Introduction

Good evening and thank you for coming this evening.

Before I start my talk I would like to state that I believe that women have a great role to play and most probably have a vital role in the eventual formation of a future sustainable world order.

As a way of an introduction I would like to say a few words that address future global concerns, challenges and threats. In this respect my talk is about what I have observed over the last 40 years and more so over the last 20 years. But, what I have to say this evening is not a pretty picture of the future world if we continue to do business around the globe as we are doing presently. In this respect there is a great need for people to come out of their comfort zone so that the overriding need for sustainable change can actually happen. For only by discussing problems can solutions be found. Indeed globalization and the corporate world have in my mind to go through an unparalleled cultural change bringing communication, collaboration and cooperation together in all its facets and where these change agents become the corner stones of future international business.

Presently what I see unfortunately is a world on an unsustainable path to its own demise, where our largest corporate entities and all countries vie for their own self-interests. This philosophy has increased over the last quarter of a century as globalization has opened up trade and where this dynamic force for self-preservation will intensify I am perfectly sure. For in this respect there are many global problems on the horizon for humankind. But, the two most important in my view are that the world is using up its natural resources far too quickly and at an unprecedented and unsustainable rate. Indeed where in the not-too-distant future, some elements will disappear completely. Secondly that population growth is now estimated to be between 9 and 11.5 billion by the UN by 2050. I therefore believe that the combination of these eventual events will bring about grave international consequences. China saw this vision several decades ago and has been securing its way into the natural resources of
many countries throughout the world since the 1980s. Unfortunately long-term self preservation will become ever clearer in the next few decades.

Having analysed over many years the way that the world is moving, I have, over time, come to the conclusion that it is vital that women must be fully represented in the corporate boardroom, at least 50/50, and where eventually they have to take the predominant role as the most senior executives, CEOs etc. For in this respect the corporate world is the most powerful instrument in the world for change, not politics. A lot of people do not know in this respect but according to Forbes, in 2011 the Global 2000 companies accounted for $36 trillion in revenues (up 12% from the year before), $2.64 trillion in profits (up 11% from 2010), had $149 trillion in assets (up 8% again) and had a $37 trillion market value. These firms also employ 83 million people worldwide but where this is just a mere 1.2% of the world’s total population or between 2.4% and 3% of the global working population. We can therefore see that just 2000 companies weald enormous economic power and control around 51% of total global GDP. In this respect according to the IMF, the global GDP of the world in 2011 was in nominal terms, around $71 trillion and in PPP terms, some $79 trillion.

For the fifth year running Asia-Pacific produced the most names on The Global 2000, with 733 firms, showing I believe how powerful in economic terms this region of the world has become and is becoming. Our Foundation some 15 years ago within its first scientific discovery newsletters made much of the rising out-of-balance economic power in the east, but no one listened to why this would become an eventual threat to the West’s standards of living. All that corporates saw was opportunity.

But now to some of the reasons why in scientific and technological terms women are the equals of men and in many cases their peers.

The history of the world is littered with how women have made their mark on society not least in the scientific world. Therefore I would now like to outline just four of many women scientists whose thinking has revolutionised the modern world.
The first is a controversial women who possibly determined her husband’s greatest scientific triumphs in the 20th century but without recognition. Her name was Mileva Einstein-Marity, the first wife of Einstein. Marity was her maiden name and this is important as you will now see.

Einstein’s wife Mileva Einstein-Marity was named initially on the officially submitted papers as the co-author of Einstein’s most famous papers on Special Relativity and others in 1905. Indeed on the first manuscript seen by a famous Russian scientist it only had prior to that official submission, the name of Einstein-Marity on it as if it was solely hers. It was the name Mileva used and where Einstein himself never used this name only his own, Albert Einstein. As Einstein became world famous, and where we were definitely living in a man’s world, the name of Mileva Einstein-Marity was dropped completely from the official submitted scientific papers and no further reference thereafter was made of her or her possible contributions; not even the fact that the papers might have been hers.

There is further evidence that Einstein was not the genius that we have all become to accept. Up to the end of 1939 he did not believe that nuclear fission could be created on earth (the energy of the sun). In this respect it was one of his very gifted students Leó Szilárd (Silard) who had privately undertaken the complex mathematics privately that proved that a chain-reaction was possible. Thereafter in 1939 after Szilárd (Silard) had proven to Einstein the undeniable truth through his mathematics (whether Einstein understood them is also controversial), Einstein and Szilárd (Silard)wrote the world famous letter to President Roosevelt in 1939 to build the bomb on the grounds that the Nazis could just as well come to the same conclusion and proof in time. History shows that they did and the race was on. Therefore if Einstein was so brilliant why did he not calculate this himself? Indeed why after the 1905 papers on relativity did he not do anything of any great significance and in the years after he had split from his wife Mileva? In many ways it all points to the fact that Mileva was possibly the one behind Einstein’s great discoveries in science. We may never know as the majority of letters during the later 19th century and pre-1920 from Mileva to her husband and visa-versa,
were either destroyed or heavily edited by Einstein later and which rendered most of them illegible. You can infer here to the reasons why Einstein did this, but where Mileva after the divorce in 1919 purely looked after their two sons, Hans Albert and Eduard and where Einstein had given her the total monetary award from the Nobel Prize. Was this a good deed or a cover-up many have asked, as Einstein could have just paid for his disregarded family’s upkeep with maintenance payments at a greatly reduced cost? For there is much evidence that proves Einstein treated his wife with distain and great disaffection after 1905. You have to keep in mind here again that we are truly living in a mans’ world and women had no real place other than the home. For men would ask, how on earth could a women possibly come up with the theories of relativity and other complex breakthroughs?

It is known that Mileva Einstein was also a brilliant mathematician, although Einstein supporters will say differently. It is known for instance that she corrected Einstein’s mathematics when they were at polytechnic together and pre-1905 and prior to Einstein’s so-called papers being released into the public domain.

Added to these facts is that Mileva studied on her own for one semester in Germany under Phillipe Lenard, the Nobel Prize winning physicist who discovered the photo-electric effect (which was explained in one of the 1905 papers attributed to Einstein).

Also the fact that Einstein had Dyslexia and this physiological handicap would have been a great disability for anyone including an aspiring world scientist.

The facts seem to point to the conclusion that much information has been suppressed in a mans’ world and where Mileva Einstein may very well have been the brilliant mind behind the theories of relativity and Einstein’s world changing papers.

**The second is Rosalind Elsie Franklin who unfortunately did not share the** Nobel Prize in Physiology or Medicine in 1962 for the body of work on nucleic acids and the discovery of the Molecular Structure of DNA – the greatest physiology and medical
breakthrough of the 20th century and possibly of all time. This was unfortunately due to her death in 1958 at the age of 37 from complications arising from ovarian cancer. But her story is more about how, by not speaking to people, you can give away to others a Nobel Prize.

Rosalind Franklin was a leading biophysicist and X-ray crystallographer who was working in the laboratories of Kings College, London. At the other end of her corridor was another scientist called Maurice Hugh Frederick Wilkins who was her equal in status (but where he would never accept this fact) and who was working on the same research as Franklin but where for personal reasons, were independent of each other. They never collaborated and only very occasionally spoke and had any discussions. But where it has to be said that Franklin in the early days did give Wilkins a photograph of her fuzzy image of what was to be eventually confirmed as a picture of DNA. She did not know this at the time. Unfortunately after that they never even talked together or spoke to each other, even as they passed each other in the same corridor. It has to be said though that if both had got together in earnest many leading scientists consider that they would have most probably determined the structure of DNA before Crick and Watson, thus possibly eliminating them from the Nobel Prize.

For Watson and Crick used stick-and-ball models to test their ideas on the possible structure of DNA. Other scientists like Rosalind Franklin and Maurice Wilkins used experimental methods instead, using X-ray diffraction to understand the physical structure of the DNA molecule. For when you shine X-rays on any kind of crystal and some biological molecules, such as DNA, they can form crystals if treated in certain ways for the invisible rays bounce off the sample. The rays then create complex patterns on photographic film. By looking at the patterns, it is possible to figure out important clues about the structures that make up the crystal. Both Franklin and Wilkins had together the knowledge through their research and photographs to build a model of the structure of DNA, but, because they never spoke to each other, they never got the complete picture. Indeed, between 1951 and 1953 Rosalind Franklin came very close to solving the DNA structure herself. She was beaten to publication by Crick and Watson.
in part because of the friction between Wilkins. Watson’s breakthrough came when Wilkins showed Watson one of Franklin's portraits of DNA.

Overall, Franklin’s and Wilkin’s collaborative and opportunistic instincts were totally unlike Watsons’ who visited both and where with his colleague Crick, had unsuccessfully attempted many times to produce a working model. But it was Watson who took the initiative to visit both Franklin and Wilkins on two separate occasions and in order to not raise any suspicions. Indeed when Watson saw what both had done and especially Franklin’s ex-ray picture, he then knew the solution and with Crick’s help soon created the first successful model of the structure of DNA.

According to historical data and information, Rosalind Franklin had provided the most important research data that solved the solution to the structure of DNA – the greatest discovery in physiology and medicine of the 20th century and possibly of all time.

The third is Isabella Karle who is the wife of our former president, Nobel Laureate Jerome Karle. Isabella is a brilliant scientist and world-leading X-ray crystallographer. She is one of only a few women in history who has been awarded the National Medal of Science by the United States and which is presented by the US president. Not even Jerome Karle has been awarded America’s highest scientific award. But, where Jerome would tell you that Isabella provided a great deal of insight into the reasons why he jointly with another received the Nobel Prize in Chemistry in 1985. Indeed he will admit that his wife should have also received the Nobel Prize with the two men. Unfortunately the male dominated Nobel committee overlooked her.

This particular Nobel award was given because it made possible, Crystal structures that once took months to analyze, to be determined in a matter of hours using the methods developed by Hauptman and Karle and Isabella. In this respect crystallography gives us the three dimensional structure of atoms and where in this case the leading-edge expertise of Isabella was so important.
Indeed, determining the structure of a molecule is essential to understanding its chemical bonding and its reactions and interactions with other molecules. As an example, in order to design new drugs and synthesize rare natural products, it is important to have a precise, three-dimensional picture of the arrangement of atoms within the molecule.

Isabella is a prime example here of where the male dominated Nobel Committee were apparently unaware of a female scientist’s great contribution to the advancement of science. Did they possibly take a blind eye to the matter, we will never know. For after all, it was generally known in the scientific world that Isabella was working on the solution also with her husband at the US Naval Laboratories in Washington. Therefore in many ways the 1985 Nobel Prize for Chemistry should have had three joint-recipients, Hauptman, Karle and Karle. It should be noted here also that the Nobel Committee have been criticised many times for their oversights and their wrong judgement with regard to women. Indeed in relative times, where they snubbed the first-ever female president of the UK’s Institute of Physics, Jocelyn Bell Burnell who was denied a Nobel Prize for her discovery of pulsars, one of the greatest events in 20th century cosmology. For although she discovered the first pulsar, she was at the time a student of Anthony Hewish who was awarded the Nobel Prize.

Jocelyn is a brilliant world-class scientist but it is little known that she failed her 11-plus ! It therefore shows if you have it in you, you can excel at anything I believe. Indeed, that is why my experience has shown to me also, that you can never discount anyone on the lack of pure academic qualifications.

The fourth and final example, but where there are countless numbers of where women have been the creative force behind human progress is Marie Curie. Marie Curie was a Polish physicist and chemist who lived between 1867-1934.

Together with her husband, Pierre, she discovered two new elements (radium and polonium, two radioactive elements that they extracted chemically from pitchblende
ore) and studied the x-rays they emitted. She found that the harmful properties of x-rays were able to kill tumours, but where, for unknown reason, she made a conscious decision not to patent methods of processing radium or its medical applications. If she had done, she would have literally made a fortune, possibly as great as Nobel himself? Her co-discovery with her husband Pierre Curie was recognized in 1901 with being awarded the joint Nobel Prize in Physics.

In 1911 Marie Curie was honoured with a second Nobel prize but where this time it was in chemistry to honour her for successfully isolating pure radium and determining radium's atomic weight. No other person and not even a man, has ever been awarded two Nobel Prizes in two different scientific fields. Indeed only 3 men have accomplished the astonishing feat of being awarded two Nobel Prizes but where these prizes were in the same scientific field or with the combination of a Peace Prize. Therefore Curie is unique in science and a woman of course.

As a child, Marie Curie amazed people with her great memory. She learned to read when she was only four years old and because her father was a scientist that kept instruments in a glass case, science became to fascinate her. Indeed in her early life she dreamed of becoming a scientist but where for a woman in the 19th century it was extremely difficult to say the very least. Unfortunately added to this fact, her family became extremely poor and at the age of eighteen Marie became a governess in order to sustain herself and her dependant family.

By her very nature she always wanted to help others and where as one example, she paid for her sister to study in Paris. But where this show of support and self denial was repaid by her sister and where later she helped Marie with her own education. In 1891 at the age of 24 Marie attended the Sorbonne where she met and married Pierre Curie. They married in 1895 but in 1906 due to a sudden road accident Pierre died and where Marie Curie had to raise her two small daughters on her own (they were Irène, who would eventually in 1935 be awarded like her mother previously, the Nobel Prize in Chemistry, and Eve who became an accomplished author). But even though Marie had
lost her soul-mate, she was able to continue an active career in experimental radioactivity measurements. Indeed 5 years after Pierre’s death she was awarded her second Nobel Prize in chemistry.

Marie Curie contributed greatly to our understanding of radioactivity and the effects of x-rays. She received two Nobel prizes for her brilliant work, but died of leukaemia, caused by her repeated exposure to radioactive material. Therefore she was also brave and brilliant at the same time and where she knew of the effects of exposure to radioactivity. Marie Curie was therefore unique in science and where no man to date has excelled greater or equalled her Nobel awards in two separate scientific disciplines.

She was without doubt the greatest scientist that France has ever produced and debatably the greatest scientist of the 20th century, even discounting Einstein. But I and others would say that she was most probably the greatest woman scientist of all time.

In finishing off the first half of my talk I would state that only 16 Women have ever been awarded the Nobel Prize in a science discipline or 17 if economics is included. In comparison the award has been given to men in the sciences on 603 occasions. Therefore women have only accounted for 1 in 35 of Nobel Science Awards to date. Hopefully though this might be changing, as the golden year for women in science was 2009 when four women were awarded a Nobel Prize in the sciences. Sadly no Nobel science prizes were awarded to women in 2010 or 2011, but where I am sure that 2009 will not just be a blip on the radar. Much more is to come I am sure in the scientific world from women!

But the real reason why I have listed these women is because it is my strong conviction based upon historical evidence that women are just as able and as good, if not better, than men when it comes to creativity and intelligence.

Hopefully therefore in the 21st century the Nobel Prize Committee will start to open up their minds more to this fact and where I believe that they have to do for the future
good of all humanity. Indeed, women in my mind are just as innovative and creative as men and are a vitally important component for the stability of the future world. In this respect I will now tell you why I believe they are.

Now to the reasons why I consider women are so vital in running businesses in the future both domestically and globally and where these are multi-facetted.

I have previously outlined how powerful the 2000 largest companies in the world are in economic terms. Considering that these companies controlled last year around 51% of the world’s economic turnover, it should be clear that companies and not governments in real terms determine the world’s future. So-much-so that the power of politicians and even presidents of the United States and China have inevitably to bow to this immense economic and financial power.

But it has to be said presently that there are negative factors related to global corporations and a lot has to do with who runs them it appears. Last year there was a programme that was shown on the BBC and which looked at the people who control businesses and politics in part. The name of this programme was, ‘Are You Good or Evil.

Unfortunately it appeared through this programme that at the top of some of our largest companies worldwide, greed, self-interest and a sense that whatever you do you are safe from prosecution had emerged. These CEOs had no empathy for others or society. The reason may have been caused by many things, but an insight into one possibility may be found in this TV programme. For it came to the conclusion that one in 25 senior directors lacked a certain gene that prevents empathy developing towards others. If this is the case, only regulation can solve the problem, as self-regulation allows those with this lack of empathy towards all others to continue unabated. Indeed with them having no empathy towards all others and only for themselves, the harm that they are doing towards their fellow man or woman will continue unchecked.
But added to this, the programme went on to state through its research, that many charismatic and articulate top business people have also psychopathic personalities, manipulative, controlling and yet very able to lead people into bad decisions

Unfortunately as we know, global business has been littered with nonstop scandals over the last few years including financial meltdowns, recently the misselling of complex and fraudulent financial products to SMEs, the manipulation of the LIBOR, the $3 billion plus fine for fraud against GlaxoSmithKline, the $7.5 billion plus fine for manipulating interest rates on credit cards by VISA, MasterCard and the large banks (agreeing to pay a $7.25bn settlement to retailers over card fees due to colluding in fixing the fees that stores pay to process credit and debt card payments), and this week, HSBC’s laundering of the money of criminal cartels etc around the world. Although there has always been business scandals, Maxwell et al, things appear to have stepped up a gear or two over the past quarter of a century with the manifestation of globalization and where any so-called regulation of our largest institutions has to all intents and purposes failed the consumer in a big way. Unfortunately based on very recent history, it still is doing so.

Therefore it is clear to me that further research has to be undertaken on this very important subject of who runs our biggest global businesses and where the BBC’s programme may be at the heart of what might be wrong in part with corporate governance today. In this respect that some people are incapable of sympathizing with others or caring about their actions and their dire effects on others.

Indeed would the rigging of the LIBOR have happened if women managers had been in charge? Possibly, but where it depends on whether Mr. Diamonds was telling the truth when he stated that he only found out this month. But if he did know, then there is a higher possibility that it would not have happened in my mind if female managers had been running the show.
In respect of Pharmaceuticals, would GlaxoSmithKline have fraudulently sold ten of its drugs over the years if female managers had been in charge? Debateable, but where personally I consider that because of the effects on children and diabetics etc that these drugs ultimately had adverse effects upon, a women’s maternal instincts would have been hovering around and may very well have stopped such a life-threatening event actually happening. WE do not know as yet how many lives were lost through this blatant misselling and the non-disclosure of the adverse affects of these drugs caused. But it could go into quite a few.

But whatever we do in life as corporate managers, our ultimate mission has to be the sustainability and preservation of the human experience itself. If we forget those things, we forget our humanity. WE all know that politics and business is totally intertwined and where one affects the other. In this respect one has to understand that women have had a raw deal and it was only 84 years ago in 1928 when all women over the age of 18 fully got the vote. This was some ten years later where in 1918 only women over thirty could vote. But although the UK was slow in this respect, Switzerland only gave the vote to woman in 1971 believe it or not. Therefore women were classified as second class citizens in the UK up to only eight decades ago. This has had a great effect I believe to why it has taken such a long time for women to get into the board rooms and especially those in the top global corporations. But things are hopefully changing, all be it unfortunately only slowly for human sustainability. For in my mind it is now a prerequisite for the very survival of humankind, as companies dictate the future and whether human life can be preserved or not.

PAUSE

In this respect the earth’s natural resources are being depleted at an unprecedented rate of extraction. At the current and projected rates of increase our Foundation some 15 years ago predicted that if all humankind were to live at the same per capita to that of the USA, we would need by the turn of the 21st century the resources of three planet earths and where this would only last for a further 300 years. To reinforce this scenario (no use in putting one’s head in the sand, as it will come to pass if we do not change our
management of the planet), only a few weeks ago at the Rio-2 Conference, Dr. Janez Potočnik the EU environment commissioner stated that on our present path of development we would need the natural resources of two planet earths by 2050 which is only a mere 38 years from now. Reinforcing this view ten years ago the World Wildlife Fund (WWF) published a report stating that the Earth's population will be forced to colonize two planets within 50 years if natural resources continue to be exploited at the current rate. It has done so and increased a further 20% over the past 6 years alone. Overall, our present global development mechanisms are extracting at such a pace that it is outstripping the planet’s capacity to support human life in the future. It is therefore unsustainable in the long-term.

Indeed to give you a view of the future situation the following elements taking recycling into account (everything in other words) has a supply time to exhaustion of approximately the following. Or in other words, when all has been mined and recycled that is what is available.

Indium will be fully mined in 7 years and will run out. Indium is vital for Liquid Crystal technology and once used cannot be replaced.

Silver will be fully mined in 23 years and will run out. Thereon the world’s future development will have to be undertaken from this exhausted finite resource. Silver is the best conductor of electricity, every computer, server, monitor, cell phone and switch must have silver. Lasers, satellites, high-tech weaponry and robotics, all require silver. Digital technology and telecommunications need silver. Conductors, switches, contracts and fuses use silver because it does not corrode or cause overheating and fires. Around the house there's silver in every TV, washing machine, wall switch and refrigerator.

Antimony will be fully mined in 24 years and will run out. Thereon the world’s future development will have to be undertaken from this exhausted finite resource. It is used as a hardening alloy for lead, especially storage batteries and cable sheaths, also in
bearing metal, hardened types of metals, solder, collapsible tubes and foil, sheet and pipes, and semiconductor technology. One of the most important use of antimony is in chemicals used to impregnate plastics, textiles, rubber, and other materials as a flame retardant and fireproofer.

Gold will be fully mined in 30 years and will run out. Thereon the world’s future development will have to be undertaken from this exhausted finite resource. Gold ranks among the most high-tech of metals, performing vital functions in many areas of everyday life. Gold's unique properties make it useful in medical applications, pharmaceuticals, pollution control, air bags, mobile telephones, laptop computers, space travel, and many other things we consider indispensable to our modern lives. Approximately 12% of demand for gold comes from industry every year currently. Indeed every time you touch a key on your computer it strikes a gold circuit that relays your command to the computer's microprocessor and where gold is also needed in fuel cells and other advanced technologies.

Tin will be fully mined in 34 years and will run out. Thereon the world’s future development will have to be undertaken from this exhausted finite resource. Tin is indispensable in the long-term storage of food products and most notably in tin cans. We also use a lot of tin foil. Although it can be recycled, only 26% on average is recovered from past products every year.

Lead will be fully mined in 36 years and will run out. Thereon the world’s future development will have to be undertaken from this exhausted finite resource.

Zinc will be fully mined in 40 years and will run out. Thereon the world’s future development will have to be undertaken from this exhausted finite resource. Most people would not even be aware that they come in contact with it many times a day and where a typical car uses about 10 kgs of zinc. About a third of all zinc is used to galvanize metals such as iron so as to prevent corrosion happening to other metals
such as steel. It is also used for dry batteries, roof cladding, and to protect iron structures from corrosion again by attaching zinc as sacrificial anodes. Therefore it is an important basic element and without it a lot of things would not last long.

Uranium will be fully mined in 53 years and will run out. Thereon the world’s future development will have to be undertaken from this exhausted finite resource which will eventually cease to exist due to radioactive decay. It is used as fuel for nuclear power reactors, explosive and yield booster in nuclear weapons, a material for armour and armour-piercing projectiles, a catalyst, an additive for glass and ceramics, a toner in photography, a mordant for textiles, an additive for the preparation of biological samples for electron microscopy and as a shielding material (from depleted uranium). Without it the present world could not sustain itself and therefore alternatives will have to be found especially in the energy field.

Copper will be fully mined in 55 years and will run out. Thereon the world’s future development will have to be undertaken from this exhausted finite resource. Copper is used in so many things that the list is very long. But copper is a material that we just cannot do without and when it comes to the future development of the world, it will be in high demand. That is again why China is so interested in securing supplies of such metals for its long-term future. I might add, not ours I am afraid to say.

Nickel will be fully mined in 84 years and will run out. Thereon the world’s future development will have to be undertaken from this exhausted finite resource. Nickel is used primarily for the alloys it forms. It is used for making stainless steel and many other corrosion resistant alloys together with copper-nickel alloy tubing that is used in desalination plants. It is also used as we know in coinage and for armor plating. Nickel plating is applied to other metals to provide a protective coating and where finely divided nickel is used as a catalyst for hydrogenating vegetable oils. It is also used in ceramics, magnets, and batteries. Overall it is a basic metal for the support of modern life.
Tantalum will be fully mined in 110 years and will run out. Thereon the world’s future development will have to be undertaken from this exhausted finite resource. It is highly corrosion resistant and part of the refractory metals group which are widely used as minor component in alloys. The chemical inertness of tantalum makes it a valuable substance for laboratory equipment and a substitute for platinum. Its main use is in tantalum capacitors in electronic equipment such as mobile phones, DVD players, video game systems and computers. But there are many uses for tantalum including the formation of super alloys for jet engines.

And finally Chromium which will be fully mined in 137 years and will run out. Thereon the world’s future development will have to be undertaken from this exhausted finite resource. This may seem a long way away, but one has to consider long-term sustainability and what is left for our future generations. It is the main ingredient with iron that creates Stainless steel and chromium salts are a major timber preserver. Chromium is used for many applications currently.

It is very important to understand, that when all the above are mined and recycled, that quantity will be all that is the available for the whole world. As demand still increases year-on-year, only those who have the financial resources or the military power will be able to buy or gain these then resources which then will be finite.

You can now see why China is so interested in securing natural resources around the world.

But there is another major problem with regard to natural resources. There are also Rare Earth Metals (REMs) that constitute 17 elements that are needed for human progress. They are used in just about every modern-day and clean-tech device including hybrid cars, cell phones, laptops and numerous defense technologies. In other words, these 17 elements are critically important for the high-tech industry. These elements have names like lanthanum, neodymium, europium, and yttrium. They are critical to a variety of high-tech products including catalytic converters, colour TV
and flat panel displays, permanent magnets, batteries for hybrid and electric vehicles, and medical devices; to manufacturing processes like petroleum refining; and to various defence systems like missiles, jet engines, and satellite components. They are even used in making the giant electromagnets in modern wind turbines. But rare earth mines are failing to keep up with demand.

Indium which we have mention will disappear in 7 years if we are not careful is used in indium tin oxide, which is a thin-film conductor in flat-panel television screens. Some are now suggesting that shortages of energy minerals including indium, REEs, and lithium for electric car batteries could trigger trade wars.

Gallium is another rare element that is projected to run out in 2017 It is essential in making liquid-crystal displays in cell phones, flat-screen televisions, and computer monitors. With the explosive profusion of LCD displays in the past decade, supplies of gallium have become critical.

Palladium (along with platinum and rhodium) is a primary component in the autocatalysts used in automobiles to reduce exhaust emissions. Palladium is also employed in the production of multi-layer ceramic capacitors in cellular telephones, personal and notebook computers, fax machines, and auto and home electronics. Russian stockpiles have been a key component in world palladium supply for years, but those stockpiles are nearing exhaustion, and prices for the metal have soared as a result.

Uranium.

In 2006, the Energy Watch Group of Germany studied world uranium supplies and issued a report concluding that, in its most optimistic scenario, the peak of world uranium production will be achieved before 2040. If large numbers of new nuclear power plants are constructed to offset the use of coal as an electricity source, then supplies will peak much sooner.
Tantalum for cell phones. Helium for blimps. The list could go on. Perhaps it is not too much of an exaggeration to say that humanity is in the process of achieving ‘Peak’ Everything in this present century.

3.3 Population growth
The world’s population in 1812 was estimated at around 850 million. In 1912 it had increased to an estimated 1.65 billion. Therefore in 100 years the world’s population had increased by 800 million and about doubled itself. But, over the next 100 years even though we have had two world wars and the worst global killer-pandemic ever with the Spanish Flu that took up to 100 millions lives, we have increased humankind by an estimated 5 billion to just over 7 billion and quadrupled our population over a mere ten decades.

By mid-century, which is only another 38 years away, the world’s population is projected to grow to between 9 billion and 11.5 billion according to the UN. This is totally unsustainable unless we change our mindsets and where unparalleled pressures will probably cause the wrong things to happen. Indeed with regard to natural resources and the needs to preserve national values if I can put it that way, in December 2009 the USA's most influential security think-tank the National Intelligence Council (NIC) based in Washington stated in their report, and for the 'first' time ever, that nuclear weapons would most probably be used to defend borders in safeguarding natural resources in the future. Things are therefore not that rosy for the future world.

What therefore might be the solutions?
When we address this question we have to consider the ramifications for our future generations and how we can prevent or negate these global problems so that they do not harm our future loved ones. The solution as we all know as managers is always the hardest task, but where we have to find solutions for these uncompromising global problems.

Communication, cooperation and collaboration are the prerequisite words for now and in the future. If we do not adopt this understanding we shall have no chance of avoiding
the problems that reside upon the horizon. Indeed without this happening both the corporate world and countries will eventually fail.

**What can we do to make sure that Women Bring influence around the World in Corporate Boardrooms?**

According to Lord Davies’s report ‘women on boards’ (February 2011), there were in 2010 only one in six women represented on the boards of FTSE 100 companies. When it came to the FTSE 250, the figure dropped to less than one in nine. But when it came to actually running big companies, we have a very different story to tell according to Forbes analysis and where in the same year the number of women CEOs in the FTSE 500 was only 1.8% or a ratio of 1 in 55. In the USA it was slightly better, but not much, where only 2.4% (1 in 41) within the Fortune 500 companies were run by women CEOs.

Accountants Grant Thornton agreed with the above in their 2012 international business report ‘Women in senior management: still not enough’ and where the 40 countries that they analyzed only 1 in ten CEOs of our largest concerns were women. Another international study estimated globally that the numbers of women holding CEO or chairman status was only one in 25 or four out of every hundred. Surprisingly Russia had the highest number of women in senior management roles and where the UK came 31st out of 40 advanced nations analyzed.

Why is this, as according to Forbes and others, there is compelling and ever increasing evidence that companies with more than three women on their board have a higher return on investment? It appears shear madness therefore that there are not more women on company boards, even though it makes good business sense. Indeed a shocking statement in my view is that Forbes also states that nearly 25% of Fortune 500 companies still do not have one woman on their corporate boards.

But having said this, there are seemingly positive signs in the UK within the political arena. For in this respect it appears that we have support for great change in boardrooms and where at least outwardly the Prime Minister David Cameron is an ally
supporting more women to be elevated to the main boards of UK business and industry. In Stockholm he warned in February of this year that Britain's economic recovery is being held back by a lack of women in the boardroom and where he stated, “The evidence is that there is a positive link between women in leadership and business performance, so if we fail to unlock the potential of women in the labour market, we're not only failing those individuals, we're failing our whole economy.” It certainly makes sense as women now make up nearly half the workforce across Europe and have the majority of university degrees. It is noted that in Norway women occupy over 44% of all boardroom seats of their largest companies due in the main to government legislation. Therefore there is a great imbalance in the UK when it comes to gender where main boards are concerned currently. Indeed there is a mountain to climb, but a mountain that we must climb for the good of all.

Government could introduce and impose quotas, but where people like the Home Secretary and minister for women and equalities Theresa May, is not keen apparently on this introduction currently. Therefore government has a laissez faire stance on the issue it appears also.

But having said that, we have increasingly to put pressure on government to see that women do climb the ladder to CEO and chairman level in our biggest corporates.

Unfortunately the government’s record in this respect is not good. A recent analysis **Under-representation in Public Appointments** published in January 2012 by **Strictly Boardroom**, a specialised board-focused governance consultancy stated that Government is failing in public appointments of women. Between 2010 and 2011 Percentage of appointments held by women aged 40-49 fell from 17% to 10%, the Percentage of appointments held by women aged 30 – 39 dropped from 9% to 4% and the Percentage of appointments held by women aged under 30 fell from 2% to 0.70%. In total in 2011 there were around 1,500 public appointments down from 34% to 33% and the number of women chairs shrank from 22% to 18% between 2010 and 2011. The government appointed 100 chairs in total and where only 18 of them were women. But
on the other side of the coin, paid public appointments has increased by 7% and the number of people holding 2 or more public appointments has increased by 138%, inferring again that more men are being appointed, not women.

*But overall I believe that governments just don’t know what to do as they are highly concerned about the economy and at the same time they know that the wealth of the world is made by business. Too much legislation and they fear that they will stifle economies and too little they will allow industry to run riot. It is basically a balancing act and that is why I say that businesses have to become closer together across the globe to solve the problem.*

But considering everything as it stands presently, we have it appears to undertake the needed change ourselves and through our own efforts. *Nothing really changes now does it?* Pressure groups like the women in management are one but we need many. Therefore it comes back to my initial words to you again, communication, collaboration and cooperation and where we have to join forces with other like-minded professional groups I believe. Many are now springing up within industry but this is something that the CIM could champion and act as lead institution.

In this respect there are also other women’s groups in the UK who address women’s equality. Some of them are,

1. The Women in Business Network
2. The National Women’s Register
3. The Cherie Blair Foundation

I am sure that there will be many more and where the CMI could identify these.

But if we are to change the system of business, which we have to do, we have to communicate, cooperate and collaborate with like-minded organization.

*What can we do therefore?*
In this respect what comes to mind initially are,

1. That Women in Management and other like groups and institutions in the UK and around the world join forces over the coming years. In this respect our Foundation can help towards achieving this goal and give support for Women in Management through our global network.

2. We can create together new innovation structures and environments. Our Foundation can again help here to develop these new ways to provide sustainable future development of the world order.

3. Women in Management can constantly lobby government and petition them for more women to be equal on corporate boards.

4. We can hold annual global conferences in Leeds or London for Women in Management that concern global Management Change.

There will be many more ways of changing the status quo I am sure and where I believe that the chartered management institute is well placed to determine these.

In conclusion I thank you for listening to me and hope that I have provoked further thought for discussion on this vital topic of needed global change!

Thank you!
Women who have been awarded Nobel Prizes in the sciences

The Nobel Prize in Physics
1963
Maria Goeppert Mayer
1903
Marie Curie

The Nobel Prize in Chemistry
2009
Ada E. Yonath
1964
Dorothy Crowfoot Hodgkin
1935
Irène Joliot-Curie
1911
Marie Curie

The Nobel Prize in Physiology or Medicine
2009
Elizabeth H. Blackburn
2009
Carol W. Greider
2008
Françoise Barré-Sinoussi
2004
Linda B. Buck
1995
Christiane Nüsslein-Volhard
1988
Gertrude B. Elion
1986
Rita Levi-Montalcini
1983
Barbara McClintock
1977
Rosalyn Yalow
1947
Gerty Cori

The Prize in Economic Sciences
2009
Elinor Ostrom