

GLOBAL DECLARATION WAR on CARBON with Geo-Engineering

(part_A:Why earth become hottern and hotter?!)

You have been entirely decieved,
The fact is teribbly upside down !!

a

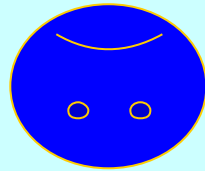


True
Justice



ORDER

False
Fail



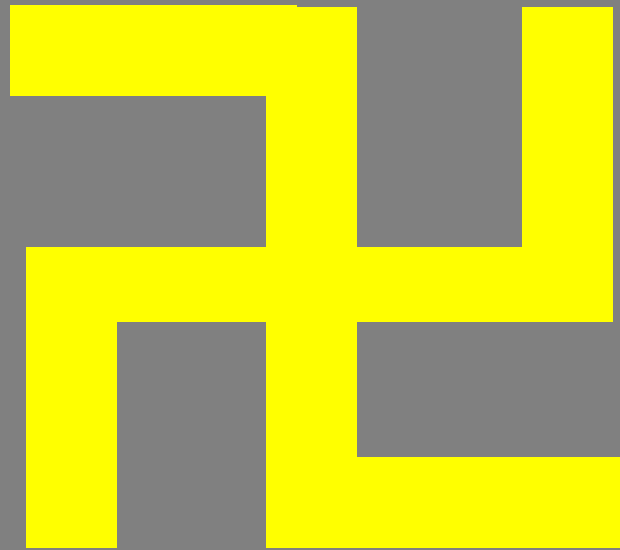
disorder

catastrophe

Now in this world, a fact is far stupid and cruel than any novels.

We has been going toward fire hell called **Arctic Methane Catastrophe** due to **the fail and false.**

THE CAPITALISM



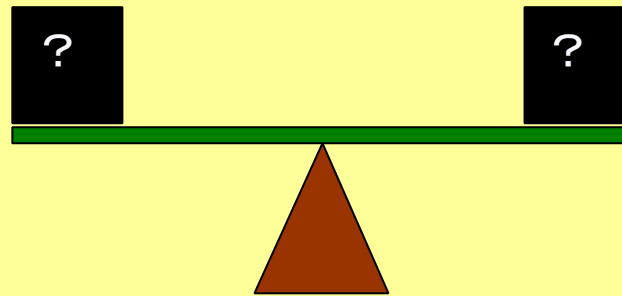
the paranoiac conservatism

<  Operation ENDGAME  >

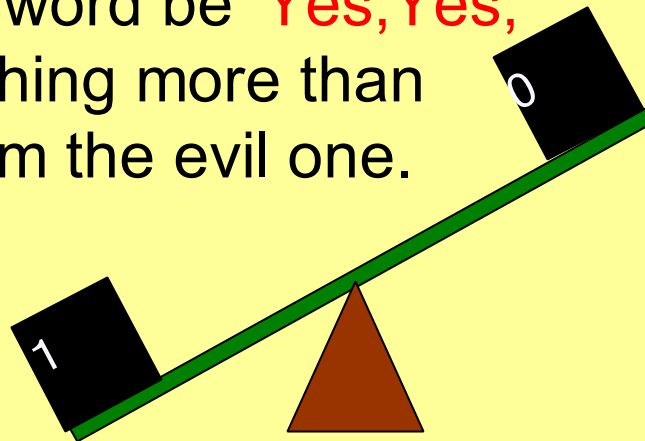


DIGITAL JUDGEMENT

the most justice



Mathew 5:37, Let your word be "Yes, Yes,
or"No, No: anything more than
this comes from the evil one.



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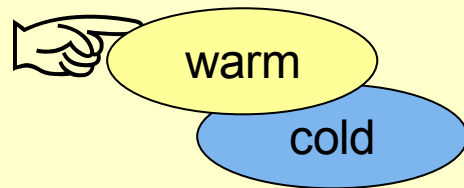


PART-A: Why can Earth become Hotter and Hotter ?!

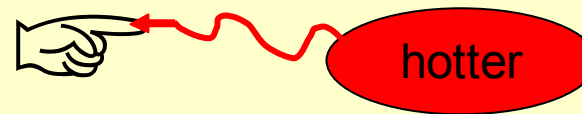
[A1]: Heat Budget on Globe// **All that rules global climate is "Heat" !.**

(1) What is **Heat** ? (heat transfer by convection and radiation)

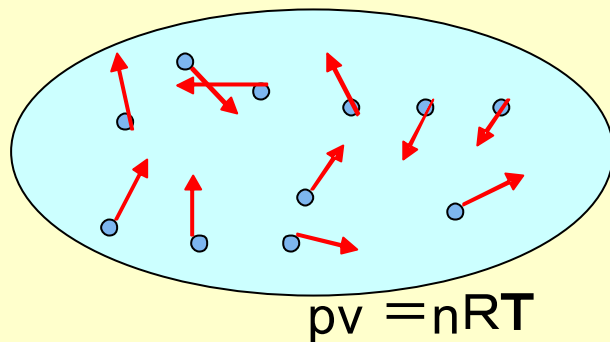
" heat contact "



" heat transfer by EM radiation "

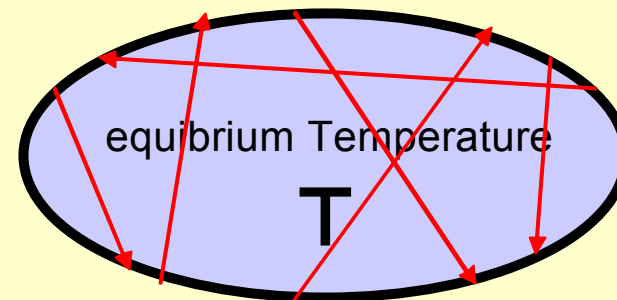


molecular kinetic motion
in gass volume



$$pv = nRT$$

blackbody radiation by matter wall



$$j = \sigma T^4.$$

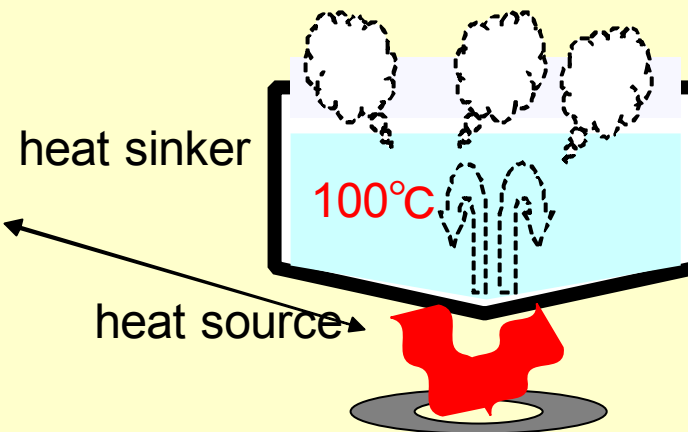
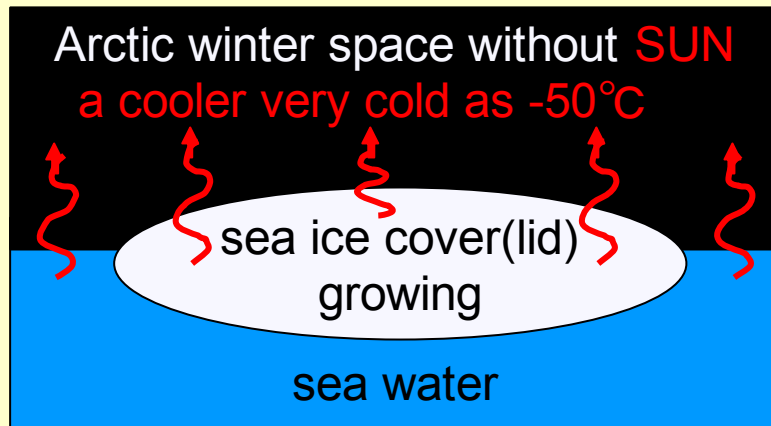
PART-A: Why can Earth become Hotter and Hotter ?!

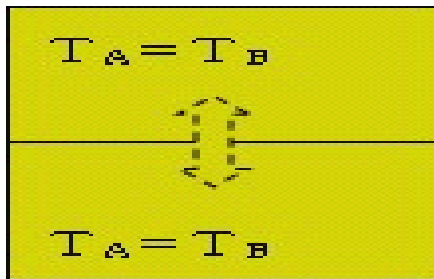
[A1]: Heat Budget on Globe//All that rules global climate is "Heat" !.

(1)What is **Heat** ?(radiation mode and contacting one)

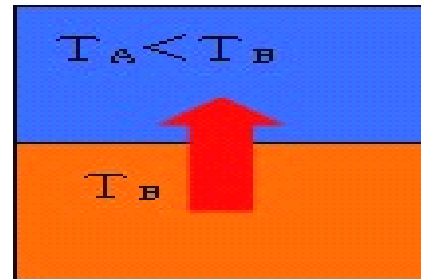
"radiation mode"
"heat dissipation
into space by **radiation**"

"contacting mode"
"boiling kettle
a simplest climate model"



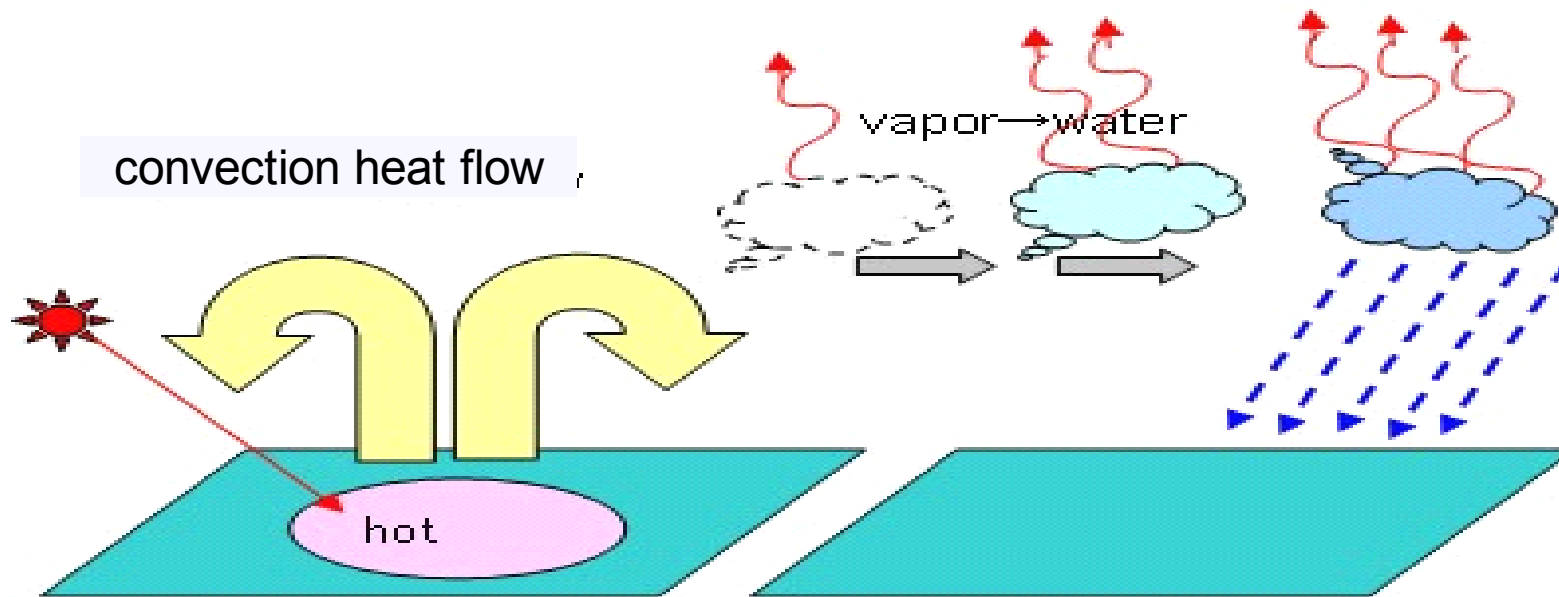


nothing change



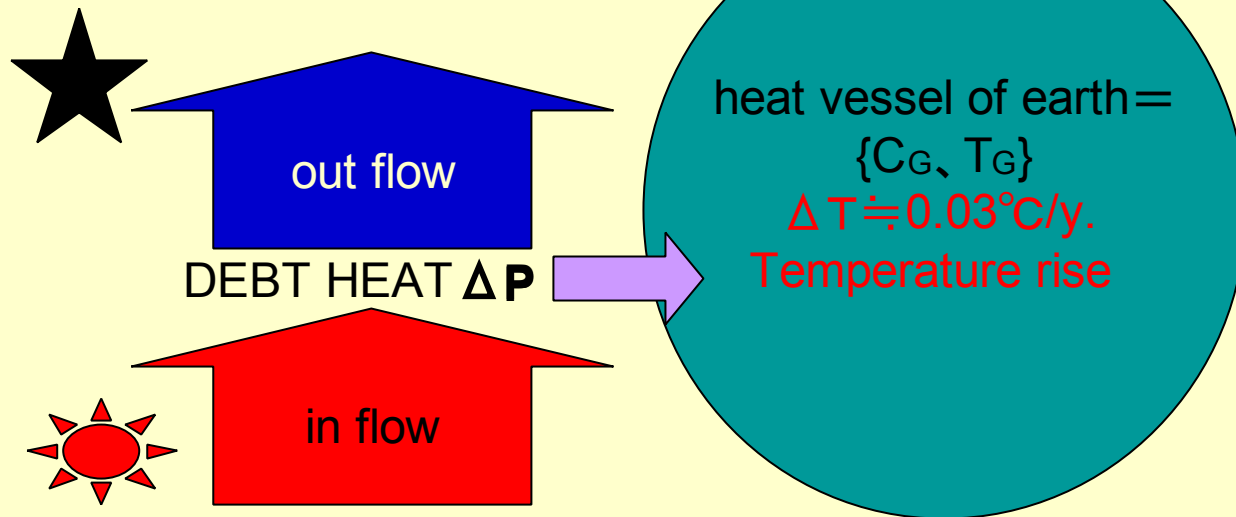
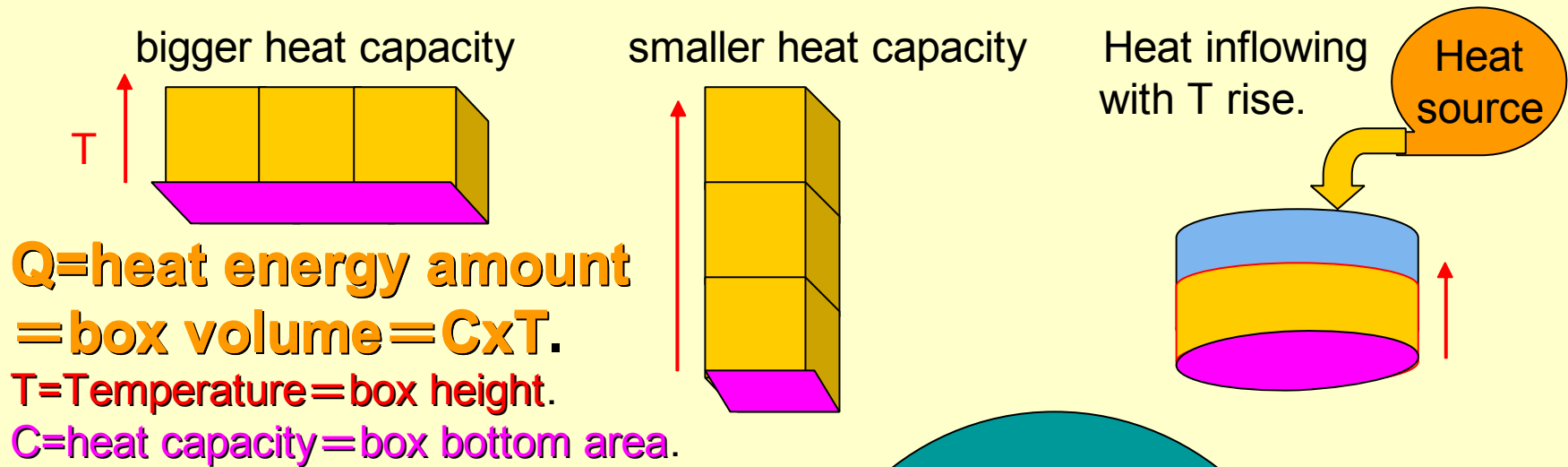
something change

convection heat flow



HEAT CAPACITY of a vessel="HEAT ENERGY AMOUNT FOR 1°C UP".

$\Delta P = \Delta T \times C$: heat increase = temperature rise \times heat capacity



* Heat capacity of global land and atmosphere is less than about 1/1000 of oceans, so **effective global heat** is in **all oceans of about 600m depth**.

$\equiv C_G = 8.7 \times 10^{24} \text{ J/K}$ (energy amount for 1 °C rise of earth)

$=$ global ocean area ($361.3 \times 10^{12} \text{ m}^2$) \times depth (600m) \times density (1040 Kg/m^3) \times C water specific heat (3.85 KJ/Kg).

* Observed global temperature rise $\Delta T \doteq 0.03^\circ\text{C/y}$.

Hence the heat debt $\Delta Q = C_G \Delta T \doteq$ **$2.6 \times 10^{23} \text{ J/y}$** .

It is this huge heat value that has been causing climate becoming wilder.

\Rightarrow : Generally to tell, $\Delta T \doteq 0.02 \sim 0.04^\circ\text{C/year}$ by observers (2009).

* **Radiative Forcing (RF)** $\equiv \Delta Q / (\text{global surface} \times \text{years second})$

$= 2.6 \times 10^{23} \text{ J} / (5.115 \times 10^{14} \text{ m}^2 \times 365 \times 24 \times 3600 \text{ s}) \equiv \delta F =$ **1.6 W/m^2** .

(the evil surplus energy (per unit area, unit time) heating up earth)

\Rightarrow : Above RF value was to be proved to coincide with manmade carbon emission into atmosphere

\Rightarrow : An actual climate main cast is **oceans** which can receive almost all of global heat.

Then "**sea surface temperature variation**" is to rule weather pattern on sea and lands. Another effective cast may be ""**cool, big and higher pressure atmospheric bulk flow from Arctic (Antarctic) zone**".

This fact is useful for anticipating near sea local weather.

(5) Heat Debt = (Incoming Heat – Outgoing Heat)
 = the surplus heat causing global heat up.
 (heat imbalanced equation).

Naration11.

(5) Heat Debt = (Incoming Heat – Outgoing Heat)
 = the surplus heat causing global heat up.
 (heat imbalanced equation).

The **global temperature rise** is fatally indisputable fact not only by **reliable experts observations**, but also by **our amateure intuitional observation on recent years anormal climates in everywhere.**

Incoming heat flow into globe is more than outgoing heat flow, which has been heating up earth. **Incoming heat flow is that of constant insolation,** therefore, outgoing heat flow is weakened by **something causal.**

photo&movie11

account book

flow amount/year		st ock/year accumulatin	past total taccumulation
+ Incoming (salaly)	– outgoing (payment)	surplus(debt)	capital(debt)
+ Incoming (solar ray) almost constant	– outgoing (cooling rad) weakened!!	surplus heat temperature rise at year	total energy current temperature

(5) **Heat Debt = (Incoming Heat – Outgoing Heat)**
= the surplus heat causing global heat up.
 (heat imbalanced equation).

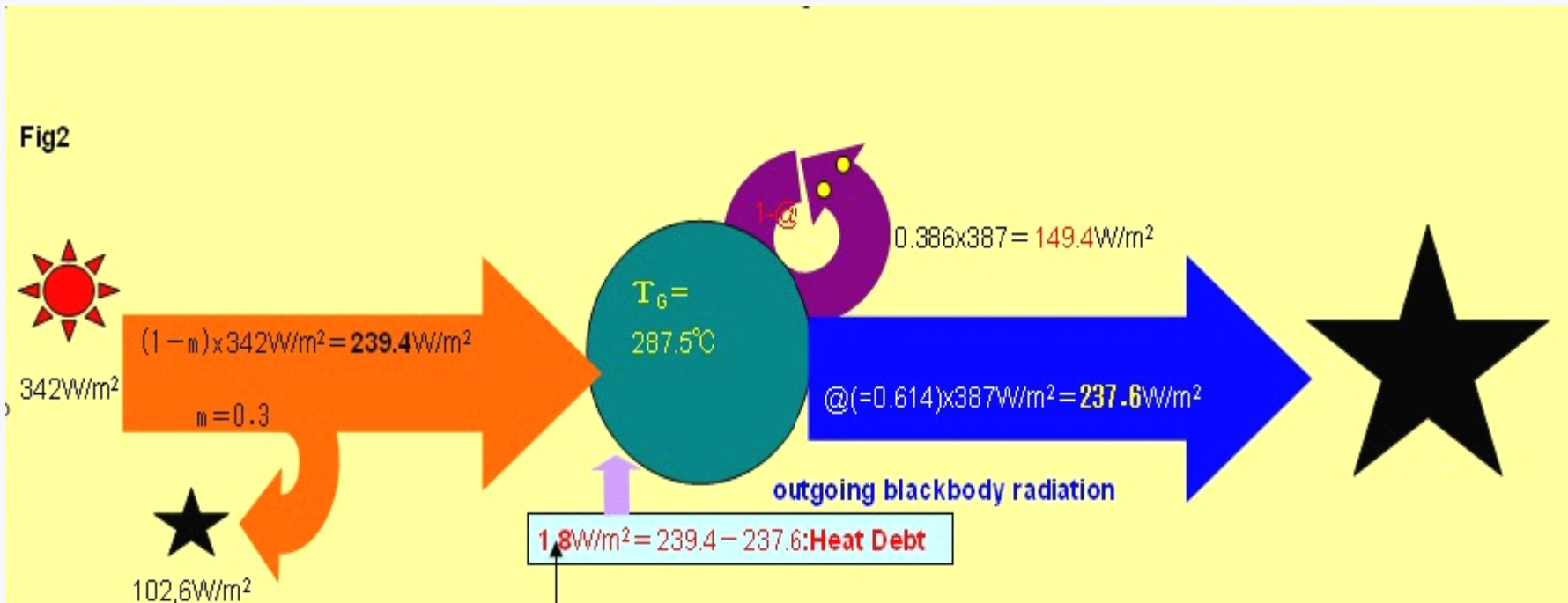


Fig2 is mere a sample calculation to show $\text{RF}(=1.6 \text{ W/m}^2)$, but not necessary to assure the actuality of $\{\alpha, T_g\}$.

Fig2 is a scheme of heat budget with heat debt = RF (1.6 W/m²) caused from {Incoming Heat – Outgoing Heat}. Then note that

* **solar ray refelection rate** \equiv m depending earth surface state such as cloud, ice cover reflection, or black surface absorbtion.

* **blackbody radiation**: Any material with finite tempetature T radiates elctromagnetic radiation of intensity σT^4 , where σ is Stefan Boltzman constant. However radiation surface is effective radiation intensity by multiplying @.

* **cooling radiation passing rate into space (CR pass rate)** \equiv @ dominated by Green House Gas concentration, water vapor density,

Note "**a curling snake**" with {1-@}, which is heat recycling for warming up this planet. If @ = 1, then earth becomes very cold as -18°C, while @ << 1, earth become hotter. @ is Green House Effect Gas (GHG) parameter dominating earth temperature T_G.

☞: Below is rather advanced course for readers wishing more strict evidences.

Fig1 is a rough conceptual scheme of **heat budget** on earth.

[a]"**Heat balanced equation**" before 1750(industrial revolution).

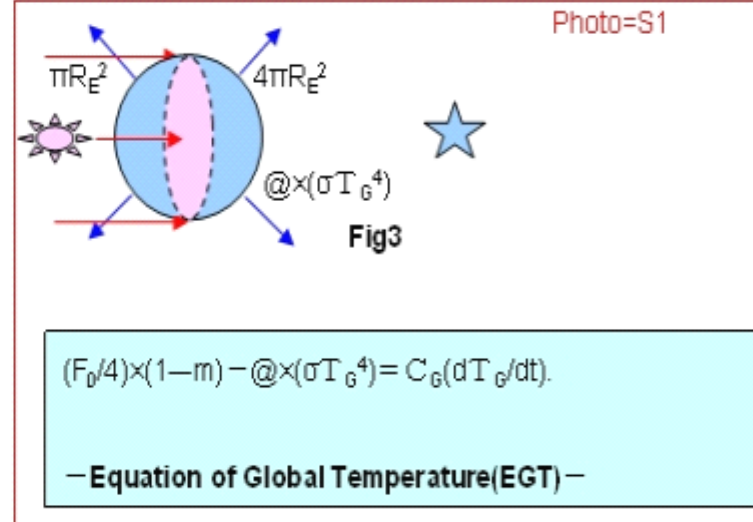
$$(\pi R_E^2) \times F_0 \times (1-m) = (4\pi R_E^2) \times @ \times (\sigma T_g^4). \quad 1366 \text{W/m}^2 = F_0$$

Incoming **solar heat** = outgoing heat by semi **blackbody radiation**

[b]"**Heat imbalanced equation**" at now.

$$(\pi R_E^2) \times F_0 \times (1-m) - (4\pi R_E^2) \times @ \times (\sigma T_g^4) \equiv (4\pi R_E^2) \times \delta F = \Delta Q.$$

* $R_E \equiv 6.38 \times 10^6 \text{m}$ = earth radius.



[c]Incoming heat from solar ray into globe = direct solary – refelected one from globe into cosmic space

$$= \text{solar ray input} \times (1 - \text{albedo } m = 0.3) = \frac{1}{4} F_0 (1 - m (\approx 0.3)) = 342 \text{W/m}^2 \times (1 - 0.3)$$

[d]outgoing heat (blackbody radiation = (σT_g^4)) from earth temperature = T_g with passig rate @.

[e] (dT_g/dt) . Is temperature rise by unit time interval, so $C(dT_g/dt)$. Is heating up energy amount per unit time.

[f]The decisive meaning of EGT(0 dimensional global model):

I : Given time and Temperature function $\{m(t; T_g(t)), @ (t; T_g(t))\}$ could determine the destiny of our planet with $T_g(t)$.

That is, $\{m = \text{albedo}, @ = \text{CR pass rate}\}$ could determine earth Temperature $T_g(t)$.

II : EGT is an equation of $T_g(t)$ which can be solved explicitly by assigning $\{m, @(t)\}$ as a function of programmed GHG concention.

<http://www.777true.net/Global-Temperature-FACT-7.ppt>

☞: Above mentioned method predicted about **0.3°C rise in 30 years** by **zero carbon emission simulation**.

III : EGT is fundamentally thermodynamics 1st law of few variables, which could certify the high reliability.

[A2] : The Evil GHG. Naration12.

= **heat trapping gas mechnism and the manmade emission reality.**

In [A1] : (5) mentioned that, outgoing heat flow is weakened by **something causal**. The reality is **GHG**(green house effect gas). CO2 absorbs infrared ray from earth surface and re-radiates it into cosmic space and into ground with equi-probabilty. As the consequence, **cooling radiation** of infrared ray from earth surface temperature **can not pass through atmosphere** into space with **a finite probability**.

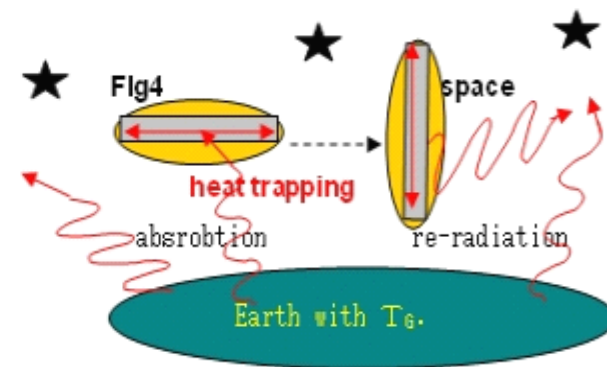
[1] GHG molecule is similar with "dipole antenna" which interacts with electromagnetic wave (absorbtion and re-radiation).

Interaction property of electro-magnetic (EM) wave and GHG molecule is well studied in lablatory and all the feature is confirmed. Very unluck for us CO2's **resonance band** is fitted with **cooling radiation** from earth temperature.

[2] Absorbtion wave is from direct ground, or re-radiated one from another molecular. Note that **re-radiation wave direction** is random due to molecule's random orientation. Gas molecular are random moving in atomosphere. The randomness is to fit statistical prediction.

photo&movie12

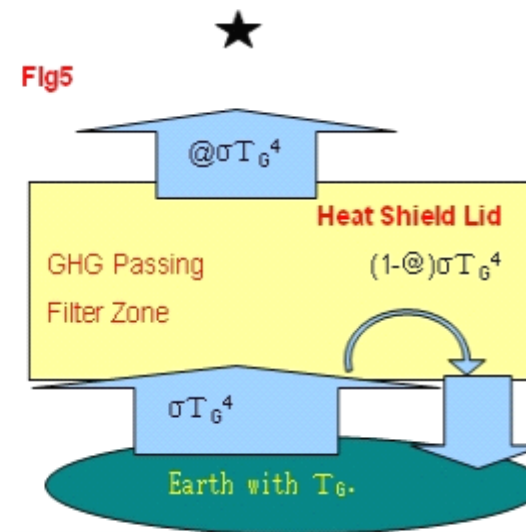
heat trapping gas mechnism



N13. [3] Outgoing cooling radiation with probability $@$ is passing radiation in GHG filtering zone.

After all, smaller $@$ act to make **heat shield lid on this earth** which would stop heat outgoing (infrared ray) from earth and cause evidently temperature rise. While incoming heat (visible ray) can penetrate GHG filter zone, which is to heat up earth day by day.

photo&movie13



More precise conceptual and mathematical details could be seen in following site.

<http://www.777true.net/Radiative-Forcing-0dim-Model-p1.pdf>

* effective atmospheric height $\equiv \langle H \rangle$,

$x \equiv$ height, $t \equiv$ time, $\nu \equiv$ frequency of CR.

* $I(t; x=0; \nu) \equiv$ cooling radiation (CR) spectral intensity at frequency $= \nu$.

* $J(t; H) \equiv$ heat flow intensity at height $x=H$.

* $S_j(\nu) \equiv$ molecule "j"'s spectral density * $C_j(t) \equiv$ molecule "j"'s concentration.

* $@(t) \equiv J(t; H) / J(t; 0)$

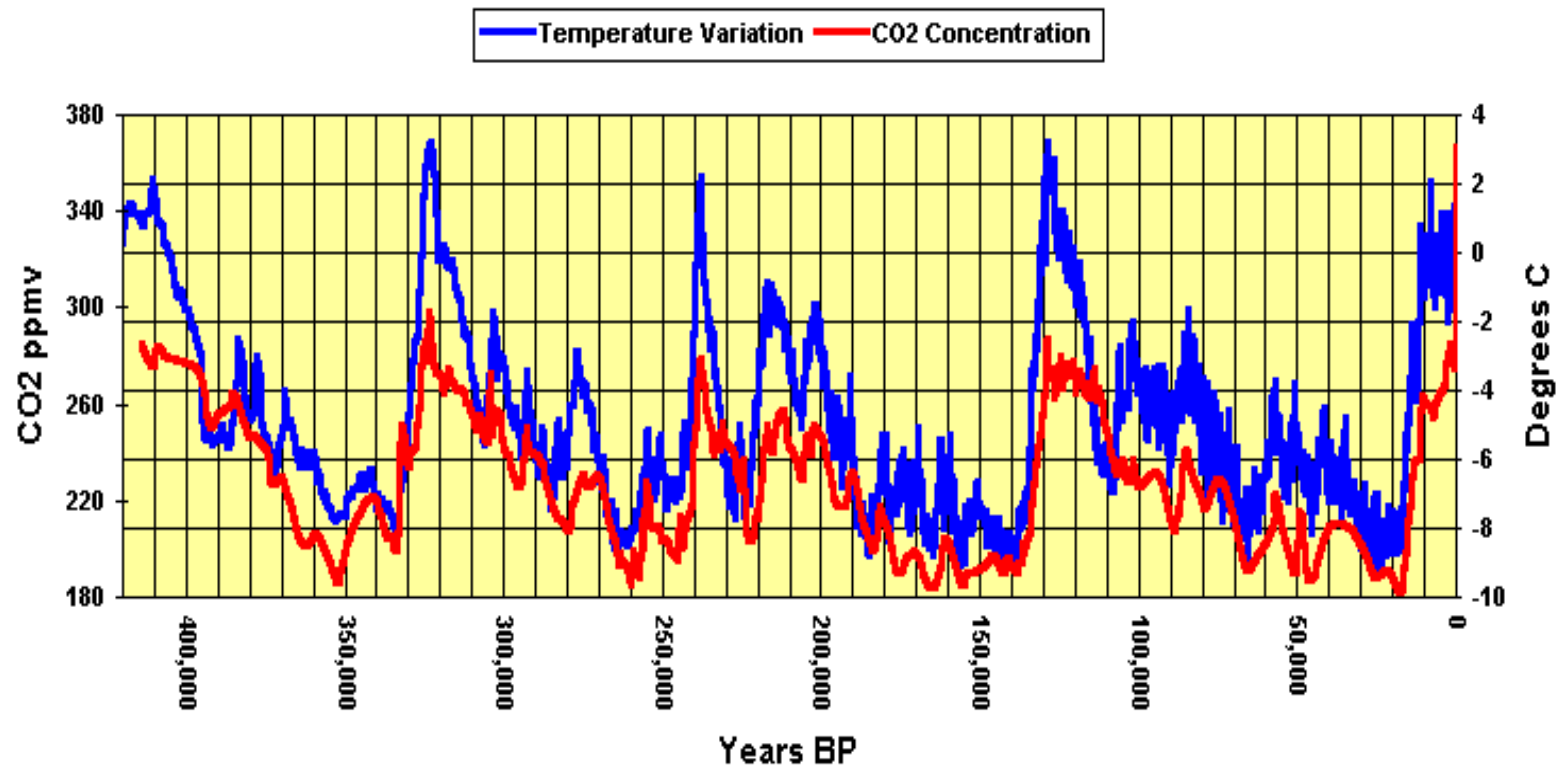
$= \left\{ \int_0^\infty d\nu I(t; 0; \nu) / [1 + (H/2) \sum_{j=1}^M C_j(t) S_j(\nu)] \right\} / \int_0^\infty d\nu I(t; 0; \nu)$.

☞: Larger concentration $C_j(t)$ contributes smaller $@(t)$ causing temperature rise.

(4) Also paleo climatology observation proved almost linear correlation between temperature and CO₂ concentration. Thus both theory and observation verify fine correlation between CO₂ and temperature.

http://www.daviesand.com/Choices/Precautionary_Planning/New_Data/

Antarctic Ice Core Data 1



(5) man made GHG emission reality(2000~2009).

<http://www.globalcarbonproject.org/carbonbudget/09/presentation.htm>

Carbon Budeget Reality(2009). ☞: Overwhelming increasing trend could be seen in this table.

Man made emission = $7.7 \pm 0.5 \text{ GtC/y}$

Land sink = $2.4 \pm 0 \text{ GtC/y} < 27\% >$

Natral emission = $1.1 \pm 0.7 \text{ GtC/y}$

Ocean sink = $2.3 \pm 0.4 \text{ GtC/y} < 26\% >$

Total **Emission** = $8.8 \pm 1.2 \text{ GtC/y}$

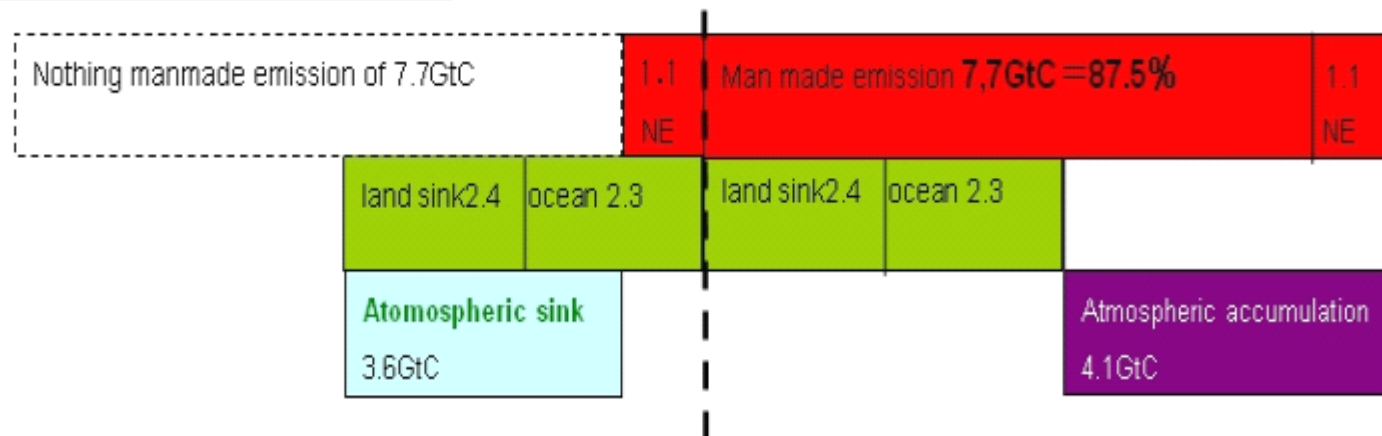
Total **sink** = $4.7 \pm 0.4 \text{ GtC/y}$

Atmospheric accumulation = $4.1 \pm 0.1 \text{ GtC/y} < 47\% >$

N15, Overwhelming increasing trend could be seen in this table.

photo&movie15

Table: man made GHG emission reality(2000~2009).

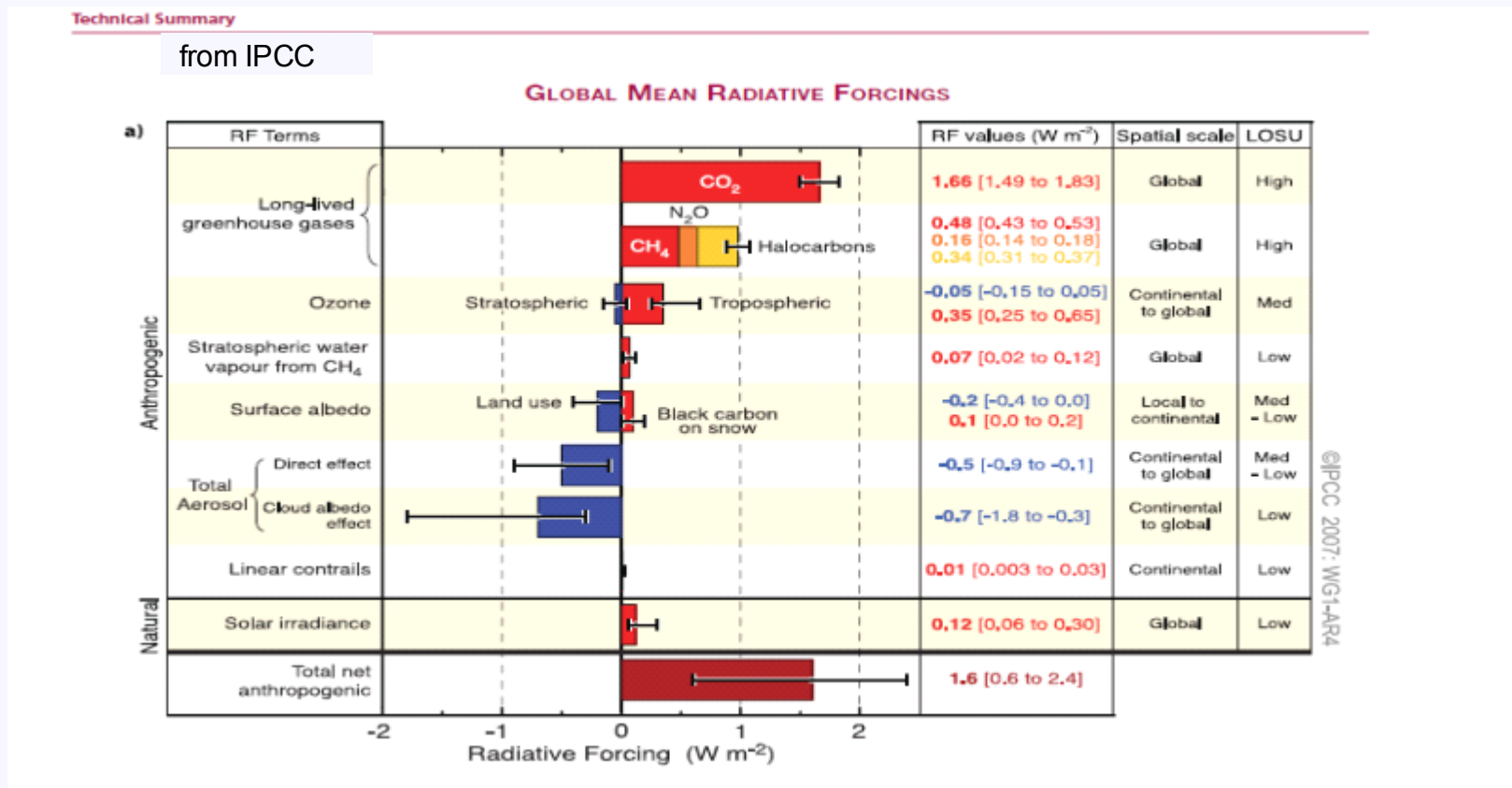


The radiative forcing calculation was to quantitatively prove the kernel cause of global temperature rise by carbon.

(a) The total radiative forcing now 1.6 W/m^2 is consequence of many factors (albedo, GHG, and vapor,). See following IPCC table. Conclusionally to tell, other factors except carbon are to become \pm cancelled, as the consequence, radiative forcing by carbon = 1.66 W/m^2 is to agree with total one = 1.6 W/m^2 . This is the proof that carbon is main criminal causing global temperature rise.

(b) —Why is it only "Carbon" that do criminal?—

Answer is very simple, carbon is major and other small factors (except carbon) could not be managed by anthropogenically. Of course other GHG such as CH_4 , must be also crack downed.



(7) **Spontaneous Natural GHG emission induced by temperature rise.**

Land and ocean themselves contains huge amount of organic carbon, which are to be released into atmosphere by temperature rise. For example, rotten leaves, grass and wood on and in soil is to become CO₂, which is accelerated by temperature rise. This natural spontaneous emission could be fatal when those became feedback cycling of result enhancing cause.



Therefore,
a natural emission should
positively become our
available fossil energy.

(8) FEEDBACK = Vicious Cycle of Heating Up by Nature-Ownself.

Therefore, once such vicious cycle had been formalized at somewhere, those can not be stopped until the saturation point. This could be catastrophic for life on earth.

The typical example is **Arctic Methan Catastrophe Possibility**(see PART-C)

☞ N19: Rapid economy collapse as an example of positive FEEDBACK

☞ N20: The most dangerous feature of FEEDBACK is explosive rapid larger change (something catastrophic!).

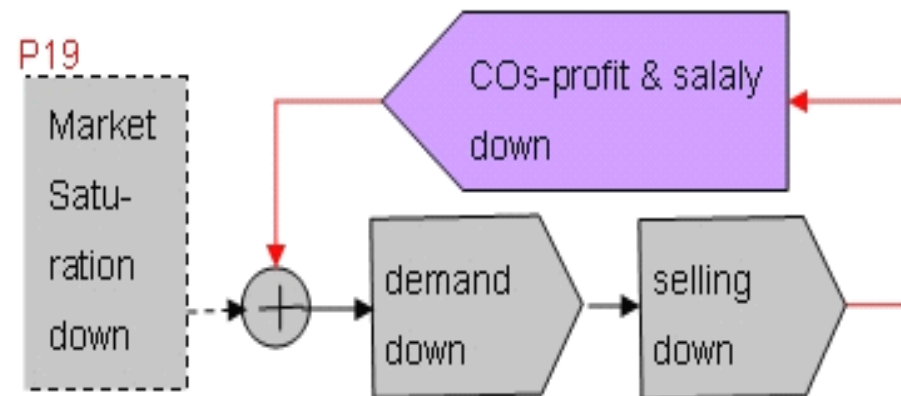
An example of roughly

estimated carbon amplifier gain

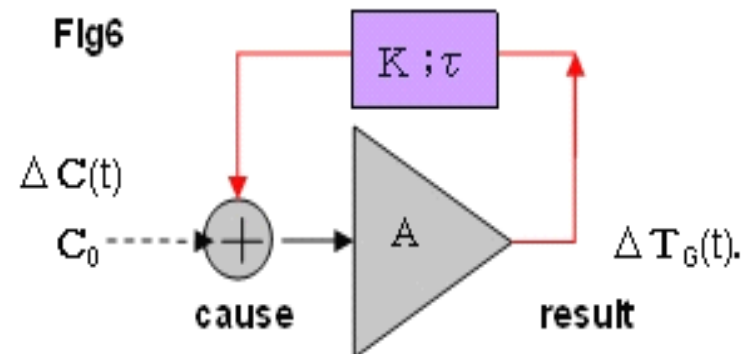
$A = \text{year temperature rise} / \text{CO}_2 \text{ year increase}$
 $\doteq 0.03^\circ\text{C} / 1.8\text{ppm} (4.1\text{GtC})$

The same amount of CH_4 (4.1GtC/year) radiative forcing is 21 times than CO_2 , so $\Delta T_G \doteq 0.03^\circ\text{C} \times 21 = 0.6^\circ\text{C}/\text{y}$ rise is catastrophic!

Rapid economy collapse as an example of positive FEEDBACK



P20



Summary of PART-A: Why earth become hottern and hotter?!

key word : [digital decision](#), [heat budget](#), [radiative forcing 1.6W by carbon](#), [positive feedback](#),

(1) Digital Decision Making :

We never can get 100% complete information, but **by 51% accuracy**, we can make decision "yes, or no".

(2) All that rules "global climate" are physicly "Heat" ,but politcally Capitalism the cursed.

(3) Radiation Heat Transfer between Earth and Sun-Space, {solar ray input and blackbody radiation output}

Heat Debt = incoming solar ray – outgoing blackbody radiation = Radiative Forcing (1.6W/m²).

(4) Contacting Heat Transfer by convection in ocean and atmosphere (climate phenomena).

(5) Heat Capacity = heat (energy) amout for 1 °C up (that of earth is almost oceans of about depth 600m).

$C_G = 8.7 \times 10^{24} \text{ J/K}$ (energy amount for 1°C rise of earth)

* Observed global temperature rise $\Delta T \doteq 0.03^\circ\text{C/y}$.

Hence the heat debt $\Delta Q = C_G \Delta T \doteq 2.6 \times 10^{23} \text{ J/y}$.

(6) Radiative Forcing (1.6W/m²) = $\Delta Q / (\text{global area} \times \text{years time})$.

(7) Green House effect Gas (GHG) = Radiation reciever transmigger molecular as {CO₂, CH₄, ..., H₂O, ...}

(8) GHG is heat shield lid on earth which attenuate cooling radiation from earth.

(9) Temperature and CO₂ concentration is fine corelative in paleo-climatology observation.

(10) Also theory predicts CO₂ is main radiative forcing for global warming.

(11) Positive FEEDBACK process in which result enhance cause.

Once in having realized feedback, it could become catastrophic.

(Arctic Methane Catastrphe Possobility).