



## Sustainability thoughts 140: How can the consequences of the 2012 green market paradigm shift avoidance move that led to the world of dwarf green markets of today be highlighted, including the green Marxism threat?

Lucio Muñoz\*

\* Independent Qualitative Comparative Researcher / Consultant,  
Vancouver, BC, Canada

**Abstract:** The Brundtland Commission in 1987 highlighted the need to address the social and environmental weaknesses of the traditional development model by moving away from traditional market thinking, which is based on the social and environmental externality neutrality assumptions. The United Nations Commission on Sustainable Development decided to prioritize the environmental issue recognizing that it was a real and binding issue so there was a need to move away from business as always by going the green market way, which was a move consistent with the academic consensus at that time, but in the end instead of going green markets global and local decision makers went the dwarf green markets way. In other words, instead of setting up environmental pollution reduction markets and promoting a new way of life under green consumers, green producers, green economics, green population dynamics, green culture and education, and so on to address the environmental pollution head on since 2012 and creating that way a path towards the environmentally clean economy, they decided to set up environmental pollution management markets. Environmentally pollution management markets are still profitable pollution production markets delinked from the transition to environmentally clean market paths. Which raises the question, how can the consequences of the 2012 green market paradigm shift avoidance move that led to the world of dwarf green markets of today be highlighted, including the green Marxism threat?

**Key concepts:** Green market, green market paradigm shift, green market paradigm shift avoidance, dwarf green market, traditional market, environmentally dirty traditional market, environmentally clean market, clean market, dirty market, pollution reduction markets, environmental externality management markets.

### Introduction

#### a) The road to transition from environmentally dirty traditional markets to environmentally clean markets

The idea of the road to transition to the environmentally clean economy (ECLM), but that was never built as expected since 2012 despite the loud intentions to go green economies, green markets, and green growth (UNCSD 2012a; UNCSD 2012b) was shared recently (Muñoz 2022a), which consists of two one after the other steps, first step is the setting up green markets as pollution reduction markets, and then the second step is to transition this green market to the environmentally clean economy by closing slowly but permanently the renewable energy technology gap as indicated in Figure 1 below:



Figure 1 The road from the environmentally dirty traditional market(TM) to the environmentally clean market(ECLM) THAT WAS NEVER BUILT

Figure 1 above tells us that to transition from environmentally dirty traditional markets(TM) to environmentally clean markets(ECLM) we need to set up first green markets(GM) that comes along when the traditional market pricing mechanism internalizes the environmental cost of doing business(I[E[C]]) to become a green market price; then we invest in closing the renewable energy technology gap(RETG) to transition the green market(GM) towards the environmentally clean market(ECLM) until the renewable energy technology gap is closed(RETG--> ∞), meaning that economies now are full renewable energy based. Hence, the green market(GM) is an environmental pollution reduction market(EPORM), which approaches the environmentally clean market(ECLM) as the renewable energy technology gap(RETG) is closed. Notice that the ideas above are consistent with the 1987 Brundtland Commission(WCED 1987) called to addressing the environmental



sustainability problems embedded in the traditional market development model shared by Adam Smith (Smith 1776).

**Implications:**

- 1) The shift from environmentally dirty markets(TM) to green markets(GM) means a full perfect shift: a shift to a green culture in terms of green consumers, green producers, green market prices, green microeconomics, green macroeconomics, green population dynamics, and so on;
- 2) By making pollution reduction a profitable enterprise then green producers have the incentive to produce in the long term at the lowest green market price possible, which provides the incentive to invest in closing the renewable energy technology gap as soon as possible by permanently substituting non-renewable sources of energy for renewable ones as the lowest pollution content in the production process takes us to the lowest green market price possible, leading to more cleaner production and green profits; and
- 3) Setting up green markets(GM) and transitioning them to the environmentally clean economy(ECLM) means a better future for the environment and the economy as environmentally clean economies are good for both the economy and the environment.

**b) The Thomas Kuhn’s paradigm evolution loop for the shift from environmentally dirty traditional markets to the green markets**

When the environmentally dirty traditional market(TM) is subjected to the Thomas Kuhn’s paradigm evolution loop it leads to green markets(GM) as it removes the environmental externality problem embedded in it through environmental cost internalization(Muñoz 2022b), a situation summarized in Figure 2 below:

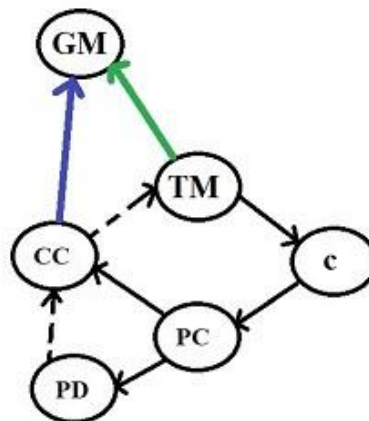


Figure 2 The traditional market(TM) under extreme environmental abnormalities(c) leads to a shift to green markets(GM) under academic integrity.

Figure 2 above details the working of the Thomas Kuhn’s paradigm evolution loop when applied to the environmentally dirty traditional market(TM), which goes in general as follows: i) The traditional market produces pollution/environmental externalities(c) so TM → c; ii) The extreme accumulation of pollution/environmental externalities(c) leads to a paradigm crisis in the environmentally dirty traditional market(c → PC), which may lead to paradigm death(PC → PD); iii) To avoid paradigm death(PD), the extreme paradigm crises(PC) leads to academic consensus(CC) to change paradigm to one that corrects the environmental abnormalities of the environmentally dirty traditional market(PC → CC); iv) Academic integrity ensures that the paradigm shift to green markets GM actually takes place as per academic consensus CC as indicated by the blue arrow(CC → GM); and v) the paradigm shift knowledge gap created when the shift to green markets takes place is closed by internalizing the environmental cost in the pricing mechanism leading to green market pricing creating the knowledge base needed to properly implement and promote green markets(TM → GM).

Therefore, the Thomas Kuhn’s paradigm evolution loop for the environmentally dirty traditional market(TM) under academic integrity and consensus showed in Figure 2 above leads to a shift to green markets(GM) as indicated by the blue arrow from CC to GM; and to the closing of the green market paradigm shift knowledge gap created stimulating the growth of knowledge as indicated by the green arrow from TM to GM.

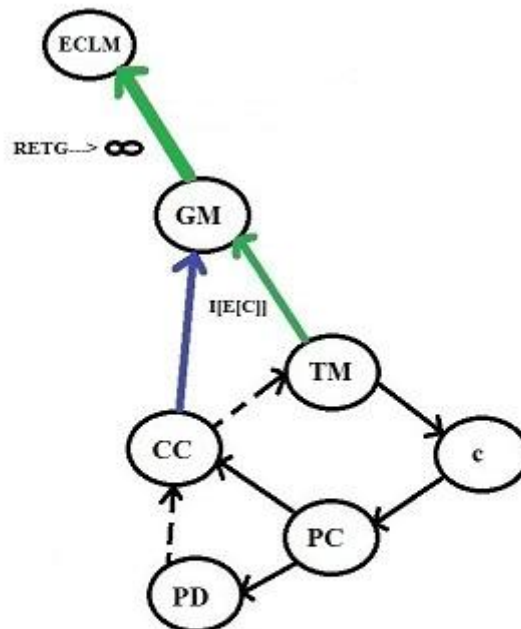


**Implications**

- 1) The Thomas Kuhn’s revolution loop in Figure 2 above is actually a transformation loop as it leads to the correction of the environmentally dirty market in crisis through environmental cost internalization, shifting it in the process towards the green market(TM----→GM); and
- 2) The shift from environmentally dirty markets TM to green markets GM means a shift from traditional market pricing to green market prices, a shift from independent choice to codependent choice, and a shift environmentally unfriendly thinking to environmentally friendly thinking, at the micro and macro level.

**c) Linking the road to transition to clean markets with the Thomas Kuhn’s paradigm evolution to from dirty traditional markets to green markets**

When we connect the components of the road to transition from environmentally dirty traditional markets to environmentally clean markets in Figure 1 and the components of the Thomas Kuhn’s paradigm evolution loop for the shift from environmentally dirty traditional markets to the green markets in Figure 2 above we create a direct link between the Thomas Kuhn’s paradigm evolution loop as it applies to the correction of the environmentally dirty traditional market TM to shift it to green markets GM and the road to transition to the environmentally clean markets as shown in Figure 3 below:



**Figure 3** Linking the Thomas Kuhn’s revolution loop that removes the environmental externality(c) of the traditional market(TM) by environmental cost internalization( $I[E[C]] = I[c]$ ) to shift it to green markets(GM) under academic consensus(CCc) and academic integrity as indicated by the blue arrow, linking it that way to the environmental clean market(ECLM).

We can use Figure 3 above to highlight three main points: i) The end result of the Thomas Kuhn’s evolution loop as it applies to correcting the environmentally dirty traditional market(TM) is a shift to green markets(GM), a shift to pollution reduction markets as indicated by the blue arrow; ii) The correction of the environmental pollution problem embedded in the environmentally dirty market(TM) through environmental cost internalization( $I[E[C]]$ ) shift the traditional market TM to green markets GM closing this way this part of the green market paradigm shift knowledge gap that needs to be closed up to build the knowledge base of the green market as indicated by the green arrow from TM to GM; and iii) The Thomas Kuhn’s revolution loop through its end product, green markets(GM), has a directly link to the path towards environmentally clean markets, where increasingly closing the renewable energy technology gap( $RETG \rightarrow \infty$ ) by permanently substituting non-renewable sources of energy for renewable ones transitions green markets GM towards environmentally clean markets ECLM as indicated by the green arrow from GM to ECLM.

Moreover, we can see in Figure 3 above that the Thomas Kuhn’s loop under academic consensus and academic integrity is linked to a new way of life and knowledge base under green markets, green economies, green growth, green micro and macro economics, all the way until green markets become environmentally clean markets.



The positive implications that can be extracted from Figure 3 above are the following: i) The end result of the Thomas Kuhn's evolution loop, green markets GM, do not have the environmental problems associated with the environmentally dirty traditional market TM as environmental costs are now internalized; ii) The world of green markets GM is the world of environmental pollution reduction markets EPORM, where as the pollution cost associated with green economic activity decreases the green market price decreases and green profits increases; ii) Investments geared to closing the renewable energy technology gap to bring in non-pollution based energy/renewable energy sources to increasingly and permanently substitute pollution based energy/non-renewable energy would lead to even lower green market prices and to more, but increasingly cleaner responsible production, consumption, and population dynamic behavior; iii) as green markets demand a higher proportion of less polluting sources of energy as time passes, the value of non-renewable energy sources will decrease, and dependency on them will decrease too as then moving as fast as we can towards the environmentally clean economy is better for businesses in terms of green profits and better for consumers in terms of green savings; and iv) as for the green market world to succeed in coming to exist and during the transition to environmentally clean markets we need a cultural shift consistent with it such as a culture of green producers, green consumers, green population dynamics, and its respected educational backing through green micro-economics and green macro-economics as well as the greening of science in general.

#### **d) The need to understand the consequences of green market paradigm shift avoidance**

We can see from looking at Figure 3 above that avoiding a paradigm shift to green markets after the Thomas Kuhn's revolution loop leads us to academic consensus to change paradigm under academic integrity to move to green markets will have expected consequences, that could be detrimental to the problem we are trying to solve, namely, the environmental pollution problem and problems with the transition to the environmentally clean economy; and detrimental to the countries that signed on green market paradigm shift avoidance in case of natural and man-made non-renewable energy disruptions. In other words, going dwarf green markets through green market paradigm shift avoidance will have expected direct and indirect consequences consistent with the breakup of the systematic structure summarized in Figure 3 above, which will be more apparent once the environmental crisis under environmental pollution management with global warming as an indicator goes from getting worse since 2012 to a state of out of control in the future.

Hence, there is a need to understand the consequences of going the way of dwarf green markets since 2012 instead of the way of green markets as it was expected to as the climate crisis goes from bad to uncontrollable under dwarf green market management. And this raises the question, How can the main consequences of the 2012 green market paradigm shift avoidance move that led to the world of dwarf green markets of today be highlighted, including the green Marxism threat?. Among the goals of this paper is to provide an answer to that question.

#### **Goals of this paper**

- a) To point of the broken structure of the Kuhn's revolution loop for the shift to green markets as well as the broken road towards environmentally clean markets that comes along with green market paradigm shift avoidance in order to go dwarf green markets;
- b) to highlight the direct and indirect consequences of the 2012 green market paradigm shift avoidance in order to go the dwarf green market way; and
- c) to stress that if the pollution management plan goes uncontrollable, the dwarf green market will tend towards collapse opening up two possible paradigm evolution routes, green markets route and the green Marxism route.

#### **Methodology**

First, the terminology used in this paper is introduced. Second, some operational concepts and rules are given. Third, the broken structure of the Thomas Kuhn's revolution loop shifting dirty traditional markets to green markets and of the road towards environmental clean markets that results from the decision to go green market paradigm shift avoidance in order to implement dwarf green markets are highlighted. Fourth, the direct and indirect implications of green market paradigm shift avoidance to go the way of dwarf green markets are pointed out. Fifth, The possible paradigm evolution routes that the dwarf green market may take if the environmental issue under management goes uncontrollable, namely the green markets route or the green Marxism route or both routes at the same time are discussed. And sixth, some food for thoughts and relevant references are shared.



## Terminology

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TM = Traditional market	GM = Green market
PO = Pollution	EPO = Environmental pollution
EPORM = Environmental pollution reduction markets	PC = Paradigm crisis
ECLM = Environmentally clean market	PD = Paradigm death
TCTL = Thomas Kuhn's transformation loop	AI = Academic integrity
RETEG = Renewable energy technology gap	RK = Red Marxism
I[c] = C = Environmental cost internalization	GK = Green Marxism
E[C] = c = Environmental cost externalization	A = Dominant social component
CC = Academic consensus to change paradigm	a = Dominated social component
DGM = Dwarf green market	B = Dominant economic component
b = Dominated economic component	C = Dominant environmental component
c = Dominated environmental component	DM = Dirty market
CLM = Clean market	ETM = Environmentally dirty traditional market

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### Operational concepts and paradigm Kuhn's loop transformations, relevant models, externalization and internalization rules

#### A) Operational concepts

- 1) **Science**, the world based on the scientific truth, this world falls if invalidated.
- 2) **Ideology**, the world based on the non-scientific truth, this world will tend to persist even if invalidated.
- 3) **The theory-practice general consistency principle**, the world where the theory of the model must match the practice.
- 4) **The different model general inconsistency principle**, the world where the theory and practice of different models are inconsistent with each other.
- 5) **Academic facts**, the science based truth.
- 6) **Alternative academic facts**, the non-science based truth.
- 7) **Academic blindness**, the inability to see academic facts due to the existence of knowledge gaps, paradigm shift based or otherwise.
- 8) **Willful academic blindness**, the willingness to ignore academic facts and consensus.
- 9) **Sustainability**, the world where the interplay of sustainability theory and sustainability practice is aimed at fixing or correcting embedded externality problems.
- 10) **Sustainable development**, the world where the interplay of sustainable development theory and sustainable development practice is aimed at patching or managing embedded externality problems.
- 11) **Academic integrity**, the duty to respect and defend academic facts and consensus.
- 12) **Golden paradigm**, one that does not create abnormalities.
- 13) **Flawed paradigm**, one that creates abnormalities.
- 14) **Kuhn's loop**, the science based mechanism that leads to paradigm shift through abnormality correction.
- 15) **Dirty economy**, a pollution based economy.
- 16) **Clean economy**, a pollution less based economy.
- 17) **Red Marxism**, capitalism need to be replaced as it is destroying societies.
- 18) **Green Marxism**, dwarf green capitalism must be replaced as it is destroying nature.
- 19) **The red socialism market**, the social justice and equality based market.
- 20) **The green socialism market**, the environmental justice and equality based market.
- 21) **Green capitalism**, capitalism supported by green markets.
- 22) **Dwarf green capitalism**, capitalism supported by dwarf green markets.
- 23) **Traditional market**, the market cleared by the traditional market price.
- 24) **Green market**, the market cleared by the green market price.
- 25) **Red market**, the market cleared by the red market price.

#### B) Paradigm structures

##### 1) A golden paradigm

If we have a dominant paradigm R and it is a golden paradigm GOM, then it produces no externalities or no abnormalities A

##### i) GOM = R

As it can be seen in expression i) above the golden model GOM does not produce abnormalities.



**2) A flawed paradigm**

If we have a dominant paradigm R and it is a flawed paradigm FLM, then it produces “n” externalities or abnormalities A so as A1,A2,....

**ii)  $FLM = R(A1, A2, \dots, An)$**

As it can be appreciated in expression ii) above the flawed model FLM produces “n” abnormalities.

**C) The Thomas Kuhn’s transformation loop(TKTL) under academic integrity**

**1) Impact on the golden paradigm**

If we subject a golden paradigm  $GOM = R$  to the Thomas Kuhn’s transformation loop(TKTL), the process will have no impact on it as it has no abnormalities A to correct, golden paradigm GOM remains a golden paradigm GOM

**iii)  $TKTL(GOM) = TKTL(R) = R = GOM$**

The expression iii) above tells us that the golden model displays TKTL loop neutrality as it has no abnormalities to remove.

**2) Impact on the flawed paradigm**

If we subject a flawed paradigm  $FLM = R(A1,A2, \dots, An)$  to the Thomas Kuhn’s transformation loop(TKTL), the loop process will be active until all abnormalities are corrected and a golden paradigm GOM arises

**iv)  $TKTL(FLM) = TKTL[R(A1,A2, \dots, An)] \rightarrow R = GOM$**

The expression iv) above tells us that the TKTL loop process transforms flawed dominant paradigms FLM in the end into golden paradigms GOM by correcting the abnormalities A1.....An affecting them and shifting them in the process.

**D) Relevant market structures**

If we have the following: a = social abnormality, c = environmental abnormality, A = dominant society, C = dominant environment, and B = the dominant economy, then the structure of relevant markets can be stated as indicated below:

**1) The traditional market as a golden model**

**i)  $TM = B$**

Under externality neutrality assumptions the traditional market TM in section i) above is a golden paradigm, it produces no abnormalities.

**2) The traditional market under social abnormalities(a)**

**ii)  $TM = aB$**

Under no social externality neutrality assumptions, the traditional market TM in section ii) above produces social abnormalities “a”. It is a flawed paradigm as it has social abnormalities to correct.

**3) The traditional market under environmental abnormalities(c)**

**iii)  $TM = Bc$**

Under no environmental externality neutrality assumptions, the traditional market TM in section iii) above produces environmental abnormalities “c”. It is a flawed paradigm as it has environmental externalities to correct.

**4) The traditional market under socio-environmental abnormalities(ac)**

**iv)  $TM = aBc$**

Under no socio-environmental externality neutrality assumptions, the traditional market TM in section iv) above produces socio-environmental abnormalities “ac”. It is a flawed paradigm as it has social and environmental externalities to correct.

**5) The red market under environmental abnormalities(c)**

**v)  $RM = ABc$**

Under no environmental externality assumptions, the red market RM in section v) above produces environmental abnormalities. It is a flawed paradigm as it has environmental externalities to correct. Notice that in the red market RM, both society(A) and economy(B) are in dominant form.

**6) The green market under social abnormalities(a)**

**vi)  $GM = aBC$**

Under no social externality assumptions, the green market GM in section vi) above produces social abnormalities. It is a flawed paradigm as it has social externalities to correct. Notice that in the green market GM, both the economy(B) and the environment(C) are in dominant form.

**7) The sustainability market has no abnormalities**

**vii)  $SM = ABC$**



The sustainability market SM in section vii) above produces no abnormalities as all components are in dominant form since all components are now endogenous to the model. It is a golden paradigm as it has no abnormalities to correct.

**E) Abnormality externalization and internalization rules**

If  $y, x, z$  are three abnormalities and  $Y, X, Z$  are the corrected variables and if  $E[\ ] =$  externalization and  $I[\ ] =$  internalization, then the following holds true:

- |                  |                  |                 |
|------------------|------------------|-----------------|
| a) $E[Y] = y$    | b) $E[X] = x$    | c) $E[Z] = z$   |
| d) $I[y] = Y$    | e) $I[x] = X$    | f) $I[z] = Z$   |
| g) $I[E[Y]] = Y$ | h) $E[I[y]] = y$ | i) $E[YX] = yx$ |

**The broken Thomas Kuhn’s revolution loop and broken road to clean economies under willful academic blindness**

When green market paradigm shift avoidance takes place against academic consensus for paradigm change towards green markets(GM) due to willful academic blindness so the world can go dwarf green markets(DGM), then both the Thomas Kuhn’s revolution loop and the transition road to environmentally clean markets shown in Figure 3 above are broken as indicated in Figure 4 below:

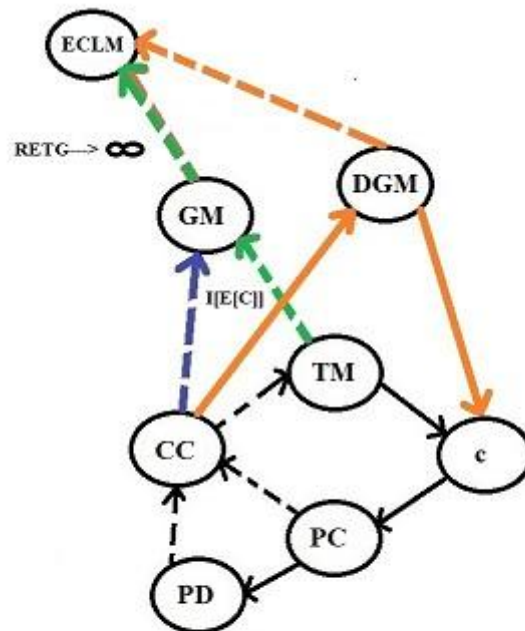


Figure 4 The direct and indirect consequences of green market paradigm shift avoidance when the world goes dwarf green markets(DGM) contrary to the academic consensus to go green markets(GM), green growth(GG), and green economies(GE).

We can appreciate based on Figure 4 above that going dwarf green markets(DGM) in order to manage environmental pollution problem as indicated by the orange arrow from CC to DGM and from DGM to “c” has the following effects: i) it breaks the paradigm shift to green markets as indicated by the broke blue arrow from CC to GM; ii) it breaks the transition to the environmentally clean economy as indicated by the broken green arrow from GM to ECLM; and iii) it breaks the growth of green market knowledge as indicated by the broken green arrow between TM to GM. Also we can point out based on Figure 4 above that if we stay in the long-term under pollution management markets like the dwarf green market(DGM) and stay unconnected to the academic consensus(CC) as indicated by the broken arrow from PC to CC, even if the environmental pollution problem goes out of control, then the only paradigm evolution route available to the dwarf green market(DGM) given the extreme pollution management crisis(PC) leads to paradigm death(PD) as indicated by the continuous arrows from DGM to “c” to PC to PD,

**Implications:**

- 1) The move from environmentally dirty markets(TM) to dwarf green markets(DGM) instead of to green markets(GM) means there is an imperfect shift: a shift to a dwarf green culture in terms of dwarf green



consumers, dwarf green producers, dwarf green market prices, dwarf green microeconomics, dwarf green macroeconomics, dwarf green population dynamics, and so on;

- 2) By not making pollution reduction a profitable enterprise and going the environmental pollution management way then dwarf green producers do not have the incentive to produce in the long term at the lowest dwarf market price possible, which means that dwarf green producers do not have the incentive to invest in closing the renewable energy technology gap as soon as possible by permanently substituting non-renewable sources of energy for renewable ones as they do not need to operate at the lowest pollution content in the production process to achieve the lowest the dwarf market price possible, leading to more cleaner production and green profits, as they are fine producing at the environmental pollution management cost set by the environmental pollution manager and they are happy with dwarf green profits and without direct environmental accountability for the actual pollution content of their products; and 3) Setting up dwarf green markets means that we are setting up markets that cannot be transitioned to the environmentally clean economy, meaning an unclear future for the environment and the economy as environmentally clean economies, which are good for both the economy and the environment, cannot be reached.

### **The direct consequences of going dwarf green markets in 2012 to follow the environmental pollution management route**

We can use Figure 4 above to highlight three main direct complications created by going dwarf green markets(DGM) instead of green markets(GM): i) The end result of the Thomas Kuhn's evolution loop as it applies to correcting the environmentally dirty traditional market(TM) is a shift to green markets(GM), a shift to pollution reduction markets, but this is now blocked when green market paradigm shift avoidance takes place as indicated by the broken blue arrow; ii) The correction of the environmental pollution problem embedded in the environmentally dirty market through environmental cost internalization([E[C]]) to shift the environmentally dirty traditional market TM to green markets GM closing this way this part of the green market paradigm shift knowledge gap that needs to be closed up to build the knowledge based of the green market does not take place as now instead of going the environmental pollution reduction way we go the environmental pollution management way as indicated by the orange arrow from CC to DGM; and iii) The Thomas Kuhn's revolution loop through its end product, green markets(GM), is no longer in direct link to the path towards environmentally clean markets as indicated by the broken arrows from GM to ECLM as it is now blocked and the dwarf green markets(DGM) does not have a link to environmentally clean markets ECLM as indicated by the broken orange arrow from DGM to ECLM. This is because dwarf green markets DGM are there, not to produce goods and services with the lowest pollution content possible, but to meet the pollution management schedule as set by the pollution manager.

Moreover, we can stress based on Figure 4 above that the dwarf green market(DGM) is not linked to academic consensus and academic integrity(CC) as the Thomas Kuhn's loop under academic consensus and academic integrity was as it is supported by willful academic blindness, and therefore, the dwarf green market world(DGM) is delinked to a new way of life and knowledge base under green markets, green economies, green growth, green micro and macro economics, all the way until green markets become environmentally clean markets. Dwarf green markets are linked then to a way of life and knowledge base under dwarf green markets, dwarf green economies, dwarf green growth, dwarf micro and macro economics, without a possibility to become environmentally clean markets as they are bound to manage environmental pollution forever.

The negative direct consequences of green market paradigm shift avoidance to go dwarf green markets consistent with Figure 4 above are the following: i) Dwarf green markets(DGM) still have the same environmental problems associated with environmentally dirty traditional markets as the root cause of the environmental pollution problem is not yet internalized, just the pollution problem of the environmentally dirty traditional market is being managed as indicated by the arrow from TM to "c"; ii) The world of dwarf green markets DGM is the world of environmental pollution management markets EPMM where the dwarf green market price associated with dwarf green economic activity is not linked to the green market price and to green profits as dwarf green market producers are price takers under ongoing government intervention; ii) Investments in dwarf green markets(DGM) are not geared to closing the renewable energy technology gap to bring in non-pollution based energy/renewable energy sources to increasingly and permanently substitute pollution based energy/non-renewable energy as soon as possible; and this is because dwarf producers have no incentive to produce at lowest dwarf market price possible, and to produce more, but increasingly cleaner responsible production, consumption, and population dynamic behavior as dwarf green market producers can make money by just simply passing to consumer the environmental management cost set by governments as they can make money that way; iii) as dwarf green markets have no incentive to demand a higher proportion of less polluting sources of energy as time passes, the value of non-renewable energy sources will increase, and dependency on





them will increase too as there is no incentive then to move as fast as we can towards the environmentally clean economy, it is better for dwarf green businesses in terms of dwarf green profits just to move at the pace the pollution management cost is set, leaving dwarf green consumers no choice but to consume what the dwarf green market produces and to pay dwarf green prices; iv) For the dwarf green market world to succeed in coming to exist and since it does not need to transition to environmentally clean markets, it needs to create a world of dwarf green producers, dwarf green consumers, dwarf green population dynamics, and its respected educational and academic backing through dwarf green micro-economics and dwarf green macro-economics as well as the dwarf greening of science in general; and v) therefore, dwarf green markets(DGM) are not green markets(GM) as dwarf green markets are environmental pollution management markets, not environmental pollution reduction markets.

**The indirect consequences of going dwarf green markets in 2012 to follow the environmental pollution management route**

As going dwarf green markets(DGM) instead of green markets(GM) can be seen as trying to avoid correcting the environmental pollution problem right away by pretending to do something environmentally friendly through environmental pollution management without the environmental pollution management programs having a direct link to the root cause of the environmental pollution problem they are trying to manage, they create openings for serious green Marxism(GK) claims in the name of saving what remains of nature right away by moving away from capitalism as usual as a profit only seeking enterprise to a nature protecting and restoring enterprise without capitalism, a new way of life under environmental equality without freedom. Green Marxism/green socialism(GK) claims can gain more relevance against dwarf green markets(DGM) if we take the time from 2012 to 2022 where dwarf green markets(DGM) have been in place due to green market paradigm shift avoidance as the short to medium term development span where the practice shows that indicators linked to the environmental pollution management program like the frequency and severity of global warming phenomena are getting worse, not better since 2012 under dwarf green markets. The green Marxism(GK) threat to dwarf green market thinking(DGM) is shown in Figure 5 below:

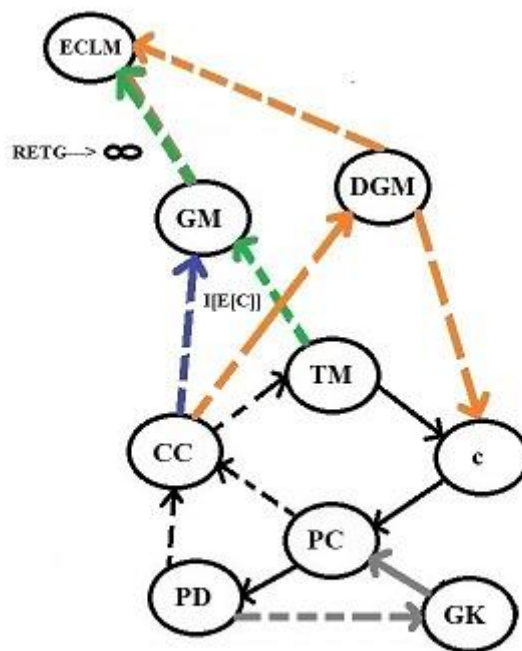


Figure 5 As the environmental pollution management process under dwarf green markets worsens as time passes, then green marxism claims against dwarf capitalism will become louder and main stream.

Figure 5 above shows that when the dwarf green markets(DGM) enters into a worsening environmental pollution management crises PC and the quality of nature is diminished in front of our eyes and the frequency and severity of global warming issues worsen, then green Marxism(GK) claims will be easier to be made against dwarf green capitalism as indicated by the gray arrow from GK to PC. Notice in Figure 5 above that since the dwarf green market(DGM) move takes place against academic consensus(CC) and remains outside academic consensus(CC) once in place as indicated by the broken arrow from PC to CC, then when the environmental pollution management program fails and the paradigm crises(PC) goes from worse to worse it leads only to



paradigm death(PD) as indicated by the arrow from PC to PD; and then the green Marxism world GK will take over after paradigm death as indicated by the broken gray arrow from PD to GK.

**The paradigm evolution routes available for the dwarf green market when the environmental crises tends towards uncontrollable under the environmental pollution management program**

If the pollution management program under dwarf green markets goes from worse to uncontrollable, then there will be need to save capitalism by bringing back dwarf green markets toward academic consensus(CC) to finally implement the green markets(GM) or we need to face the loss of dwarf capitalism(DGM) and the coming of green Marxism(GK) or we may witness a bipolar world where portions of the world are under green markets(GM) and others under green Marxism(GK), options pointed out in Figure 6 below:

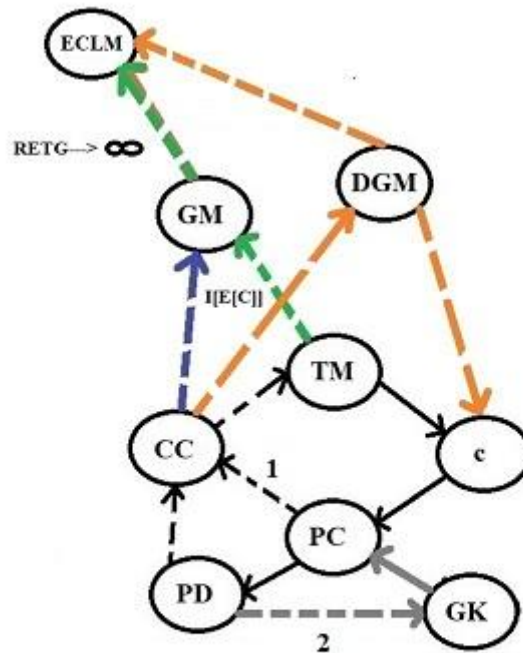


Figure 6 As the environmental pollution management process under dwarf green markets goes uncontrollable dwarf capitalism will have to choose to be saved by going green markets or die and go green marxism or both ways if some countries go green markets and others go green marxism.

Figure 6 above shows the 3 possible routes that dwarf green markets(DGM) will follow if the environmentally pollution management program goes uncontrollable and liked to more frequent and more severe global warming impacts: i) The going back to the green market(GM) solution as indicated by point 1 by the paradigm crisis(PC) avoiding death(PD) by going the way to academic consensus to finally implement green markets(GM); ii) The going towards green Marxism/green socialism(GK) solution as indicated by point 2 after the uncontrollable paradigm crisis(PC) leads to paradigm death(PD) and to the move to green Marxism(GK); and ii) The bipolar solution, in response to the uncontrollable environmental pollution management program, some countries go the way of green markets(GM) following arrow at point 1; and some countries go the way of green Marxism(GM) following arrow at point 2.

**The case when dwarf green markets finally go towards green markets**

When to avoid paradigm death and save capitalism dwarf green markets(DGM) go finally the green market(GM) way, then the link between the Thomas Kuhn’s revolution loop and the road to the environmentally clean economy(ECLM) is restored, as shown in Figure 7 below:

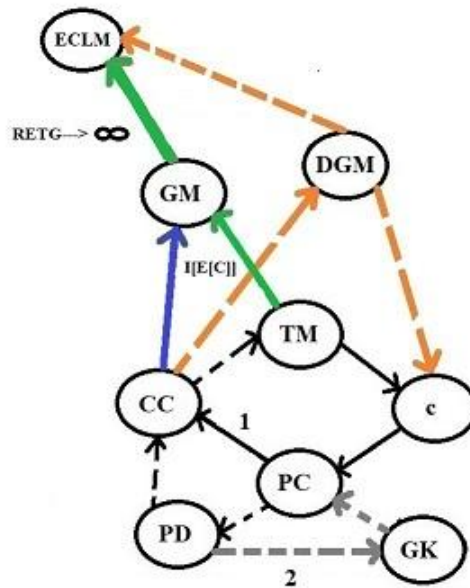


Figure 7 Reaching academic consensus to save dwarf green capitalism by finally going green markets

Figure 7 above indicates that when the dwarf green market(DGM) under environmental pollution management fails and goes uncontrollable as indicated by the broken orange arrows from CC to DGM and from DGM to “c”, but before paradigm death(PD); and then its paradigm crises(PC) reaches for academic consensus(CC) to finally go the green market(GM) way to save dwarf green capitalism then a shift to green markets(GM) actually takes place as indicated by the black arrow from PC to CC at point 1. The move to green markets(GM) saves capitalism transforming dwarf green capitalism into green capitalism, restoring the Thomas Kuhn’s revolution loop and restoring the transition link between green markets and environmentally clean markets in the process.

**The case when dwarf green markets are replaced by green Marxism**

When no action is taken to save capitalism or actions are taken too late during the uncontrollable pollution management crisis(PC), then the failure of the environmental pollution management program under dwarf green markets(DGM) leads the dwarf green market towards paradigm death(PD); and it is taken over by green Marxism(GK) in order to protect the remaining nature from capitalism as it can be seen in Figure 8 below:

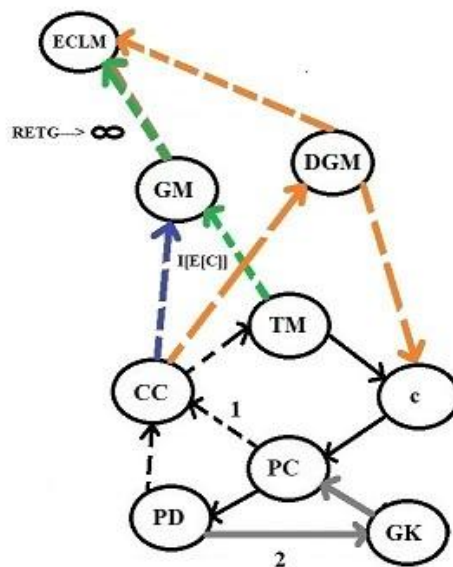


Figure 8 The death of dwarf green capitalism due to the death of dwarf green markets and the coming of green marxism



Figure 8 tells us that when the dwarf green market(DGM) goes from uncontrollable paradigm crisis(PC) to paradigm death(PD), then green Marxism(GK) takes over as indicated by the continues gray arrow from PD to GK. Notice that under green Marxism(GK) there is no capitalism, green or dwarf green or clean, only the protection and nurturing of nature matters. In other words, under green Marxism(GK) the economy and society exist only to protect and nurture the environment as it is a nature first model.

### The case of the bipolar world when some countries go green markets and some counties go green Marxism

When as the result of the failure of dwarf green markets to manage the environmental pollution problem some countries choose to go the way of green markets(GM) to save capitalism and other go the way of green Marxism(GK) to give up capitalism, then we have a bipolar world as shown in Figure 9 below:

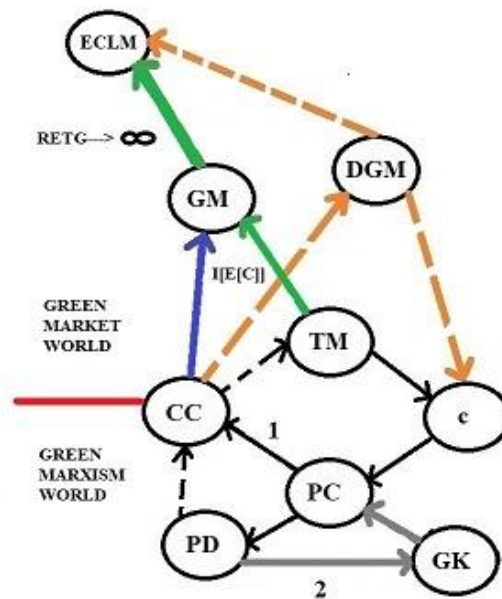


Figure 9 A bipolar world under green capitalism and green marxism  
 After the fall of dwarf green markets(DGM) some countries go green markets(GM) and others go green marxism(GK)

Figure 9 above shows a world where as the result of the failure of dwarf green markets(DGM) we end up with a bipolar system made up by the green market world(GM) and the green Marxism world(GK), which sooner or later would go into a cold war: green capitalism vrs green Marxism.

### Food for thoughts

- i) Would green markets win a cold war against green Marxism? I think Yes, what do you think?;
- ii) Would green socialism be a threat to the world of perfect green markets? I think No, what do you think?; and
- iii) Was green market paradigm shift avoidance good for deepening the world's dependency on non-renewable sources of energy? I think Yes, what do you think?

### Conclusions

First, it was pointed out that willful academic blindness leads to green market paradigm shift avoidance and to the world of dwarf green markets. Second, it was highlighted that the coming of dwarf green markets has direct consequences such as it breaks the Thomas Kuhn's paradigm evolution loop that leads to the change towards green markets; it breaks the transition road from green markets to environmentally clean markets; and it blocks the growth of green market knowledge. Third, it was stressed that if dwarf green markets fail in their environmental pollution management duties and the global warming issue goes uncontrollable as they are disconnected from academic consensus under academic integrity and disconnected from green market prices, the only paradigm evolution route after death they have is to go the way of green Marxism, an indirect consequence of green market paradigm shift avoidance. Fourth, it was indicated that if before paradigm death comes dwarf green markets seek academic consensus to finally go green market to save capitalism, then the dwarf green market world will become the green market world together with the transition link towards



environmentally clean markets. And fifth, it was stated that if when the dwarf green market goes uncontrollable some countries choose to go the way of green markets and some countries choose to go the way of green Marxism, then there will be a bipolar world where for a time the green market world will coexist with the green Marxism world.

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