

MINUTES OF THE HOUSE ENERGY AND UTILITIES COMMITTEE

The meeting was called to order by Vice-Chairman Rob Olson at 9:15 A.M. on March 25, 2008 in Room 783 of the Docking State Office Building.

All members were present except:

Terry McLachlan - excused
Judy Morrison - excused

Committee staff present:

Mary Galligan, Kansas Legislative Research
Carol Toland, Kansas Legislative Research
Melissa Doeblin, Revisor's Office
Rena Hansen, Committee Administrative Assistant

Conferees appearing before the committee:

Carl Coles, Engineer and Author
Kenneth Clark, Engineer

Others attending:

Eighteen including the attached list.

Presentation on:

"Future Energy Crisis", Carl Coles, Engineer and Author, (Attachment 1), and Ken Clark, Engineer, presented information to the committee on the direction they believe the energy use and policies in the United States and the world are headed. He noted we cannot have power sources that are dependent on the weather as our main source of electric generation. He believes we need to put together all of our ideas for energy generation and use them.

Questions were asked and comments made by Representatives: Josh Svaty, and Don Myers.

It was noted that we need to follow the money to find the source of many of the problems that we have.

There were no more meetings scheduled for the 2008 session.

The meeting was adjourned at 10:13 a.m.

PRESENTATION

THE COMING ENERGY CRISIS

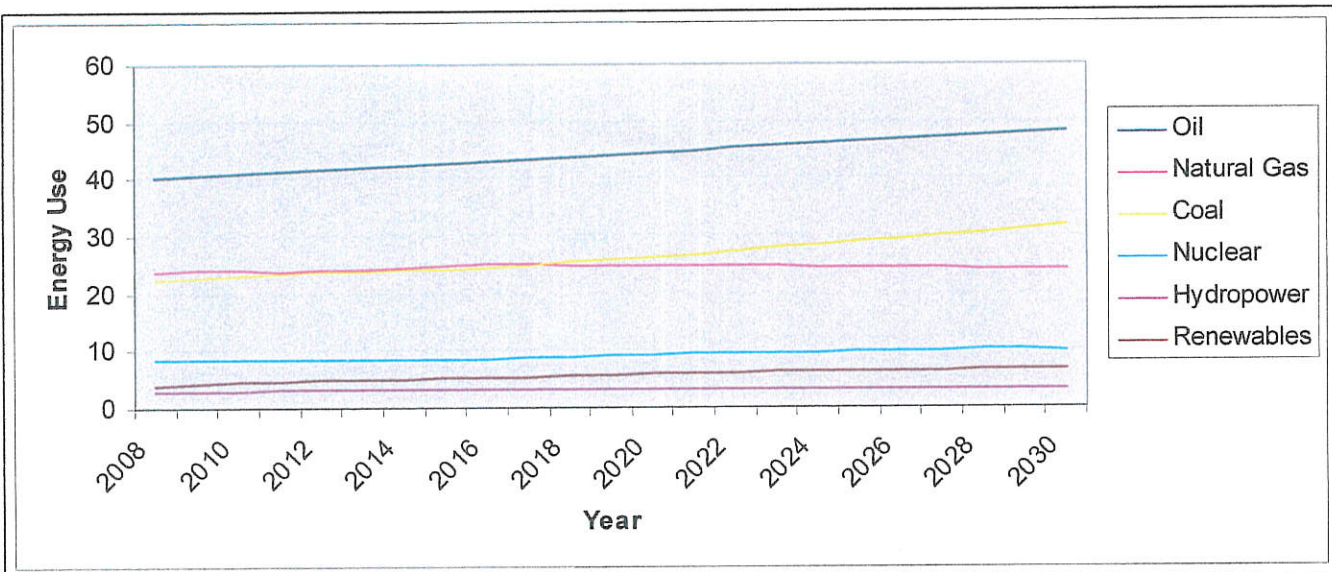
AND

CIVILIZATION COLLAPSE

AND HOW IT CAN BE PREVENTED

BY CARL COLES
&
KENNETH CLARK

March 24, 2008



Year	Oil	Natural Gas	Coal	Nuclear	Hydropower	Renewables
2010	40.82	23.90	22.94	8.31	2.92	4.58
2020	44.41	24.83	26.23	9.15	3.00	5.81
2030	48.23	24.07	31.71	9.89	3.00	6.66
	39.0%	19.5%	25.7%	8.0%	2.4%	5.4%

Energy consumption by fuel, 2008-2030 (quadrillion Btu), US Department of Energy

Energy Source	US			World		
	Reserves	Consumption/Year	Life of Reserves (Years)	Reserves	Consumption/Year	Life of Reserves (Years)
Oil	21.75	7.1	3.06	1,317.45	28.4	46.4
Natural Gas	204.38	21.79	9.38	6,182.69	81	76.33
Coal	267.55	1.06	252.41	997.75	4.56	218.80

Oil reserves in billions of barrels
 Natural Gas reserves in Trillion Cubic Feet
 Coal reserves in Billion Short Tons

INTRODUCTION

THE COMING FUTURE CIVILIZATION (ENERGY) CRISIS AND HOW TO PREVENT IT

It is very apparent to more and more people that there is an energy problem due to the increased price of gasoline, natural gas, and electricity. This book is being written to put a proper perspective to the various current and future sources of energy and its relationship towards the future of our civilization. The information and data to be analyzed is from the US Department of Energy and other reputable sources. Nothing is going to be made up unlike much of the information today, but will be analyzed in a technical engineering and pragmatic form. The emotional environmental, religious and political points of view will be discarded. It is time that the comedians, actors, rock stars, bureaucrats, politicians and other non-technical personnel stop trying to dictate energy policy especially when it is leading us down a path, which will guarantee a catastrophic energy crisis.

The purpose is to provide an understanding about current and future energy requirements in a way that the average person can understand the total picture and be able to make judgments as to what is important, unimportant, and mythical. Some of your deepest beliefs will be challenged so please read this book with an open mind. Much of it will be educational but scary. It will be written at two levels with one a general perspective and the other at a higher technical level for those who want to delve into the more technical aspects of various forms of energy production. We hope that with enough common sense those future energy policies can be changed to avert the crisis. This will be probably one of the most controversial and important books that you will ever read. The other intention is that the conclusion of the book will be provided upfront and the first few chapters will contain all the information that the average reader will require to make up their minds. The rest of the book will get into the details and analysis of the various approaches to back up the conclusions.

Most people realize that energy is an issue and that things today are gradually getting out of control since we Americans are becoming more and more dependant on outside energy sources which are not necessarily friendly nor have our best interests at heart. We are becoming bombarded on an emotional basis by the environment movement about global warming, loss of animal species, reduction of wild habitat, long lived nuclear waste, water pollution, air pollution and etc. We do need to be sensitive to these issues and develop the technologies need to prevent the further degradation of our planet for future man and all animal and plant species. The problem is that we also have to balance the need for low cost reliable energy for human needs as our population and civilization continues to expand. Another problem is that the world is a political place and the religions of the world have produced some of the most devastating wars and human destruction in the name of their religions. This is preventing the cooperation needed to make the proper investment in development to protect the future.

The average person is not aware of the critical situation coming in the next couple of decades that will cause the total collapse of our civilization and that it is time sensitive. The movie and entertainment industry has scared the population into worrying about everything imaginable except the true predictable coming catastrophe. It has numbed the population worrying about nuclear annihilation, killer asteroids, genetic creatures, plagues, volcanoes, tsunamis, killer bees, etc. This book is going to go into detail about two different scenarios. The first is the chain of events that have already started to occur and will continue leading to a total collapse of our civilization and eventually leading the few human survivors back to a hunt and gathering type existence. The second scenario is one in which we invest in the high tech approach to energy production that can be implemented in time to make up for the loss of the world's remaining oil, gas, and coal reserves.

We also have to understand that when we talk about energy production, we have to look at the combination of four different but related requirements. The first is providing fuel for transportation and heating; the second is electrical production; the third is feed stocks for the chemical industry and everything else; and the fourth is increased amounts of pure water. In the future the need for all four of these requirements will continue to increase as the world's population increases.

Currently the environmental movement in its infinite wisdom has determined that only four things are acceptable to address future needs. They are solar, wind, conservation, and recycling. How can anyone disagree with this since they are renewable and have the ability to conserve our finite resources? This book is going to assess these four items and why they won't be able to stop the coming crisis. We are also going to examine the future of transportation by discussing the future of electric cars, hybrids, ethanol, bio-diesel, fuel cells and hydrogen powered cars. All current forms of significant electrical generation will also be discussed and evaluated as to the future of these sources. This will include power generation from geothermal, hydroelectric, gas turbines, coal, nuclear, fusion, tidal, wave, refuse combustion, wood, hydrogen, and etc. We also have to address the issue of future feedstocks and where they are coming from. We cannot continue to use natural gas and oil as feedstocks. The current amount of material that is grown such as corn will not be enough. The issue of using coal as a feedstock will help for the foreseeable future but eventually all organic material that is consumed and thrown away needs to be recycled into feed stocks and done on a massive industrial scale. The amount of energy required to do this is actually going to increase and therefore put on an even larger load on future energy production. The feel good recycling policies currently being promoted will not work and only cause greater problems. We are going to explain where this material is going to come from and the amount of energy needed to produce it. The final issue of future water supplies needs to be addressed because anything that will need to be done here like desalination also will require more energy.

There are answers to all of the above but it is going to require new thinking and resolve to make the tough choices required to prevent the coming calamity. The first chapter is also starting by addressing a series of common sense but controversial guidelines that I call "Coles Laws". Many of these have been developed by others but can be used to do a lot of evaluating of these issues without getting bogged down by all

the political, religious, and emotional points of view. These laws will be explained and the reader can satisfy himself or herself that they are legitimate and useful here.

Chapter Outline

Introduction, This is a basic description of the book describing its purpose of discussing future energy requirements, types of energy, environmental road blocks, the coming energy crisis, possible civilization collapse, and evaluating all potential sources to determine possible solutions.

The first chapter is going to discuss "Coles Laws" which are a series of logical assumptions to help solve individual problems. This will help in sorting out the wheat from the chaff in a very emotional topic. These laws are from a number of sources and are similar to Murphy's Law.

The second chapter is discussing the data or numbers, which show the future growth of energy and how it is currently being produced. It is going to discuss the proposed solutions for the future amounts of energy required for electrical generation, fuels, feed stocks, and water production. It will take into account the growth of the world's population and increased energy requirements for developing countries.

The third chapter will discuss the ramifications of global warming and the environmental plans for fossil fuel reductions and still eliminating nuclear power as an option. The current acceptable solutions from the environmental movement is solar energy, windmills, recycling, conservation, and some geothermal. Each of these options will be discussed regarding timing, costs, and technical problems. The conclusions will be made that these options however well intentioned will not solve future energy needs and only slightly prolong the crisis.

The fourth chapter will discuss our modern civilization and how dependent we are on cheap and reliable power and fuels. The history of the growth of energy and the changing of our civilization will show that we can go backward in time and that there were civilization collapses before. We will discuss two different scenarios. The first is how the collapse will occur and the timing involved if we follow our current path. The second is what will happen if we develop more advanced forms of energy and resource recycling. This is primarily fusion and nuclear options.

Chapter five is the discussion of the various types of energy sources including some of the more unconventional types. We will evaluate all these approaches and determine what ones should have the highest priorities and R & D investment. We will concentrate more time on fusion and all the different types of fusion reactors. We will make a big pitch here for money and the technical support.

Chapter six will discuss a number of myths or deliberate misrepresentations to make a point against various energy sources or organizations.

- The 100mpg carburetor where the patents were bought up by the oil companies to sell more gasoline.

- How the oil companies are fixing pricing just to gouge the consumers to make outrageous profits.
- The whole issue regarding nuclear waste and how it endangers future man.
- The idea that death by certain means is much more unacceptable than by means that is acceptable.
- The myth that we can separate out CO₂ from combustion and store it underground or some other means so it doesn't increase CO₂ levels in the atmosphere.
- The myth that renewable energy like wind and solar do not have any environmental impact.

Chapter seven is a discussion of feedstocks and where they come from now and in the future. The current methods of recycling and what will have to be done in the future. This will cover individuals doing their recycling versus whole scale industrial recycling. The issues of recycling sewage and garbage and converting them to methane and other materials. The combining of water treatment facilities with power and all waste material in the future.

Chapter eight is about the hydrogen cycle, what it can do and what it would take to implement in the future.

Chapter nine is about the total electrical distribution system in the country and what shape it is in. We will analyze what will be needed in the future and what the costs are. The total costs will approach about two trillion dollars and there are several approaches.

Chapter ten will discuss the various approaches of financing the different types of energy production. We will look at the government versus banks and private investors.

Chapter eleven will have to do with all forms of transportation including cars, planes, trucks, trains, and ships. What fuels will work and discuss the future of ethanol, bio-diesel, hydrogen, gasoline, diesel, nuclear, and fusion in the future.

Chapter twelve is about the current government energy policy and it's problems regarding the future. We will make recommendations to modify or change policy and suggest where more R&D has to be performed. Obviously fusion is going to be a big part but additional long-term analysis needs to be done. We also believe that when our entire future may depend on developing a technology you have to use the horse racing analogy. The only way to guarantee that the horse you bet on wins the horse race is to bet on all the horses. There are various ways to do this.

Chapter thirteen will be devoted to alternate fusion concept and discuss in more technical detail the various approaches. We will start with the tokamaks, but also talk about a number of other approaches but not necessarily all of them.

Chapter fourteen will discuss various methods of energy storage for some of the different systems. Using the utilities as a storage device in the buy energy back mode. Battery, hydro electric, compressed gas, flywheel, and other methods. The concept of base and peak load will be explained and discussed.

Chapter fifteen will put together some conclusions and discuss additional related subjects involving energy. These will discuss food production, water production, and population control.