

Conflicts of interests vs values in fighting climate change

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Energy: values, deceptions, lies

The Paris Conference was a success of Science Diplomacy because it showed that scientists can promote cooperation for a common good even when the relationships among their own governments are difficult or deteriorated.

We should not forget, however, that the agreement reached in Paris was facilitated by the fact that nations were asked to indicate voluntary contributions that are not binding. There is no mechanism to force a country to set a target by a specific date and no enforcement if a set target is not met. The lack of any mandatory rule makes the agreement very fragile not only because the exit of a nation may trigger the withdrawal of more governments, bringing about a total collapse of the agreement, but also because each nation still has to implement the declared contribution. This means that, within each nation, conflicting opinions and interests must now be settled. Within a single nation, of course, science diplomacy can hardly help and it may happen that in some nations, not only interests, but also ignorance, stupidity, deceptions and lies could prevail on values.

But let me begin with **values**, which means from pope Francis, who is the most concerned and committed authority in combating climate change. Pope Francis is worried not only because of the damage that would occur to the environment, but also for the injuries that would affect the poor in the world

In his Encyclical letter *Laudato si'*, Pope Francis points out that “the environment cannot be effectively protected by market forces” and that “the climate is a common good, linked to many of the essential conditions for human life”. Therefore “Climate change has not only environmental consequences, but also social, economic, and political

implications. Many of the poor live in areas particularly affected by phenomena related to warming, and their means of subsistence are largely dependent on natural reserves. Thus, changes in climate, affect the livelihood of the poor, who are forced to leave their homes, with a tragic rise in the number of migrants. These are not recognized by international conventions as refugees. Our lack of response to these tragedies involving our brothers and sisters points to the loss of the values upon which all civil society is founded". Therefore, pope Francis says, "there is an urgent need to develop policies so that, in the next few years, the emission of carbon dioxide and other highly polluting gases can be drastically reduced by using renewable energies in the place of fossil fuels.

In *Laudato si'* there are several others strong phrases such as:

- "As often occurs in periods of deep crisis that require bold decisions, we are tempted to think that what is happening is not entirely clear. Such evasiveness serves as a licence to carrying on with our present lifestyles and models of production and consumption".
- "Many of those who possess more resources and economic or political power seem mostly to be concerned with masking the problems".

This sentence allows me to shift from values to **deceptions** because it anticipated what really happened with the dieseltgate scandal, a few months after the publication of *Laudato si'*. As you may remember, Volkswagen engineers admitted to have developed special software used to cheat in emission tests. A more recent report has shown that not one single brand of cars complies with the latest air pollution limits for diesel cars; and, as you know, the European Parliament has accepted to double the current legal emission limit of nitrogen oxide until 2020, in spite of the fact that, according to the European Environmental Agency, nitrogen oxide causes 71,000 premature deaths a year in Europe.

Now I shift from deception to **lies**. Oil companies, of course, are interested to sell fossil fuels. Earlier this year, a series of investigative pieces published by the Los Angeles Times, revealed that in internal documents ExxonMobil scientists acknowledged as early as 1977 that burning fossil fuels was destabilizing Earth's climate and would likely cause catastrophic damages The answer of ExxonMobil managers to these internal scientific documents was simply that of investing tens of millions of dollars to fund public

misinformation campaigns aimed at casting doubt on the reality and severity of the problem.

Even today big oil companies oppose any policy development for transition to clean energy. Oil companies maintain that fossil fuels will continue to dominate the energy mix for the coming decades. Their forecasts, however, are completely unreliable because they do not take into account signals that indicate disruption of the actual trends.

While new oil is more and more difficult to find and more and more costly to extract, renewable energies grow exponentially and their cost has decreased so much to be competitive with fossil fuels. For example, the annual PV installed capacity shows an increase of about 50% each year and the cumulative PV installations will reach at least 5 TW by 2030. PV power-purchase agreement prices have dropped by 75% in the past 7 years, reaching a record of only 3 cents of a dollar per kWh.

The oil companies also assume that electric cars will remain marginal, but big changes will occur in this sector. Now there are a few models of electric cars that, all together, make up 1% of global vehicle sales. But independent analysts forecast that by 2020 there will be 120 different models of EVs and that in 2025 30% of the cars sold will be electric. By 2020, China is expected to have 5 million EVs on its roads. In 2030, 60% of the cars in circulation worldwide will be electric.

The shift to electricity in transportation will be disruptive for oil companies, unless they rapidly change their strategies, moving from fossil fuels extraction to production of renewable electricity, hydrogen and energy conversion systems. A Chinese proverb says: "When the wind of change blows, some build walls, other build windmills". A few big oil companies, for example Total and Statoil, are moving in the right direction.

In Italy, ENEL is doing well. It has recently phased out 23 fossil fuel power plants and it is very active to install renewable energy plants worldwide. In a interview, ENEL CEO, Francesco Starace, said: "There is a huge tide flowing; it is the evolution of technology. It would be crazy to think of going against current". Starace also said that the transition to clean energy "can happen much faster and in a less complex way with some good regulatory frameworks, or it can take a long time and waste a lot of money the other

way around.”

ENI, the Italian oil company, on the one hand continues to exploit fossil fuels as much as possible and, on the other, has joined the Oil and Gas Climate Initiative made up of ten oil and gas companies, whose task should be that of reducing greenhouse gas emissions. ENI is also publishing many pages on the Italian newspapers to advertise its supposed interest to environmental issues.

A few days ago there was an entire advertising page on almost all the Italian newspapers saying that ENI sustains renewable energy as a long-term target, but believes that we need a bridge to reach that target. According to ENI the ideal bridge is natural gas because it is cleaner than coal and oil. This, however, is not true. The amount of carbon dioxide produced by natural gas is indeed 23% smaller than that produced by using oil to obtain the same amount of energy. What the advertising page did not say is that natural gas leaks throughout the supply chain and that methane is 72 times worse than CO₂ as a greenhouse gas (when measured over 20 year; 25 when measured over 100 years). Since average leaking is estimated to be about 3% of the amount of gas used, it is not true that using natural gas we will decrease global warming.

In conclusion, the only way to fight climate change is to develop renewable energy as fast as possible. This, however, does not seem to happen, at least in Italy.