

## LOW CARBON ECONOMY DEVELOPMENT STRATEGY AND CORPORATE GOVERNANCE CHINESE EXPERIENCE

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### ABSTRACT

No longer global warming be ignored by corporations, world's climate changes force governments around the world to issues new regulations obligation corporations to exercise them by developing strategic management. Adopting corporate governance as a part of strategic management makes that smoothly workable, serves corporate sustainability, and affect positively on economic growth by 0.5%. The paper focuses on a Chinese experience; China is listed on tops of CO<sub>2</sub> emitting countries and has a fast economic growth making a huge challenge to Chinese companies. That is done through analyzing Chinese situation in developing a strategy on low carbon economy with heightening on Romanian and Germany progresses..

**KEYWORDS:** CO<sub>2</sub> emission, corporate governance, low carbon economy, environment protection, development strategy.

**JEL CLASSIFICATION:** O44, P28, P48, R11.

### 1. INTRODUCTION

China now tops the list of CO<sub>2</sub> emitting countries. Since 2006, China's CO<sub>2</sub> emissions from fossil fuel use and industrial processes (cement production) have been larger approximately 8% than the emissions of the USA. China dominated by the government to promote the development of low-carbon economy, strengthening policy guidance, at the same time increase the intensity of social advocacy, multi-pronged, explore many effective practices.

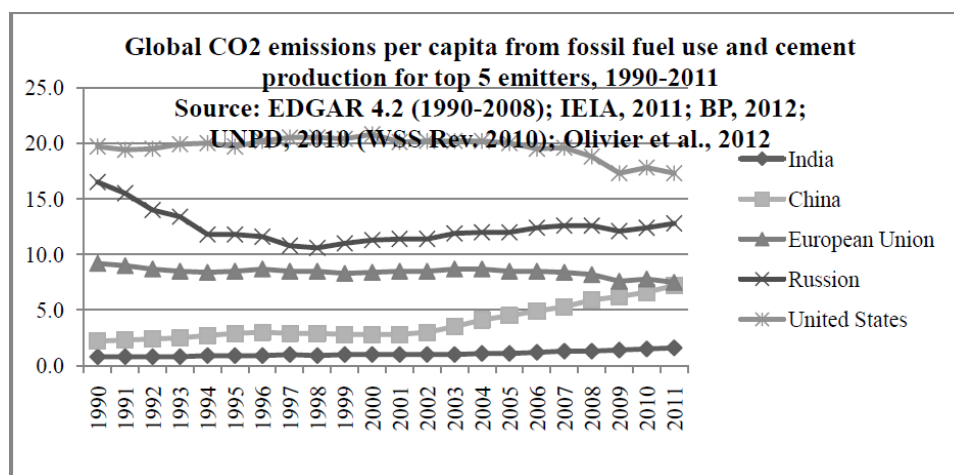


Figure 1: Top 5 emitters of CO<sub>2</sub> from 1990 to 2011

Source: www.pbl.nl, Trends in global CO<sub>2</sub> emissions; 2012 Report 18-07-2012

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Corporate governance serves corporate sustainability to maximize profit and economic growth with assuring environmental protection, which is considered as a significant purpose of modern economic growth. Environmental concerns surround corporations forcing their managements to be adopted in their strategies. This adoption has two categories; governmental regulations, and necessity of maximizing profits. Ideally, corporate governance is practiced to avoid conflicts of interests between stakeholders; shareholders, managers, employees, creditors, society and environment. Corporations have responsibilities toward all stakeholders concentrating on environment responsibility related to our topic. The regions' criteria (Economical and Environmental) have effective implications on corporate governance model balancing between economic growths and maximizing profit, and protecting environment. According to corporate governance model, these objectives are not any more carried separately. Dropping that on strategic management can be seen in vision and mission of a corporation. Environmental responsibility creates other type of conflicts, which can treat corporate sustainability. The main concern for corporations' managements is to have businesses in long term achieved by corporate governance linking objectives of corporations with environmental concerns. Overall, corporations have to develop strategic managements meeting new challenges.

## **2. GOOD PLANNING TO DEVELOP LOW CARBON ECONOMY DEVELOPMENT STRATEGY**

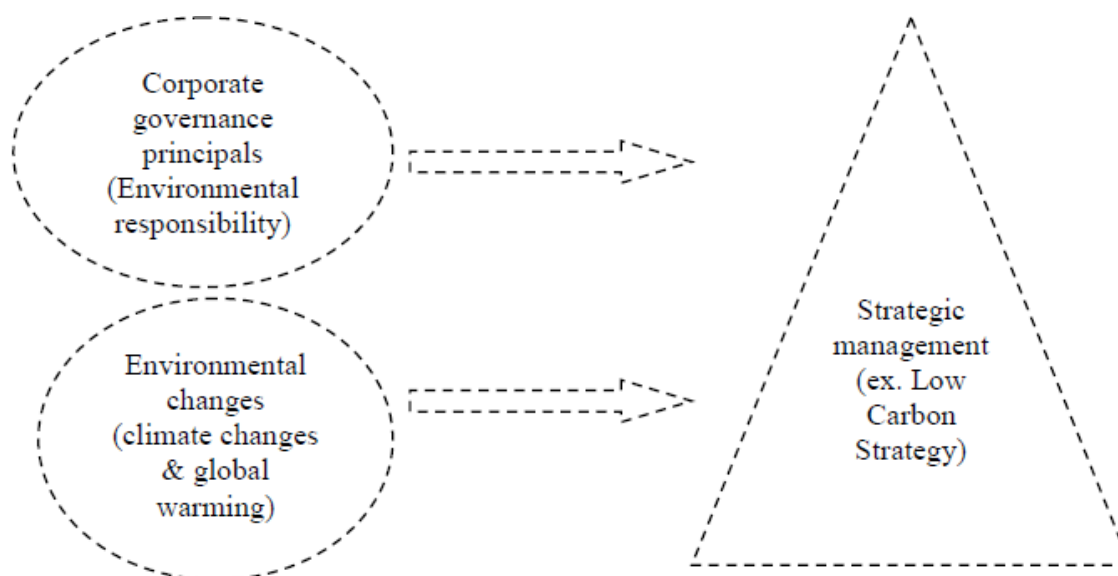
Strategic management has witnessed a dramatically revolution to adopt thinking style "My business is thinking – Edison". That puts new concerns to be discussed and handled by management in order to understand internal and external changes of business leading to an effective partnership between a company, and environment and society where it practices its business. This relationship comes as an important element of a big solution to financial crisis in European Union and United States of America. Base on agency theory and its developments to handle all stakeholders instead of limiting agency of contractual relationship between managers and shareholders to content new important partners such as society and environment. Plus, sustaining business in long run is a core proposes of managers' achievements to attract new investors and to keep their places in their companies. Corporate governance through different mechanisms affect on top-management which its role affects on the whole strategy of the company with considering governmental regulations concerned on green world principals. Making from adopting corporate governance as a management tools inside strategic management; achieves its objectives effectively. Corporate governance principals and environmental circumstance are included in decision-making procedures to contribute in value creation of all stakeholders and to sustain long-term strategy serving corporate sustainability with assuring moral duties of make the world a good place of next generations. Protecting environment has be concerned publicly and privately by governments and independent institutions world wild. Principles of environmental responsibilities has issued by governments ensuring environmental management maintaining a healthy environment. That forced managements to adopt environmental behavior through practicing governmental regulations. In 1987 Brundtland Report of World Commission on Environment work was issued enforcing scholars to answer the question of linking strategies with environmental responsibility.

Environmental responsibility as part of Corporate Social Responsibility is identified as duties cover impacts of environment of operations performed by a company to eliminate wasting and increase efficient use of natural resources for coming generations. That makes environmental responsibilities as an urgent requirement not as a luxury need. There are two global definitions of Corporate Social Responsibility (CSR); First definition is that Corporate Social Responsibility is continued obligations by corporations to act ethically and to be added to economic developments improving life quality of workers and their families (World Business Council, 1998 & European Union green paper, 2001). The definition opens the door for various interpretations to include environment

protections as part of a huge responsibility for next generations. Michael E. Porter has argued that environmental standards can be still actuated conceptions that reduce producing cost or improve production's value. These conceptions promote companies to use raw materials productively offsetting environmental damage. Moreover, that allows companies to obtain competitive advantages, which is presented in Chinese multinational corporations. Corporate sustainability helps companies to develop their environment economically and socially granting a safe environment. That establishes a common objective for different companies, institutions and government to more effective cooperating. Sustainable development cannot grant corporate sustainability without environmental considerations. Dramatically, arguments are raised up when corporate governance principles are adopted in strategic management and corporate responsibility are started to be practiced widely to create a huge merge for more discussions about these responsibilities and stakeholder's theories (Wilson, 2003). Environmental strategies and corporate sustainability are reached a mature level though considering them as management tools to achieve the objectives of a company such as maximizing shareholders' value, sustaining and developing human capital and nature resources. The principles of World Community have been issued significant principles protecting developments to be continued in future:

- a) Using wisely nature resources to be used by next generation continuously.
- b) Avoiding any damage for nature resources.
- c) Using nature resources must not harm other parties.
- d) Integrating between economic performance and environmental situation.

Environment & Development Conference hold by United Nation in 1992 ensured that corporations must provide same current nature capacities of next generations, and to force all generations to respect and to develop environment principles. Environment circumstances are being kept changing negatively serving new life style. Therefore, sustainable development means that protecting environment does not forbid economic growth, and ecologic must be treated by economic development in long run.



**Figure 2: Corporate governance and environment implications on strategic management**

*Source: created by authors*

In recent years, especially since the outbreak of the international financial crisis, China further clear strategic position and promote low-carbon economy, as the adjustment of economic structure, to stimulate the economy, characteristics of preemption pillar industry and new economic growth point. The Chinese government will protect the climate and development of low carbon economy in

the sustainable development strategy, the government to promote development of low carbon economy for the national development of one of the important strategy.

At the same time, China made a low carbon economy development overall planning and professional planning, pointed out the direction for the development of low-carbon economy, provides the safeguard. The development is in planning, renewable energy and energy conservation, emissions reduction of traditional energy. In several key areas, the two countries are made from top to bottom, from macroscopic to microcosmic professional planning, and in stages for short, medium and long-term planning, specific content, and detailed steps to complete. For example, to vigorously develop new energy resources as a basic national policy to promote, develop a series of relevant planning, guidance, and promote the study of a series of innovation in the field of new energy. In the field of wind energy, solar energy, geothermal energy, in accordance with the plan has been completed from concept design to the commercialization of product development, from the company to create a series of process to the global market expansion.

### **3. LEGAL SYSTEM CONSTRUCTION TO PROTECT OF LOW CARBON ECONOMY DEVELOPMENT**

In terms of building low-carbon economic development of the legal framework, Romania is in Europe one of the most complete national legal framework, which is useful to China to structure its own framework by using the similarities' advantages. Starting in the 1970 s, the Romania government has initiated a series of environmental policy, in 1971 published the first comprehensive "environment planning", the 1972 revision and thereby give the government more power in the field of environmental policy, in 2004 the national sustainable development strategy report then formulated the strategy of "fuel, alternative fuel and the driving mode of innovation". Strategy of "fuel", a total of four measures is put forward: to optimize the traditional engine, synthetic bio fuels, develop hybrid fuel cell technology and development, the purpose is to reduce fossil energy consumption, greenhouse gas emissions. The waste disposal act of Romania, as formulated in 1972, in 1986 changed to the waste restrictions and waste management act. In 1996 after a series of practice in the field of main, puts forward a new "circular economy and waste management law", in 2002 introduced the energy savings act, increase the reduce fossil energy and waste management to the height of the development of new economy and to establish the system of form a complete set to join each other, legal system, such as inhibition of waste form target system, circulation list system, circulating system, technical and technological standards and technical guidance system, legal obligation and responsibility system, market access system, stimulus system, information construction system and so on. Over all has been reflected in different governmental regulations in China enforcing companies especially these Chinese multinational corporations run business in European Union, which is reflected in strategic management of these corporations.

### **4. POLICY GUIDANCE TO SPEED UP THE DEVELOPMENT OF LOW CARBON ECONOMY INDUSTRY**

China clearly puts forward the key areas of low carbon economy development and the pillar industry, and as a leader, to promote the coordinated development of low carbon economy industrial chain. In China a main policy of low carbon economy development, is to promote the development of new energy vehicles. In recent years, with Chinese leading technology in the field of renewable energy, to promote the development of new energy vehicles, new energy automobile industry chain has been. The auto industry transformation and change the way of driving the development of the whole Germany. The Chinese government in August 2009 promulgated the "national electric vehicle development plan", the goal is to make 2020 China has 1 million electric cars. Young man: "grandpa, gasoline car father open diesel, we this generation of electric cars". The second is to vigorously develop renewable energy sources. German renewable energy industry rapid

development has become a new economic growth point. Last year, the sales of 29 billion Euros of renewable energy, renewable energy accounted for 15% of total electricity in Germany. Output value of 25 billion Euros per year, new energy companies in Germany to create more than 250000 jobs. They are proud to introduce: all over the world every three solar panels, each two wind turbines, one from China. it is investing heavily in research of climate change. Climate change is one of the focuses of research policy in China, the Chinese government plan in the next six years, the investment of 2 billion Euros, used in technical research on climate change. China also open to the public on climate change predictions on the Internet, anyone can easily get on the diagram by Chinese around 2100 prediction of climate change, facilitate analysis using the public and decision makers.

## **5. TAX ADJUSTMENT TO IMPROVE THE EFFICIENCY OF ENERGY USE**

Chinese government applied tax adjustment as one of the important means to promote the development of low-carbon economy. China introduced the ecological tax. Ecological tax on energy consumption as object of taxation is to improve the ecological environment and implement sustainable development plan in Germany, the important measures for tax to promote energy conservation, energy structure optimization, improve the international competitiveness of Chinese companies. since April 1999 Chinese ecological tax on the oil, gas, electricity. For mining industry has great potential for energy saving, the German government plan before 2013 enterprises enjoy preferential and ecological tax as prescribed in the energy conservation management.

## **6. TECHNOLOGICAL INNOVATION TO DEVELOP HIGH-TECH LOW CARBON ECONOMY**

China focuses on low carbon economic and technological innovation, and achieved many breakthroughs. One is the implementation of climate protection strategy of high and new technology. China plans to put an extra 1 billion Euros over the next 10 years to develop climate protection technology. The strategy determines the future study of four key areas, namely, weather prediction and climate protection basic research, the consequences of climate change, to adapt to climate change and adapted to climate protection policy mechanism research. Solar energy development and application technology, energy storage technology, and the new electric car and co2 separation and storage technology, as a key research direction on. Develop low carbon power plant technology. The Chinese government believes that although the renewable energy development is rapid, but coal power plants in the medium term and long term will continue to play a role, therefore must develop higher efficiency and application of clean coal technology of power station. The technology carbon dioxide gas separation and can be stored, only in this way can be carbon dioxide emissions reduction targets.

The Romania government plans about the technique, the legal framework, concrete measures including, submit the proposal to the European Union, promote legal framework in the European Union level technology; In the domestic environmental laws and regulations to safeguard measures for the development of the technology; According to EU directives, published in November 2007 for Germany on co2 separation, transportation, and the legal framework; Construction of low carbon demonstration power plant, etc. Three is the promotion of cogeneration technology. Cogeneration is electricity generated by the heat energy collected is used for heating, and reduce the loss of heat already so, also to heat power generation enterprise to bring the additional income, kill two birds with one stone of it. Cogeneration technology on the one hand, can be used for the energy-saving reconstruction of coal-fired power stations, on the other hand can also be used in the manufacture of micro generator, power supply and heating on a small scale to solve the problem, to help users reduce the dependence on power stations. The German government to support the

development of cogeneration technology and application, developed the cogeneration act, the law mainly provides with cogeneration technology to produce electricity subsidies, such as the end of 2005 updated cogeneration equipment production of electricity, 1.65 euro cents per kilowatt available subsidies. The German government plan, by 2020 the cogeneration technology power ratio is double the current level.

## **7. MANY MEASURES TO REDUCE CARBON DIOXIDE EMISSIONS**

One is to reduce vehicle carbon dioxide emissions. Motor vehicle through the modification of the German government plans to tax to promote the realization of carbon emissions reduction targets, new car to energy efficiency information, carbon dioxide emissions into the annotation. We see all the vehicles in the street, on the right front window with the carbon emissions the four standard mark, will reach the 5 standard after 2010. Since 2005 highway truck on 12 tons of truck is for fee. The implementation of building energy conservation transformation. Germany's government plans to 700 million Euros a year for energy saving renovation of existing civil building another 200 million Euros for local infrastructure, the purpose is to fully tap the energy conserving potential of the buildings and public facilities. Modification includes building heating and cooling systems, renewable energy production and use of the urban community, indoor and outdoor energy storage and application, etc. For new homes, German law also specifies a number of energy-saving technical requirements, mainly in the aspect of building heating and prevents heat loss. In addition, the government also encourages the resident to use energy-efficient appliances, in Germany sales of refrigerators, washing machines, dryers and household lighting with energy consumption level, is divided into seven levels, A - G A level for the most energy-efficient appliances. This kind of practice is advantageous to the residents in buying appliances have consciously choose energy-efficient appliances, make contributions to environmental protection. To encourage companies to implement modern energy management. German industry there is a huge potential of energy efficiency, such as power equipment, lighting system, heat using, and boiler equipment retrofit has space. The German government plan signed an agreement with industry before 2013, regulations, enjoy preferential tax and enterprise is the modern energy management. For small and medium-sized enterprises, the German government ministry of economic affairs and the German Renaissance credit bank energy-saving special fund has been established, to promote small and medium-sized enterprises to improve energy efficiency, fund mainly receive professional guidance, and take measures of energy conservation for the enterprise to provide financial support.

The implementation of emissions trading. The Chinese government to carry out the main purpose of the carbon dioxide emissions trading is through market competition to achieve optimal allocation of carbon permits, decrease emissions limits to distortion caused by economic, but also indirectly lead to the development and application of low emissions, energy efficient technology. Germany in 2002 began the preparation work of emissions trading, the environmental protection bureau has set up a special emissions trading, and drafting related laws, has formed a relatively complete legal system and management system. Before the implementation, the German machinery and equipment of all enterprise investigation and study, with the results as the basis of issuing permits. After issuing permits, such as enterprise emissions more than quantitative, must through the purchase of emissions trading department, otherwise will pay a fine.

## **8. PRACTICE INCENTIVE TO IMPROVE THE VITALITY OF LOW CARBON ECONOMY DEVELOPMENT**

One is to establish and perfect the incentive mechanism of form a complete set. In the process of developing low carbon economy, Germany and France by mechanism adjustment, more efforts to standardize the market, and gradually establish a set of low carbon economy are encouraged to

develop effective incentive mechanism. Mainly includes: energy, resources, environment, product and service price signal direction mechanism; The responsibility of the polluter pay extension mechanism; Energy consumption and pollutant emission standard system and the third party monitoring mechanism; Emission limit value system and emissions trading mechanisms; Technology access mechanism; Energy conservation and environmental protection service enterprise specialized operating mechanism.

The second is to provide energy saving funds and low-interest loans. Funds including public welfare funds of energy conservation, energy conservation and two types of credit funds, public funds to support the relevant intermediary agencies of energy conservation for the research of energy-saving policies, regulations, standards and energy saving activity; Energy saving credit funds is one of the energy conservation project financing channels, support enterprises in the form of low-interest loans to home energy saving energy saving transformation and new construction projects.

## **9. ADVOCACY TO STRENGTHENING THE CONCEPT OF LOW CARBON PUBLIC**

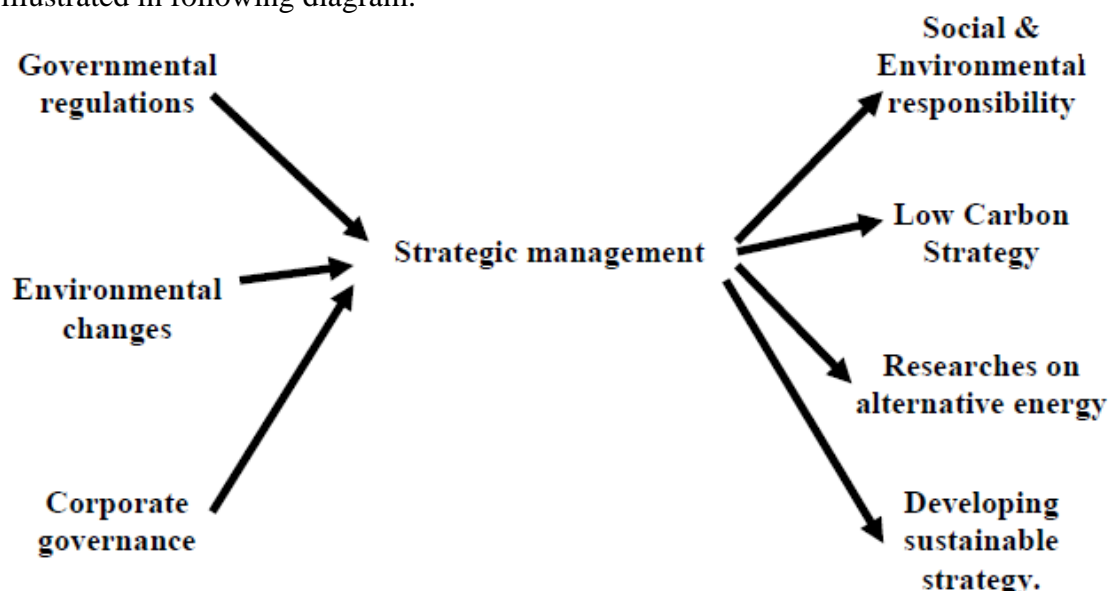
Germany and France the government attaches great importance to the publicity of low carbon concept, vigorously advocated in the whole society with a low carbon concept as the core of environmental protection consciousness, effectively enhance the public awareness of the concept of low carbon, understanding, and enforcement. At present, the low carbon environmental protection concept in Chinese are gradually thorough popular feeling, in the social attention from all walks of life with low carbon as the theme of environmental protection, low carbon to will be implemented to all aspects of real life. Start and development of low carbon economy in China has been lagging behind Germany, France and other western countries, but as a developing country, in dealing with the challenges of climate change, China has made its contribution. Specific to the Hubei province, in recent years, firmly implement the scientific outlook on development, implement the strategy of sustainable development, the construction of resource saving, environment friendly society, positive response and to carry out the national low carbon policy and measures, in the aspect of environmental protection, energy conservation and emission reduction are making a lot of effort, have achieved obvious benefits.

With the basic situation, the development of low carbon economy in Hubei province on the overall level is still in its infancy, almost faced with western countries in the process of developing low carbon economy has faced and the facing problems and difficulties. More because I in the primary stage of socialism is a basic national conditions, under the pressure of economic development, faced with more has the state of the particularity of challenges. Nowadays, to develop low carbon economy to address global climate change is the consensus of most countries, but different nations have different development stages, different national conditions, to understand the meanings of low carbon economy is different also. China as a developing country, development is still the top priority to the development of low carbon economy can't copy the practice of developed countries. We should be guided by the scientific concept of development, through the government leading, policy guidance, social advocacy, on the basis of independent development, as much as possible to absorb the useful experience of developed countries for reference, combined with the actual of Hubei province, suitable for low carbon economy development planning, law, policy and strategy, vigorously promote the development of low-carbon economy.

China launched its first pilot carbon emissions exchange on 18 June, though plans for a nationwide rollout and efforts to apply the scheme to some polluting heavy industries could be undermined by a slowdown in the world's No.2 economy.

## 10. CONCLUSIONS

The moral duty toward environment has been adopted in Low Carbon Strategy as a part of an effective strategic management. That could not be done without practicing corporate governance principals, which assures corporate social responsibilities, and its role to provide a health world for next generations through using productively and effectively natural resources. Low Carbon is a main concern to green party and to managements. The Low Carbon Strategy mixed with corporate governance changes the look on sums paid on production and related strategies to be an investment not as an expense, which is considered itself as an important progress in strategic management. Adopting environmental protection strategies including Low Carbon Strategy allows companies to enjoy a well competing position and to reduce producing cost in long-term. But there are big questions to debate on future energy policy – how to explore and exploit shale gas safely, how to develop new nuclear, how do we agree a target for reduced carbon emissions and deliver it to make a meaningful difference to global warming? These are key challenges for all EU Member States like Romania, China has to learn from other countries' experience and make more efforts. That is simply illustrated in following diagram:



**Figure 3: External impacts on strategic management and their consequences**

*Source: created by authors*

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## 7. REFERENCES

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