Chapter 8

Energy Mining, Earth's Thermal Insulation Damaged and Trigger Climate Change

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Additional information is available at the end of the chapter

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Abstract

Fossil energy is the product of a series of complex chemical reactions inside the earth under high temperature and pressure. Where there is fossil energy, there must be a huge heat reservoir. The vast majority of coal, oil and gas are found in sedimentary basins with abundant geothermal resources. There is no "sea of oil" or "sea of gas" in the Earth's crust. Oil, natural gas, shale gas, etc. exist underground in rock pores, cracks, caves, faults, sand grains where like a huge "capillary network". Some cracks and faults reach deep into the entire crust. Oil, natural gas and shale gas seal off these pores, cracks, faults and sand layers, effectively preventing excessive leakage of heat from the ground. The enormous pressure of oil, gas and shale gas in the Earth's crust counteracts the thermal pressure in the Earth's interior, reaching a dynamic equilibrium. Once the oil, gas and shale gas is out of the ground, due to the loss of heat insulation and heat insulation material, the heat will eventually reach the surface from the Earth's interior, causing the Earth's crust "fever". A large number of water vapor, carbon dioxide, methane, etc. Greenhouse gas from the crust into the atmosphere and ocean, destroyed the energy balance of the atmosphere. This article aims to find out the real causes of climate change. By collecting materials from published academic documents, it is clarified that the man-made damage to the Earth's crust heat insulation seal is the truth of climate change. Therefore, the following conclusions are drawn: the thermal insulation of the Earth's crust is damaged by mining fossil energy (coal, oil, natural gas, shale gas, oil shale, gas hydrate, etc.), too much heat from the Earth's interior is pouring into the Earth's surface, causing the Earth's crust temperature and sea temperature to rise, trigger climate change and ecological disasters. Large amounts of water vapor have entered space, resulting rainfall and snow in some areas to exceed historical limits several times. Global soil and oceans degradation year by year.

Keywords: fossil energy extraction, terrestrial heat flow, Earth's crust, underlying surface, climate change

1. Real culprit in climate change today

At present, the ecological and geological disasters, climate change, extreme meteorological disasters, etc., and fossil energy, mining, crustal heat insulation layer destruction, the terrestrial heat flow increased, leading to the Earth's crust and ocean temperature caused climate change tend to be ignored.

Although the cause of climate change opinions vary, I have been committed to the research of climate change, finally come to conclusion is industrial mining fossil fuels (coal, oil, natural gas, oil shale, natural gas hydrate, etc.), destroyed the Earth's crust inside insulation, excessive heat from the interior of the earth to the surface, this is the main cause of climate change. Atmospheric events are becoming more extreme as CO_2, CH_4 and other gases stored in the Earth's crust are released into the atmosphere due to heat in the Earth's crust and an increase in the temperature of its underground surface. The Earth's crust and underlying surfaces are being heated in irregular ways! It is for this reason, not only the ecological environment rapidly deteriorating, and because of excessive heat into the atmosphere and ocean, increasingly frequent extreme weather events occur, constantly refresh historical extremum. Fossil energy is the product of a series of complex chemical reactions under the long-term high temperature and pressure in the earth. Therefore, where there is fossil energy, there are a large number of thermal resources. But does not exist in the crust "oil sea" or "gas sea", rock pores, fissures, karst cave, fault and thick sandstone exist in oil and natural gas fossil, formed a huge "capillary network". Although the fossil energy constitute only a small part of the Earth's surface, exploiting the maximum depth of only 5000 m, but the fossil energy and gas seam sealed effectively to rock pore, fracture and karst cave, fault and coal, prevent the excessive leakage of terrestrial heat flow. The enormous pressure of oil, gas and shale gas in the Earth's crust counteracts the heat pressure in the Earth's interior and achieves a dynamic equilibrium. Once the oil, gas and shale gas have been mined, the Earth's interior heat flow because of lost the thermal insulation layer, eventually to travel to the surface, causing the Earth's crust "fever", cause the ecological and geological disasters. A large amount of extremely dispersed heat forces gases from the Earth's crust, such as water vapor, CO_2 and CH_4, into the atmosphere and ocean, damaging the energy balance of the atmosphere and causing climate change and meteorological disasters. With the increase of ocean temperature, air humidity increases, the recorded the strongest typhoon, hurricanes and tropical cyclones, and recorded the strongest local rainfall, snow, drought, heat and cold. These are expected to become more frequent as the weather becomes more extreme and violent. Even if humans stop emitting greenhouse gases, global change will still continue for a long time because of this reason. The ground is a big tree, the underground the capillary roots has a football field yet. The same is true even though fossil fuels account for 1% of the total Earth's surface area, but exist in rock pores, cracks, karst caves, faults and grits through the crust, forming a huge "capillary network" far more than 1%.

The arctic is sparsely populated, artificial GHGs emissions are almost non-existent, the concentration of CO_2 in the atmosphere is very low. But the region is rich in oil and gas, and the massive mining of the surrounding countries (Russia, Alaska, Norway, Canada, Denmark, etc.) has accelerated the melting of arctic sea ice, which is a living example.

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Although the oil/gas extracted rock pores are filled with water, the thermal insulation layer is destroyed, and the geothermal energy travels up in all directions. Moreover, the thermal insulation effect of oil and gas is far greater than that of water. Pandora's box once opened, will never be closed again.

2. Root cause of climate change is Earth's solid part

It is generally accepted in the meteorological community that climate change that occurs for longer than 3 months is not caused by factors within the atmosphere but outside of the atmosphere.

Tang et al. [1, 2] suggested that "The fundamental cause of climate change is the solid part of the earth," and atmospheric change is a responsive (or adaptive) state. The authors propose a "geocentric theory of climate change". Ground temperature is a measurement of the physical quantity of surface thermal energy. The change of ground temperature is more conservative than the change of temperature, which is caused by hysteresis. The change of ground temperature as part of the ground surface system, can cause the change of many physical quantities in the atmosphere and ocean, this shows that the solid circulation in various thermal processes are involved in the process of climate change [3]. Ground temperature and sea temperature a direct representation of surface heat. The heat source of the Earth's temperature ocean temperature are solar radiation and heat diffusion within the crust. According to the influence of heat source on the crust, the crust surface can be divided into variable temperature zone, stable temperature zone and increasing temperature zone. The variable temperate zone is the area of the earth that is thinner under the action of solar radiation. As the solar radiation energy cycle changes, changes in day and night temperatures can be observed in this region, as well as periodic changes over the course of a century or more each year. The annual temperature variation decreases with depth in accordance with a certain rule. Most of the world's plains, hilly areas of variable temperature zone thickness most of 15–20 m [4]. Solar radiation affects only the Earth's surface temperature, while heat diffusion in the Earth's crust affects both the deep surface temperature and the ocean temperature. Years of satellite observations have shown that changes in the sun's constant, about one in a thousand, are not enough to cause changes in the Earth's climate. How much warming is caused by the doubling of greenhouse gases (CO_2, CH_4, N_2O, etc.)? Tang [5] has used ancient historical data for rough estimation, the preliminary result is: doubled greenhouse gases cause warming ≤1°C, this indicates the 1.5–4.5°C/2 × CO_2 simulation results obtained by various numerical models at home and abroad, at least without the support of ancient historical data. High temperature flow from the mantle is not only an important condition for the evolution of organic matter, but also a major factor in climate change [6]. The Earth's interior is constantly losing heat to the Earth's surface, in some places (such as near the crater or certain fault zones) in some cases (after an earthquake, for example) large values can be reached, it is called a "ground temperature sudden rise" or "geothermic anomaly" [7]. According to the monthly earth temperature data of Chinese stations from 1954 to 1985, a total of 70 stations were counted in the process of "ground temperature sudden rise", 53 "ground temperature sudden rise" were caused by "geothermal anomalies".

Research has shown that forced change of underlying surface is one of the most important causes of climate anomalies [8]. It is a well-known fact that tropical ocean temperature anomalies represented by El Niño events can cause global climate responses. The nature of climate change lies in its non-adiabatic nature [9]. Therefore, the abnormal heat condition of the underlying surface is an important cause of climate change. Alternating cold and warm atmospheric temperatures have certain similarities with ground temperature, and they have corresponding cold and warm centers. The change of ground temperature is synchronous with the change of atmospheric temperature, the difference is that the temperature changes in a small time scale more frequently than the earth temperature, and the earth temperature changes more energy in a larger time scale than the air temperature. The Earth's interior influences atmospheric processes by constantly sending matter and energy to the atmosphere, ultimately causing climate change [10].

To address climate change, a "pathogenesis" study of climate change must be performed because an accurate understanding of the pathogenesis of climate change is vital to understand current and future climate change.

2.1. Heat flow changes before and after fossil energy exploitation

Coal, oil, natural gas, shale gas and other fossil fuels are sensitive to temperature, pressure and other geological environmental factors. A series of physical, chemical, structural and structural changes of coal, oil and natural gas are inevitably caused by various tectonic events during geological evolution. Therefore, in the geological records of deep and shallow strata, it is necessary to include evidence related to the Earth's crust insulation seal failure and the surface heating caused by large-scale fossil fuel mining.

Li et al. [11] ground temperature changes observed in Huainan mining area, found that geothermal gradient of Huainan area (2.80–3.80°C/hm) is significantly higher than the old section (1.10–1.82°C/hm); the average geothermal gradient (3.42°C/hm) Pansan mining area west wing is higher than the east wing (3.14°C/hm), the east and west wings showed positive anomalies. In the old mining areas, the long-term mining activities have caused a lot of cracks in the rock strata, which makes cold water at the top infiltration, it cools the rock. In addition, the drainage system of the mine formed a cold water circulation system, which improved the cooling effect of the rock formation. After analyzing the abnormal causes, Li believes that the heat source causing the geothermal abnormality in Huainan mining area is mostly from within the earth, he made it clear that the thermal conductivity of coal is much lower than that of other sedimentary rocks. Therefore, in coal seam, especially in thick coal seam, high geothermal gradient will appear. The coal-bearing strata with more coal seams have more obvious thermal barrier effect on the whole than the depositional cover without coal. He and Wei [12] made an analysis of 30 boreholes and ground temperature test data of deep exploration and construction in Panzhihua coal mine, the general trend is that the high temperature area increases with depth, believed that its heat source comes from the residual heat of magma. Britain's deepest coal mine, in Lancashire, is about 1300 m deep. Verma measured original geothermal values of 26 of the 5 southern coal mines, geothermal gradient is 26.2°C/hm at a depth of 1220 m, the average original ground temperature is 45.7°C. Fourteen

data points of coal seam in middle coal seam were measured, found due to the dense of coal seam, high thermal resistance, geothermal gradient of only 18.7°C/hm, thus get a lower thermal conductivity [13].

Xu et al. [14] the paleogeothermal study of Dagang Oilfield shows that the paleogeothermal effect in the oil and gas accumulation process of Dagang Oilfield produced obvious changes in the early stage that flattened at a later stage over time, this indicates that the paleogeothermal change is controlled by regional structure, and the peak area of paleogeothermal is consistent with the area with strong tectonic activity and frequent hydrothermal activity. Therefore, paleogeothermal change is closely related to regional tectonic environment and thermodynamic conditions. The period of paleogeothermal change is the period of intense crustal and structural movements, and also the peak of oil generation and oil and gas migration and accumulation. The heat flow statistics also show that the ground heat flow value of geological unit decreases with the increase of time in the last stage of tectonic thermal events [15]. According to Zhang et al. [16–19] research results, in the southern North China Basin groups of whole geothermal gradient between 13.0 and 39.9°C/km, average of 25.3°C/km. The ground heat flow value is between 30 and 89.6 mW/m^2, and the average is 53.7 mW/m^2. Compared with other geological units in mainland China, heat flow value is higher than that cryogenic basin of Tarim basin (44°C/hm) and Junggar basin (42.3°C/hm) in western China, and lower than that high temperature basin of the Bohai bay basin (69°C/hm) and Songliao basin (70°C/hm) in eastern China. From these data we can clearly see that unexploited oil and gas fields (Tarim Basin and Junggar Basin) have low heat flow value, large scale and longtime exploitation of oil and gas fields (Bohai Bay Basin, Dagang Oilfield, Songliao Basin, Daqing Oilfield, Jilin Oilfield and Liaohe Oilfield) with high heat flow value, oil and gas fields (Southern North China Basin–Southern North China Oil Field) between the two groups heat flow value is middle. On the basis of previous work, Qiu [20] according to a large number of rock thermal conductivity and thermal generation data, used heat conduction theory to calculate the deep temperature, analyzed the temperature distribution in the deep (below 4 km). The statistical average heat flow value from these heat flows get the Qaidam basin was 52.6 ± 9.6°C/hm. However, the heat flow value of the local wellhead is more than 70 mW/m^2, which is a thermal anomaly area of the basin. This is due to the large amount of oil production caused by the reduction of the heat insulation seal in the Earth's crust, increase in the earth heat flow.

Oil-bearing basins are rich in oil, gas, geothermal and other resources. Jiang et al. [21] used authigenic illite crystallinity and the chemical composition of authigenic chlorite to analyze the Jiyang depression Cenozoic ancient geothermal gradient. The results showed that the Jiyang depression Cenozoic ancient geothermal gradient is 37.2–38.2°C/hm. Gong et al. [22] using 703 drilling temperature measurement in Jiyang depression that nowadays the average geothermal gradient is 35.5°C/km, it is concluded that the paleogeothermal gradient is larger than the present geothermal gradient. Jiyang depression Zhanhua east block is located in Dongying estuary area, exploration proves that this area is a dual oil and gas accumulation area rich in oil and gas resources, with various oil and gas types. Based on *Ro* data of regional drilling temperature and vitrinite reflectance, Chen et al. [23] used the multi-stage thermal evolution model of lithosphere and basin scale, the present geothermal field in this area was

analyzed and its thermal history was restored. The results are shown that (1) nowadays the geothermal gradient is 35.8°C/km, Gudao and Kendong areas geothermal gradient is higher, more than 37°C/km; (2) the early paleocene terrestrial heat flow value is 83.6°C/km, equivalent to the calorific value of a modern active rift. Since paleocene, the basin has shown a trend of gradual cooling. Although there have been two warming, the warming rate has finally decreased. The current terrestrial heat flow value is 63°C/km, the heat flow value is close to the global average; (3) the main source rocks in this area have undergone continuous heating and are now in the "oil generation window", in depth, there is a large hydrocarbon accumulation space, and the thermal evolution background is favorable for hydrocarbon generation. It can be seen that the formation of oil and gas effectively blocked the heat flow (**Table 1**).

2.2. Deep geotemperature and deep sea temperature both rise

Du et al. [24] analyzed the variation trend of the deep ground temperature of Lasa, indicating that the average ground temperature of Lasa has a significant upward trend in the past 45 years, the tendency to rate is 0.58–0.69°C/10a. Compared with the average increase rate of atmospheric temperature over the same period, geothermal temperature is growing even faster. In addition, geothermal observations from seasonal permafrost and weather stations in the permafrost regions of the former Soviet union show that the average annual geothermal temperature at most weather stations has increased over the past century [25]. In the Swiss Alps, the temperature of the permafrost layer below the surface has been increasing at a rate of 0.5–1.0°C/10a since 1980 [26]. The permafrost temperature measurement results, acquired in a north–south direction across Alaska, showed that the upper limit of the permafrost temperatures has increased by 0.5–1.5°C from the late 1980s to 1996 [27]. The Qinghai-Tibet Plateau permafrost temperature in the 1960–1990s increased by 0.2–0.3°C [28]. Qinghai-Tibet Railway in north and south of ground temperature linear heating rate is larger, especially in the south of the Qinghai-Tibet railway warming rate averaged 0.56°C/10a [29]. The permafrost ground

The Earth's crust component	Thermal conductivity (W/m K)
Coal	0.21
Petroleum	0.14
Natural gas	0.052
Oil shale	0.08
Shale gas	0.049
Combustible ice	0.121
Sedimentary rock	3.41
Granite	3.49
Basalt	2.17

Table 1. Thermal conductivity of various rocks and fossil fuels.

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temperature in China's Daxinanling Amur region has increased 0.8°C from the 1970s to 1990s [30]. The ground temperature has increased 0.3–0.6°C in the Heilongjiang upper valley region from 1958 to 1990 [31]. Observations based on the Qinghai-Tibet highway and Railway geothermal features and degradation mode by Jin et al. and Li et al. [32, 33], showed permafrost degradation, ground temperature increases, the summer's biggest melt depth deepening, winter freezing depth decreases, and permafrost thickness thinning, or disappear completely in some areas. At present, the downward melting rate of frozen soil in Qinghai-Tibet Railway is about 6–25 cm a^{-1}, while the upward melting rate reaches 12–30 cm a^{-1}. The annual average temperature and ground temperature warming rate are 0.33 and 0.37°C/10a, respectively. In general, ground temperature rises faster than air temperature.

According to a report in the British NEW SCIENTIST on 12 Dec 1994, climate warming is not consistent with climate change expectations based on the accumulation of greenhouse gases in the atmosphere on earth. Researchers believe the southwest Pacific is a valuable reference for monitoring climate change because it has fewer cities and less air pollution. New Zealand's National Institute of Water and Atmospheric Research has provided first-hand information on the warming of the Indian Ocean. The Antarctic Climate and Ecosystem Cooperative Research Centre (Australia Tasmania Hobart) of Nathan Bindoff to early and mid-1960s records of ships across the Indian Ocean temperature data and research ship 1987 Darwin recorded data are compared, and he calculated in latitude 32° south 250–1500 m in the depths of the ocean temperature rose about 0.5°C. Bindoff believes that temperature changes in the deep ocean are an important indicator of global climate change. He suggests that when measuring temperatures deep in the ocean, seasonal fluctuations are small. Thus, measurements of the deep ocean can provide more accurate results and fewer observations than measurements of sea level. The Indian Ocean has proved to be the third ocean in which deep water is warming. Bindoff published similar results in 1992 and showed that temperatures in the southwest Pacific increased at almost the same rate. Gregorlo Parrilla and his team at the Spanish institute of oceanography found that the north Atlantic was also warming [34].

Professor Pollack [35] after analyzing more than 60 geothermal data in South Africa found that, in the past 100 years in the area ground temperature increased by 0.3–0.8°C, an average of 0.55°C, completely consistent with the results of global change research. International famous geothermal scientists and members of the National Academy of Sciences Arthur H. Lachenbruch research of a lot of temperature data from northern Alaska drilling (inside the Arctic Circle) and came to the conclusion that this area has increased 2–4°C temperature over the past century [36]. After studying more than 30 borehole temperature measurements from Cuba, vice chairman of the international heat flow committee and that year director of the Institute of Physics of the Czechoslovak Academy of Sciences, Dr. Čermák pointed out that, Cuba region increased temperatures 2–3°C in the past 200–300 years [37]. Professor Mareschal from the Université du Québec, Canada and Dr. Jessop from the Geological Survey Institute of Canada [38] based on a large amount of temperature measurement data in central and eastern Canada, reported temperature increase 1–2°C in the past 100–200 years, and most of the temperature changes inferred from ground temperature data are consistent with the observation results of meteorological stations.

3. Energy mining causing all kinds of disasters

In the space of just 3 years from 1998 to 2000, four curves representing temperature changes in the northern hemisphere or the world over the last 1000 years have been published internationally. Why extend the study to 1000 years, and why build a temperature curve in the northern hemisphere or around the world? There are two main reasons: first, long enough sequences to show whether warming in the twentieth century was abnormal and thus whether it was the result of human activity. Second, determine whether Medieval Warm Period (MWP) and Little Ice Age (LIA) really exist in the last millennium from the northern hemisphere or global scale. Because both events occurred before human activity could have a significant impact, most authors attribute them to natural climate change. If natural change is also global, and the magnitude of change is close to, or even greater than, the warming of the twentieth century, it suggests that the warming of the twentieth century may also be caused by natural causes. Wang et al. [39] synthetically analyzed four temperature sequences established by Mann et al., Jones et al., Crowley et al., and Briffa that represent the average temperature of the northern hemisphere or the global in the last 1000 years, and using the 30 sites information for nearly 1000 years of global average temperature sequence (W), and USES the energy balance model for nearly 1000 years of the simulation results of temperature change (S), compared with the simulation results on the various temperature sequence, the conclusion is that Little Ice Age is relatively obvious, and Medieval Warm Period is not as consistent as that of Little Ice Age. Calculate the centennial average in 1925, 1950, 1975 and 2000, the 1000 average anomaly at 0.50°C or so, the centenary average is significantly higher than the average for any century from the eleventh to the twelfth century. It is clear that climate change over the past century or so has not been caused by natural causes. Analysis of the insulation sealing function of fossil energy, overexploitation, depth of surface temperature increase of the surface heat flux and ocean temperature rise, it can explain the relationship between environmental change and various abnormal disasters in recent 100 years. For example, long-term continuous rise of the Earth's surface temperature in the deep and shallow layers changes the mechanical structure of the Earth's crust, soft change of soil and rock cohesion, landslides, debris flow and other geological disasters will occur frequently. The increase of ground temperature causes harmful substances in rocks to dissolve into groundwater, some areas will face water quality induced water shortage.

Scientists observed that in the last 50 years nearly 40 offshore areas around the world have become dead seas, and the main reasons are pollution and climate warming. A study by scientists from China's state oceanic administration confirmed that sea levels along the Pacific west coast are expected to accelerate rise in the future, it will rise by 10–40 cm in 2030 and 40–90 cm in 2100.

Underlying surface and sea water temperature rise, not only led type on glaciers and permafrost to melt or even disappear, will also make the water acid is higher and higher, the survival of Marine life is more and more difficult, Marine biological extinction, and global warming is getting worse. Lake water temperature rises, lake water eutrophication aggravates, blue algae, red tide frequently appears, water quality deteriorates. Ground temperature rise, snow mountains melt, and snow line rises, droughts and floods occur frequently and land and ocean degradation aggravate.

Time	Coal	Oil	Gas	ENSO frequency of occurrence
1649–1879				Closely related to submarine volcanic eruption.
1880–1980	1500 (1500)	517 (517)	30 (30)	Happen once between 2 and 7 years, duration is about 1 year.
1981–2005	1125 (2625)	440 (957)	20 (50)	The interval of occurrence is about 3 years and the duration is about 15 months, several El Nino events that have occurred since the 1990s have taken only about half a year apart, the longest interval is less than 2 years, lasted 3 years.

Table 2. Exploitation quantity of global coal, crude oil and natural gas vs ENSO frequency of occurrence output (add up) (unit: billion ton, trillion m^2).

Higher sea temperatures in the deep and shallow layers allow water in the ocean to evaporate more rapidly, increase rainfall in flood-prone areas. The winter became warmer and the stock of snow decreased. Melting snow water no longer trickles down mountains for months, but flows directly into rivers. More and more rivers are turning into seasonal rivers, while a once-in-a-century flood are now occurring every year. Too much heat enters the atmosphere from the earth's interior, causes the subtropical high and cold air intensity to increase. It's bound to make summer hotter and much colder in winter. The frequent of ENSO and La-Niña not only cause the abnormal climate, but also causes the extreme rain and drought due to the disorder of precipitation. The world's climate will gradually become polarized from summer to winter, from rainy to dry season.

According to statistics, the number of natural disasters worldwide has more than tripled in the past 20 years. The global average of 120 natural disasters per year in the early 1980s has risen to about 500 now. Climate change and various environmental and geological disasters have been reported (**Table 2**) [40–45].

The increase of underlying surface temperature causes the distribution of tropical plants to move northward. The invasion of harmful species will have a significant impact on the distribution of plants in the north. Rising temperatures have led to a decline in sperm counts in male animals, the degeneration of male genetic material in plants and the mass extinction of animal and plant populations. The ground temperature, water temperature, ocean temperature and atmospheric temperature rise, have made local tropical pests and diseases, such as the south of schistosomiasis, malaria and cockroaches carry diseases) mass migration north, the distribution of threat to human health. Frequent warm winters have caused changes in the biological habits of nature, such as hibernation. Due to the heavy use of highly toxic pesticides, the propagation of pests and the multiplication of environmental toxicity will exacerbate environmental degradation.

4. Even if human stop GHGs, change continue for 1000 years

Is the earth a giant fireball with high temperature and pressure inside? Do fossil fuels such as coal, oil and gas provide efficient, long-lasting thermal insulation to the crust? Are hard crustal rock layers insulated? The Mawangdui Han Dynasty Tomb in Changsha and the Ming Dynasty Ding Tomb in Beijing both have inadvertently conducted objective, long-term

"scientific experiments" on the thermal insulation of charcoal, grease and rock, there is a sharp contrast. Mawangdui Han Dynasty Tomb did not use stone materials, but the tomb was sealed with charcoal and white paste mud containing grease, after more than 2100 years, all the articles in the tomb, including coffins and bodies, including silks and grain, are well preserved [46, 47]. By contrast, in the Ming Dynasty Ding Tomb, the six hardest layers of white marble and striped stone were used to build tombs and coffins, but the owners were not preserved. In less than 400 years the body of the Wanli Emperor had all rotted away, leaving only a dry skeleton [48, 49]. Therefore, no matter how thick it is, no matter how hard the rock is, it is impossible to resist the normal earth heat flow, let alone the increased heat flow. This fully shows that coal and oil have high efficiency and lasting thermal insulation. If the combination of white plaster and charcoal can seal the Mawangdui Han Dynasty Tomb perfectly, then the combination of oil, gas and coal can seal the Earth's crust perfectly.

Since the industrial revolution in Britain, the massive exploitation of countless coal mines, oil fields and gas fields has caused tens of millions of parts to be superimposed into a whole effect. Global changes caused by "heating" of the Earth's crust and underlying surfaces are already evident.

The relationship between atmospheric CO_2 concentration and climate has been challenged by the fact that recent temperature increases have been much lower than scientists predicted for CO_2 concentration increases. The theory of the greenhouse effect of climate change is perplexed by a large number of climate and natural anomalies [50–53]. In fact, most of the CO_2 entering the air is absorbed by the sea water and gradually becomes carbonate deposited on the seabed, forming rocks, or move to land through the shells, bones and dust of aquatic creatures. Carbonate absorbs CO_2 from the air and becomes bicarbonate, which is dissolved in water and eventually returned to the ocean [54]. With the continuous absorption of heat from the underlying surface and sea water, the temperature increase rate of the ground and sea temperature will be significantly greater than the average temperature increase of the atmosphere [55]. At some point, it might even happen the global average temperature will stop rising.

Research by Amanda Scott of NOAA and others shows that global warming is irreversible and accelerating. Even if humans stop emitting greenhouse gases, warming will continue for 1000 years. This conclusion refutes the theory of greenhouse effect of climate change, suggesting that there are other reasons for global warming.

Upward melting of glaciers and frozen soils [32, 56] (upward, bottom up melting) and deep sea temperatures and ground temperatures are increasing are far greater than the magnitude of increase of the average atmospheric temperature for the same period [34, 53, 57–58], and these are things that the theory of greenhouse effect cannot explain.

To sum up, there is the following evidence to support that the Earth's crust heat insulation seal damage caused by fossil energy exploitation is the main cause of global change: (a) Global warming is not consistent with climate change as predicted by the buildup of greenhouse gases in the Earth's atmosphere. (b) Global warming is irreversible and accelerating, even if humans stop emitting greenhouse gases, warming will continue for 1000 years. (c) Scientists have shown that high heat flow from the mantle is not only an important factor in the evolution of organic matter, but also a major factor in climate change. (d) The Earth's interior

influences atmospheric processes by constantly sending matter and energy to the atmosphere, ultimately causing climate change. (e) The formation of fossil energy in the Earth's crust effectively blocked the Earth's heat flow. (f) According to scientific observation, after the exploitation of fossil energy, the earth heat flow can reach a very large value, and the phenomenon of "ground temperature sudden rise" occurs. The earth and sea temperatures in the deep and shallow layers have increased significantly. (g) The excavation of the Mawangdui Han Dynasty Tomb indicates that the sealed with charcoal and white paste mud containing grease can effectively block the earth heat flow for more than 2100 years, and the Ming Dynasty Ding Tomb, built from six layers of extremely hard rock, has no thermal insulation. (h) The fossil energy in the crust has obvious thermal resistance [59].

We have every reason to believe that, once the human society attention to this problem, there must be many scientists in the process of their practice to find out more and more due to the endless exploitation of the human mass on the fossil energy of the Earth's crust insulated sealing damage, increase the ground temperature, SST caused cause ecological geological disaster, climate change, and a series of direct or indirect evidence of meteorological disasters.

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