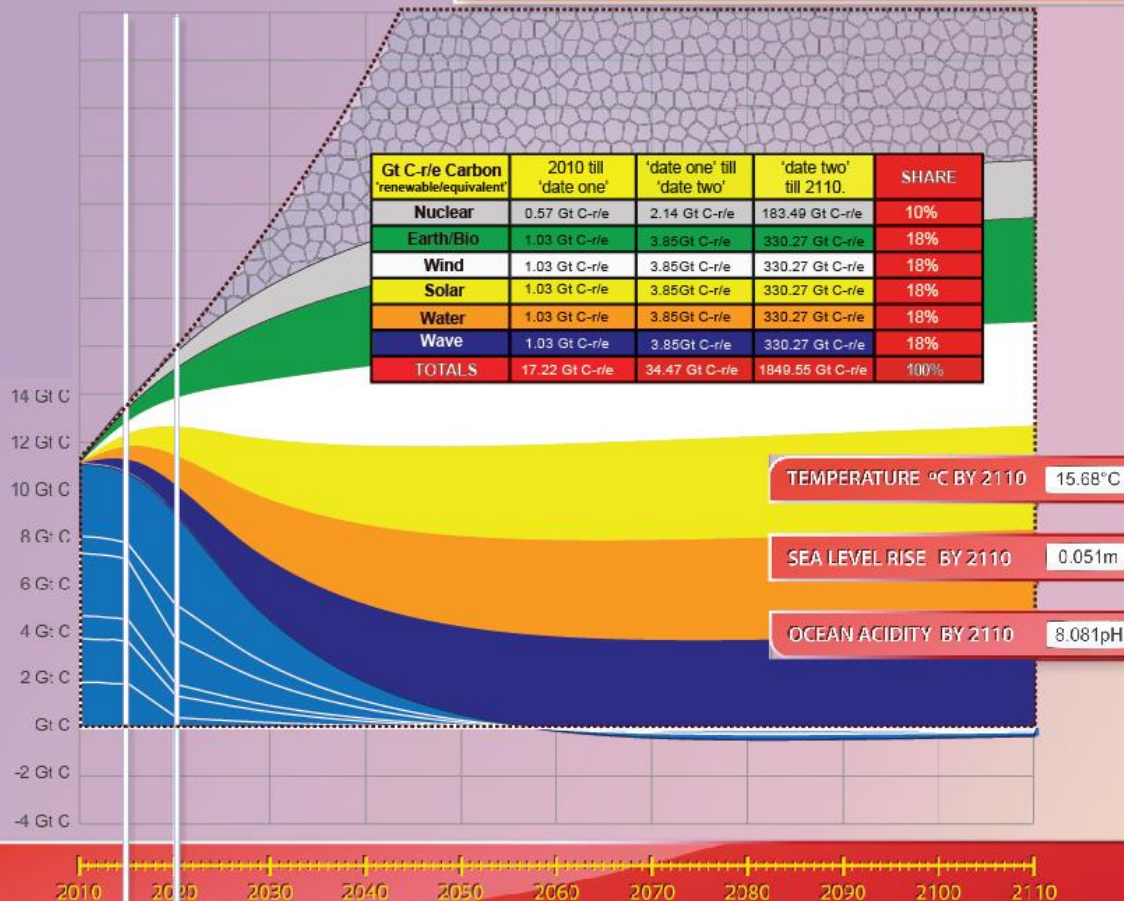
HELP

OUTLINE

CONSEQUENCES: ATMOSPHERIC CONCENTRATIONS

443 PPMV

943 Gt C



TEMPERATURE °C BY 2110

15.68°C

SEA LEVEL RISE BY 2110

0.051m

OCEAN ACIDITY BY 2110

8.081pH

BUDGET CONTROL

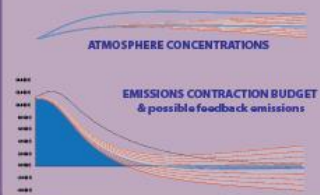
197.31 Gt C

© CCIC-BAT 2013

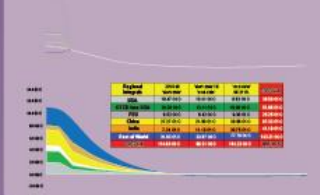




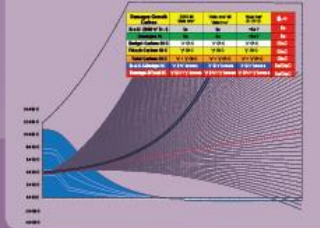
# DOMAIN ONE CONTRACTION & CONCENTRATIONS



# DOMAIN TWO CONTRACTION & CONVERGENCE



# DOMAIN FOUR DAMAGES & GROWTH



# DOMAIN THREE CONTRACTION & CONVERSION

INTEGRATED FEEDBACK

LOW

MED

HIGH

SEGREGATED FEEDBACK

LOW

MED

HIGH

CLIMATE SENSITIVITY LEVEL

1

2

3

4

5



TABLE

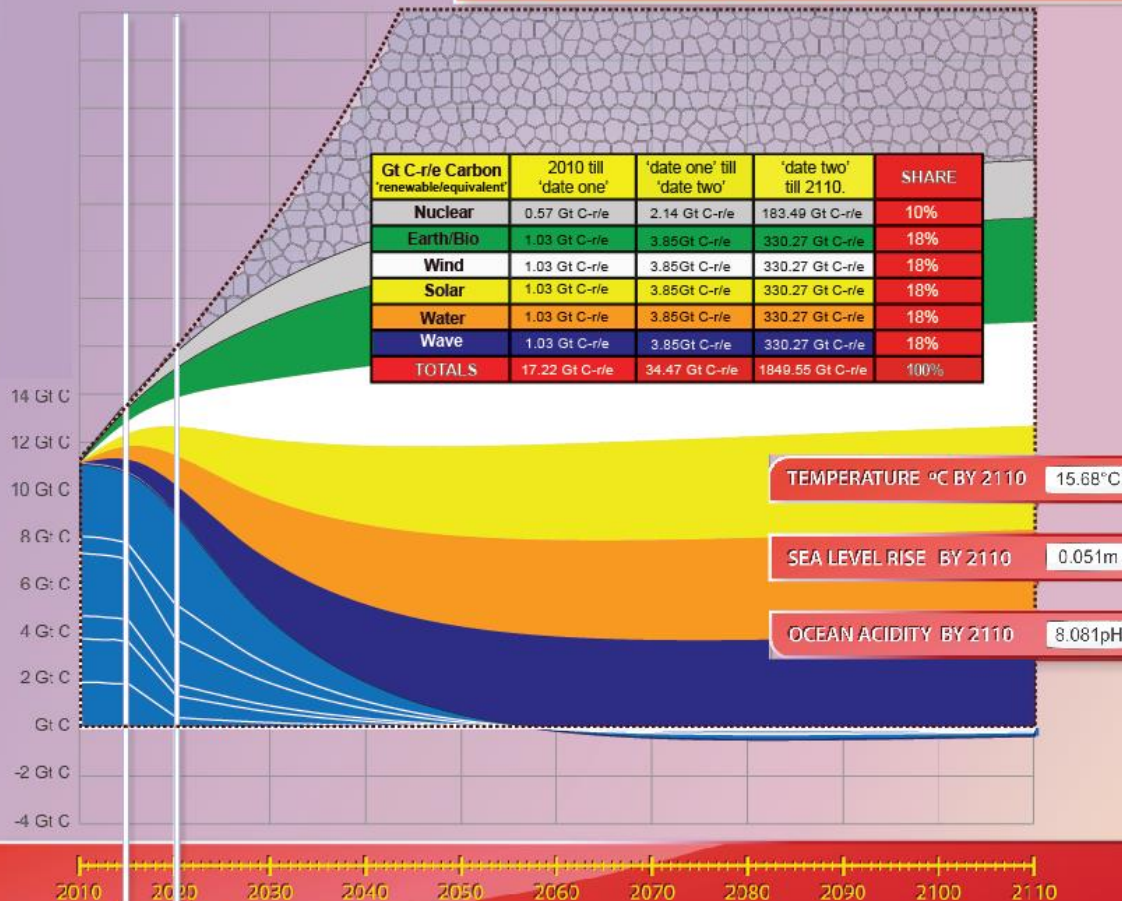
HELP

OUTLINE

CONSEQUENCES: ATMOSPHERIC CONCENTRATIONS

443 PPMV

943 Gt C



TEMPERATURE °C BY 2110

15.68°C

SEA LEVEL RISE BY 2110

0.051m

OCEAN ACIDITY BY 2110

8.081pH

BUDGET CONTROL

197.31 Gt C

© CCIC-BAT 2013



## In DOMAIN THREE

A table can be summoned.

This has the same structure/format/syntax as the table in DOMAIN TWO [8 Rows and 5 Columns].

However, it has different titles I.E. NUCLEAR, EARTH/BIO, WAVE, SOLAR, WATER, WIND, TOTALS & SHARES and will record different values arising for 'Gt C-r/e' Gigatonnes Carbon Renewable Equivalent.

I will supply the formulae etc. to plot and read like this: -

<b>Gt C-r/e Carbon 'renewable/equivalent'</b>	2010 till 'date one'	'date one' till 'date two'	'date two' till 2110.	<b>SHARE</b>
<b>Nuclear</b>	19.47 Gt C-r/e	10.41 Gt C-r/e	8.62 Gt C-r/e	10%
<b>Earth/Bio</b>	19.26 Gt C-r/e	13.11 Gt C-r/e	19.30 Gt C-r/e	18%
<b>Wave</b>	27.27 Gt C-r/e	21.50 Gt C-r/e	38.56 Gt C-r/e	18%
<b>Solar</b>	9.52 Gt C-r/e	6.42 Gt C-r/e	9.30 Gt C-r/e	18%
<b>Water</b>	7.34 Gt C-r/e	11.10 Gt C-r/e	30.75 Gt C-r/e	18%
<b>Wind</b>	31.93 Gt C-r/e	33.67 Gt C-r/e	77.70 Gt C-r/e	18%
<b>TOTALS</b>	114.80 Gt C-r/e	96.21 Gt C-r/e	184.23 Gt C-r/e	100%

An On/Off switch is needed for this TABLE to appear & disappear [as in DOMAINS 2 & 4]; appearance suggested in first graphic.

[In CBAT mark II – i.e. not now - these internal proportions can be user-varied touching SHARE-CELLS – but always totalling 100%].

However in DOMAIN THREE the: -

1. Budget Buttons [LOW, MEDIUM, HIGH]
2. Feedback Buttons [INTEGRATED, SEGREGATED]
3. Sensitivity Buttons [1 to 5]
4. HELP Button – set to Domain Three feature relevance
5. Vertical Slider + ‘BUDGET CONTROL CLOCK’
6. Horizontal Sliders – ‘Before’, ‘During’, ‘After’, the ‘Convergence Window’
7. CONSEQUENTIAL ‘CLOCK VALUES [ppmv/GtC; temperature; sea-level, ocean pH]
8. Icon-based ‘Domain-swapping’ [Left-Hand column]

. . . . all continue to work visibly, exactly before as in DOMAIN TWO,

In the DOMAIN THREE instance, the EMISSIONS BUDGET is subject to the choice of ‘INTEGRATED FEEDBACK’ and beyond that, as before, readings result from settings from the Panel Controls for the Budget [LOW, MEDIUM, HIGH] & Sensitivity Level with slider use and ADDING, as in DOMAIN TWO, the CONVERGENCE algorithm over time, only this time it is for: -

1. the 6 Renewables categories [as shown in the table above] and
2. the 6 Regions of the CARBON BUDGET, only this time in the MONOTONE COLOURS of DOMAIN ONE [LOW blue MEDIUM yellow HIGH red] for all regions, WITH JUST WHITE LINE SEPARATION of the regions and this time omitting the ‘per capita lines’ shown in DOMAIN TWO.

The table reads values for the non-fossil renewables alternatives that are layered above the emissions budget as before according to the convergence window selected & the colour coding in the table as shown above. There is a FIXED ‘Business as Usual’ Line & the upper line of the Renewables package is FIXED [xml - I supply values]. The SIZE of the Renewables Package AS A WHOLE, the area between blue & red dotted line [‘dotted-lines’ for your information only & not for show], Expands & Contracts between its FIXED UPPER line [blue-dotted] & the MOVING UPPER BUDGET [red-dotted], but keeping the internal proportions [not xml – I supply formulas]. Area between FIXED B-a-U & FIXED UPPER RENEWABLES PACKAGE is constant & is shown in an ‘ambivalent’ colour/texture, as suggested in first graphic [suggestive of ‘Moonshine’ versus solar ‘Sunshine’].

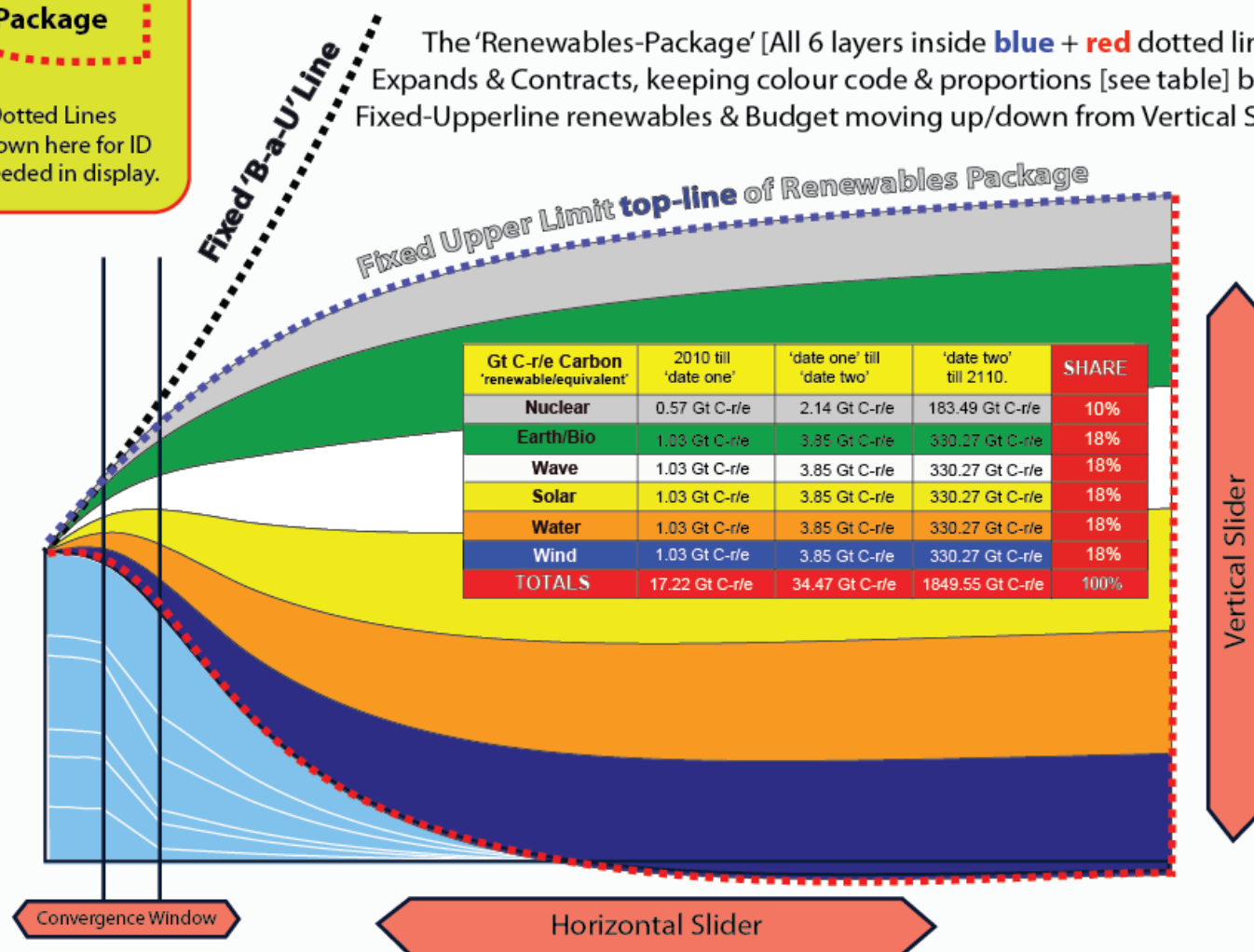


Renewables Package

NB Dotted Lines only shown here for ID & not needed in display.

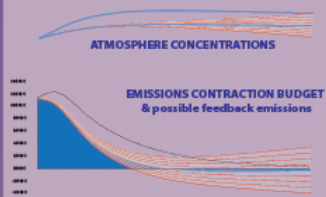
Fixed 'Business-as-Usual' line [B-a-U - **black** dotted] - data in xml [I supply values].  
 Fixed Upperline-Renewables-Package [**blue** dotted] - data in xml [I supply values].

The 'Renewables-Package' [All 6 layers inside **blue** + **red** dotted lines]  
 Expands & Contracts, keeping colour code & proportions [see table] between  
 Fixed-Upperline renewables & Budget moving up/down from Vertical Slider use.

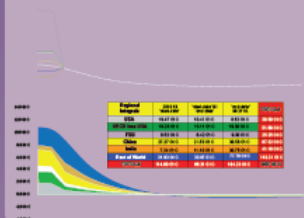


As in DOMAIN TWO, the Chosen Emissions Budget Expands & Contracts overall from Vertical-Slider use.  
 Time division within this, in 'Renewable-Category-Package', changes with use of Horizontal-Slider  
 changing the 'Convergence-Window' so as to read different values in 6 'Renewable-Category-Package'.

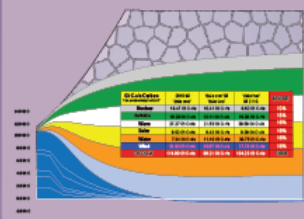
# DOMAIN ONE CONTRACTION & CONCENTRATIONS



# DOMAIN TWO CONTRACTION & CONVERGENCE



# DOMAIN THREE CONTRACTION & CONVERSION



# DOMAIN FOUR DAMAGES & GROWTH

INTEGRATED FEEDBACK

LOW

MED

HIGH

SEGREGATED FEEDBACK

LOW

MED

HIGH

CLIMATE SENSITIVITY LEVEL

1

2

3

4

5

TABLE

HELP

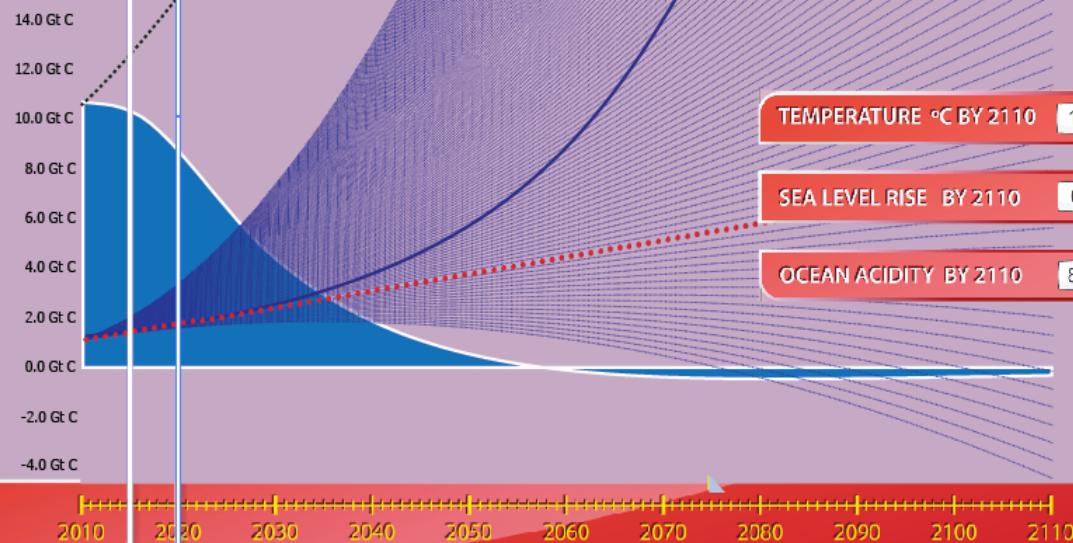
OUTLINE

CONSEQUENCES: ATMOSPHERIC CONCENTRATIONS

443 PPMV

943 Gt C

Damages:Growth Carbon	2010 till 'date one'	'date one' till 'date two'	'date two' till 2110	0-100
B-a-U 2010 'x' Tr. \$	\$s	\$s	= \$s ?	\$s
Damages \$s	\$s	\$s	= \$s ?	\$s
Budget Carbon Gt C	'x' Gt C	'x' Gt C	'x' Gt C	GtsC
F/back Carbon Gt C	'y' Gt C	'y' Gt C	'y' Gt C	GtsC
Total Carbon Gt C	'x' + 'y' Gt C	'x' + 'y' Gt C	'x' + 'y' Gt C	GtsC
B-a-U-\$/Budget tC	'z' \$/'x' tonnes	'z' \$/'x' tonnes	'z' \$/'x' tonnes	\$s/GtsC
Damage-\$/Total tC	'z' \$/'x'+ 'y' tonnes	'z' \$/'x'+ 'y' tonnes	'z' \$/'x'+ 'y' tonnes	\$s/GtsC



TEMPERATURE °C BY 2110

15.68°C

SEA LEVEL RISE BY 2110

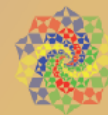
0.051m

OCEAN ACIDITY BY 2110

8.081pH

BUDGET CONTROL  
197.22 Gt C

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## In DOMAIN FOUR

A table can be summoned.

This has the same structure/format/syntax as the table in DOMAIN TWO [8 Rows and 5 Columns].

However, it has different titles I.E. Damages:Growth Carbon, B-a-U 2010 'x' Tr. \$/Damages \$s, BUDGET Carbon Gt C, F/back Carbon Gt C, Total Carbon Gt C, B-a-U \$s/Budget tC, Damages-\$s/Total tC and will record ranges of different values arising for 'Gt C:\$s.

I will supply the formulae etc. to plot that and – this is only a snap shot – it will read like this: -

<b>Damages:Growth Carbon</b>	2010 till 'date one'	'date one' till 'date two'	'date two' till 2110.	<b>0-<math>\infty</math></b>
<b>B-a-U 2010 'x' Tr. \$</b>	\$s	\$s	$\infty$ \$s ?	\$s
<b>Damages \$s</b>	\$s	\$s	$\infty$ \$s ?	\$s
<b>Budget Carbon Gt C</b>	'x' Gt C	'x' Gt C	'x' Gt C	GtsC
<b>F/back Carbon Gt C</b>	'y' Gt C	'y' Gt C	'y' Gt C	GtsC
<b>Total Carbon Gt C</b>	'x' + 'y' Gt C	'x' + 'y' Gt C	'x' + 'y' Gt C	GtsC
<b>B-a-U-\$/Budget tC</b>	'z' \$/'x' tonnes	'z' \$/'x' tonnes	'z' \$/'x' tonnes	\$s/GtsC
<b>Damage-\$/Total tC</b>	'z' \$/'x'+ 'y' tonnes	'z' \$/'x'+ 'y' tonnes	'z' \$/'x'+ 'y' tonnes	\$s/GtsC

The same On/Off switch is needed for this TABLE to appear & disappear [as in DOMAINS 2 & 3]; again, appearance suggested in first graphic.

In DOMAIN FOUR the following all continue to work as before in DOMAINS TWO & THREE: -

1. Budget Buttons [LOW, MEDIUM, HIGH]
2. Feedback Buttons [INTEGRATED, SEGREGATED]
3. Sensitivity Buttons [1 to 5]
4. HELP Button - set to Domain Four feature relevance
5. Vertical Slider + 'BUDGET CONTROL CLOCK'
6. Horizontal Sliders – 'Before', 'During', 'After', the 'Convergence Window'
7. CONSEQUENTIAL 'CLOCK VALUES [ppmv/GtC; temperature; sea-level, ocean pH]
8. Icon-based 'Domain-swapping' [Left-Hand column]

In DOMAIN FOUR this time, the EMISSIONS BUDGET defaults to the 'SEGREGATED FEEDBACK' [which is visibly reacting to the VERTICAL SLIDER in DOMAIN ONE] and beyond that, as before, readings result from settings from the Panel Controls for the Budget [LOW, MEDIUM, HIGH] & 5 Sensitivity Levels with slider use and this time ADDING the CONVERGENCE algorithm over time, but NOT ADDING the 6 Regions of the CARBON BUDGET. The BUDGET-as-a-WHOLE is in the MONOTONE COLOURS of DOMAIN ONE [LOW blue MEDIUM yellow HIGH red] with no regions or per capita values shown.

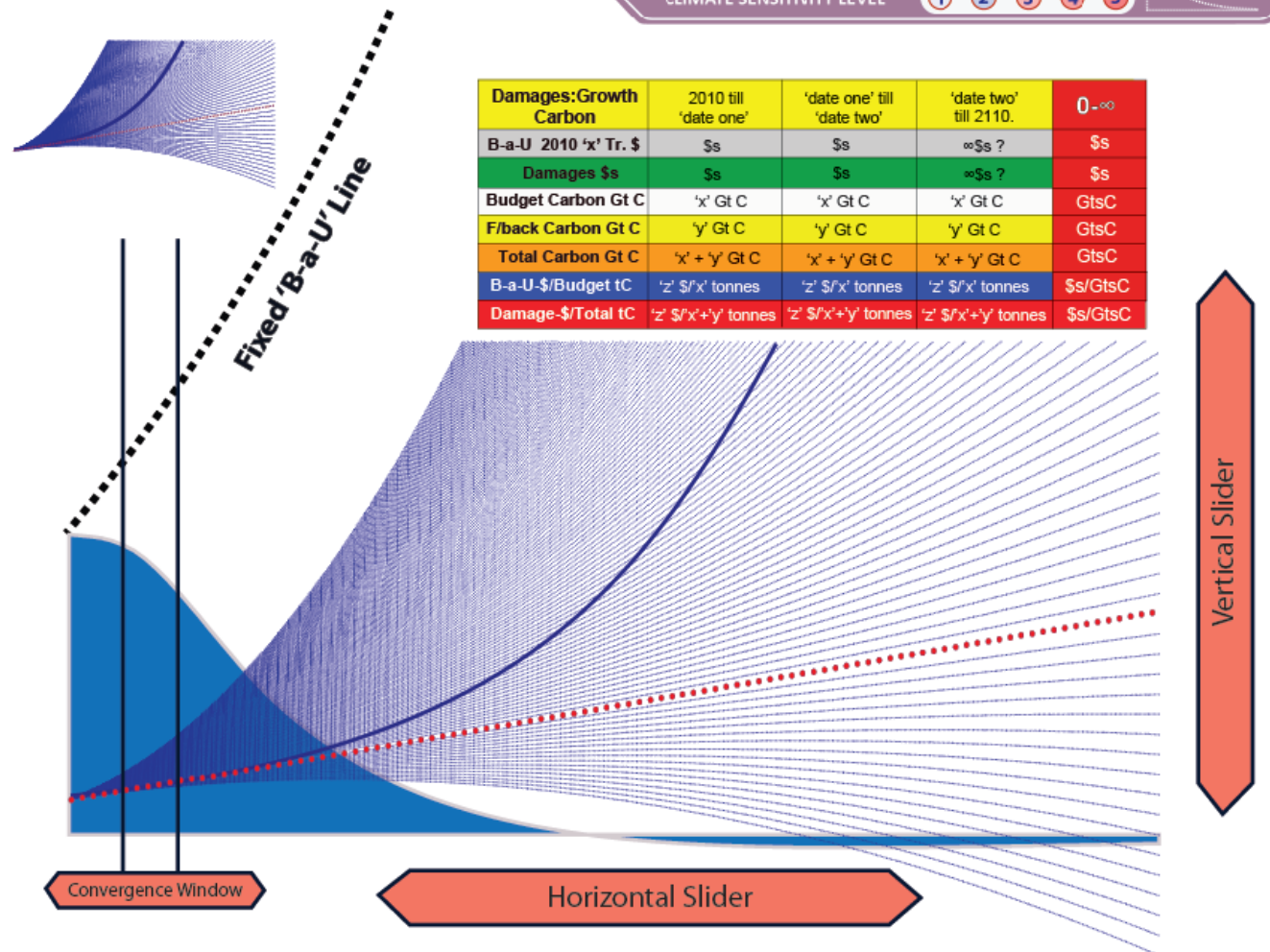
In this instance, the table reads values for the damage categories that are generated over the EMISSIONS BUDGET + SEGREGATED FEEDBACK CARBON, as before according to the 'Before', 'During', 'After', i.e. the 'Convergence Window' selected, again with the table and colour coding formatted as shown above but recording the new values as designated. There is a FIXED 'Business as Usual' Line. I supply the \*.xml values and the formulae for the \*.fla for what follows.

IN DOMAIN FOUR, the 'damage-footprint' changes size & position with the budget choice & the sensitivity setting level chosen & the dominant single damage-curve arising, sweeps up and down within it with the movement of the Vertical Slider.

The values in the table change as before, but this time also in lower or higher 'footprint-sets' in response to the level of climate sensitivity [to the temperature response rather than concentrations] chosen [see detailed note on this hereafter]. The next images are 3 varied way of showing the modular syntax/dynamic-structure of damages:budgets:sensitivity-levels. Once the \*.fla 'templates' of this are secure, to save time I can take on any donkey-work arising.

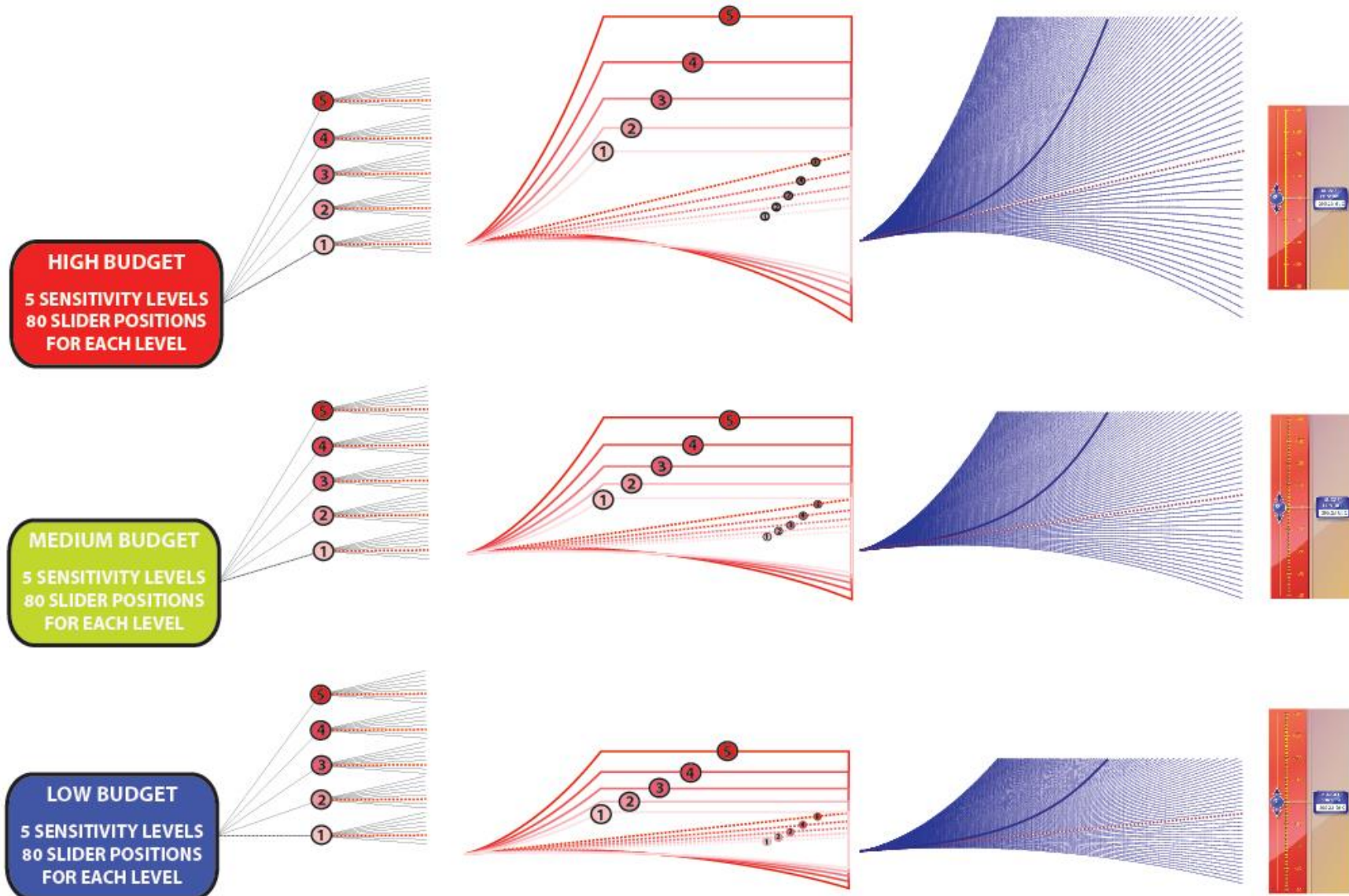


The 'Damage Footprint' dynamically changes size & position with the budget choice, the sensitivity setting & sweeps with Vertical Slider [see CBAT Damage-Costing Potential Climate Catastrophe].



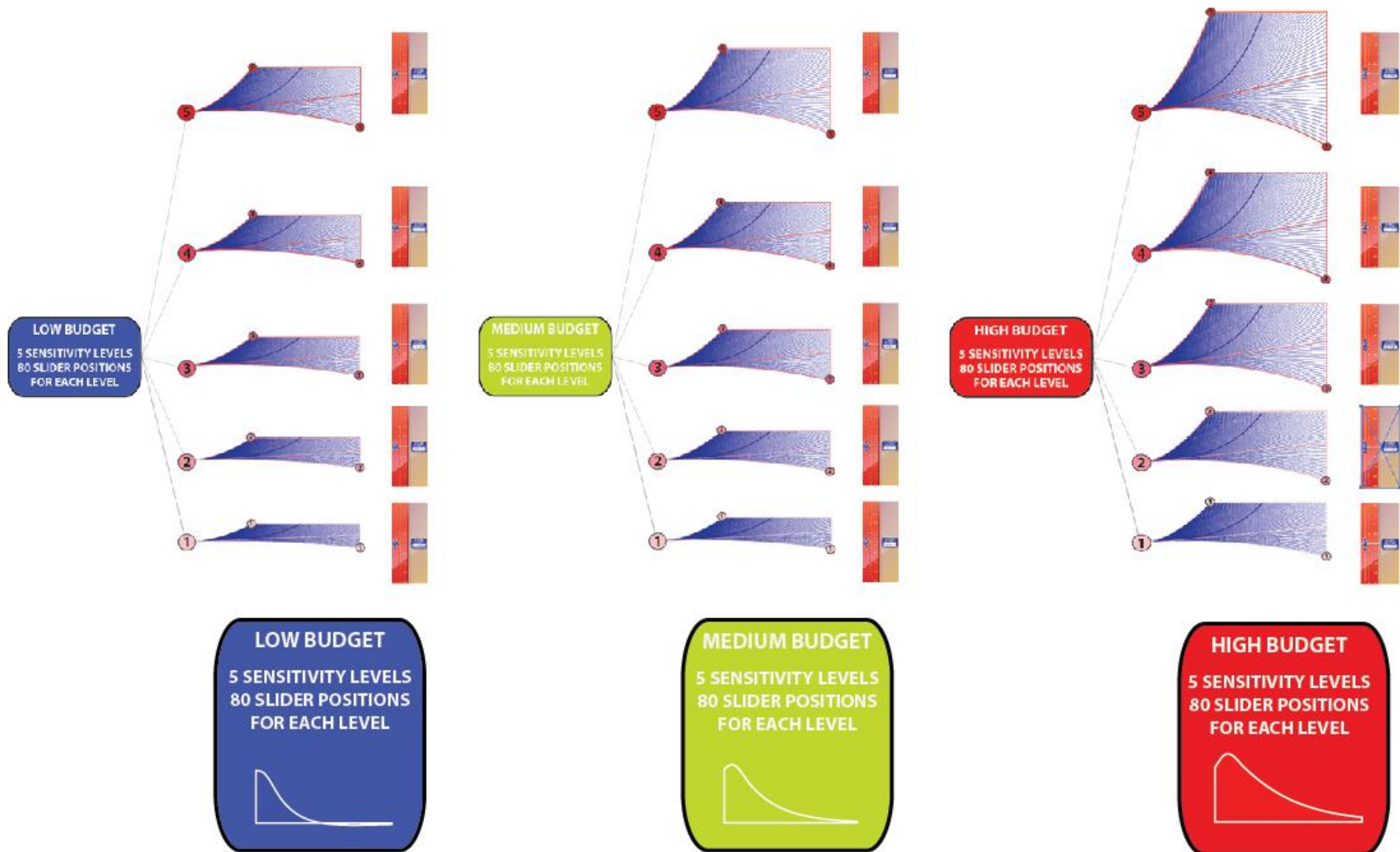
In DOMAIN FOUR, Damage Curves Expand & Contract over the at rates determined by the Emissions Budget and the Sensitivity Level chosen and the Vertical-Slider use. The dotted red line is flat and curves above it are accelerating and curves below it are decelerating. Time division within this, changes with the Horizontal-Slider changing the 'Convergence-Window' as before, this time in the Budget & Damage time-line.

# CARBON BUDGET ANALYSIS TOOL [CBAT] DOMAIN FOUR DAMAGE COSTING POTENTIAL CLIMATE CATASTROPHE





# CARBON BUDGET ANALYSIS TOOL [CBAT] DOMAIN FOUR DAMAGE COSTING POTENTIAL CLIMATE CATASTROPHE



<b>Damages:Growth Carbon</b>	2010 till 'date one'	'date one' till 'date two'	'date two' till 2110.	<b>0-<math>\infty</math></b>
<b>B-a-U 2010 'x' Tr. \$</b>	\$s	\$s	$\infty$ \$s ?	\$s
<b>Damages \$s</b>	\$s	\$s	$\infty$ \$s ?	\$s
<b>Budget Carbon Gt C</b>	'x' Gt C	'x' Gt C	'x' Gt C	GtsC
<b>F/back Carbon Gt C</b>	'y' Gt C	'y' Gt C	'y' Gt C	GtsC
<b>Total Carbon Gt C</b>	'x' + 'y' Gt C	'x' + 'y' Gt C	'x' + 'y' Gt C	GtsC
<b>B-a-U-\$/Budget tC</b>	'z' \$/'x' tonnes	'z' \$/'x' tonnes	'z' \$/'x' tonnes	\$s/GtsC
<b>Damage-\$/Total tC</b>	'z' \$/'x'+ 'y' tonnes	'z' \$/'x'+ 'y' tonnes	'z' \$/'x'+ 'y' tonnes	\$s/GtsC