INSTITUTE OF ENERGY ECONOMICS JAPAN (IEEJ)

WEDNESDAY 3 JULY 2013

A FOREIGN AND COMMONWEALTH OFFICE VIEW OF THE GEOPOLITICS OF ENERGY

STIVE CROSSMAN

THANK YOU FOR THE HONOUR OF SPEAKING TO YOU TODAY.

MY NAME IS STEVE CROSSMAN, AND I HEAD THE TEAM AT THE FOREIGN AND COMMONWEALTH OFFICE RESPONSIBLE FOR CLIMATE AND ENERGY IN ASIA, THE AMERICAS AND AFRICA. IT IS MY GREAT PLEASURE TO BE ACCOMPANIED BY MY COLLEAGUE ANGUS MILLER, THE FOREIGN AND COMMONWEALTH OFFICE'S SENIOR ENERGY ADVISER WHO BRINGS PROFESSIONAL INDUSTRY KNOWLEDGE AND EXPERIENCE TO THE TEAM.

WHY DO THE DEPARTMENT OF ENERGY AND CLIMATE CHANGE AND THE FOREIGN AND COMMONWEALTH OFFICE BOTH FOCUS ON CLIMATE AND ENERGY? DECC SETS UK POLICY AND WORKS TO IMPLEMENT IT DOMESTICALLY. THE FCO WORKS IN THE INTERNATIONAL POLICY SPACE IN SUPPORT OF THAT POLICY AND TO INFLUENCE OTHERS FOR WHAT WE BELIEVE TO BE THE COLLECTIVE GOOD.

MY ADDRESS WILL FOCUS ON ENERGY BUT I ALSO PROPOSE TO SAY SPEAK OF CLIMATE AND WATER ISSUES. ON FIRST EXAMINATION IT MAY APPEAR STRANGE TO ADDRESS BOTH TO INCLUDE CLIMATE AND WATER ISSUES IN AN ENERGY PRESENTATION BUT I HOPE OVER THE NEXT FEW MINUTES YOU WILL COME TO SEE THEM, AS WE DO, AS MULTIPLE FACETS OF THE SAME ISSUE.

MY TEAM HAS TWO ROLES. THE FIRST IS TO WORK TO ENSURE A STABLE AND AFFORDABLE FLOW OF HYDROCARBONS TO THE GLOBAL MARKET, TO WORK TO BALANCE SUPPLY AND DEMAND. THIS IS CRUCIAL TO THE UK'S OWN ENERGY SECURITY. WE OPERATE ONE OF THE MOST OPEN AND TRANSPARENT MARKETS IN THE WORLD. IN RETURN, THE FREE MARKET HAS DELIVERED AFFORDABLE ENERGY FOR US. BUT WE NEED THAT ENERGY TO BE OUT THERE IN THE GLOBAL MARKET FOR US TO BUY.

NONE OF US LIVE IN A VACCUUM. THE WORLD NEEDS ENERGY AND IF SUPPLIES ARE INADEQUATE PRICES WILL ESCALATE, ECONOMIES WILL BE DAMAGED AND ULTIMATELY CONFLICT WILL FOLLOW. SUCH CONFLICT WILL DAMAGE US ALL.

BALANCING SUPPLY AND DEMAND IS COMPLEX ENOUGH BUT THE SITUATION IS FURTHER COMPLICATED BY THE CLIMATE CHALLENGES THE WORLD FACES. KEEPING GLOBAL WARMING TO 2 DEGREES OR LESS REQUIRES THAT WE SEVERELY CONSTRAIN OUR USE OF HYDROCARBONS FOR ENERGY. AT FIRST GLANCE THESE TWO POSITIONS MAY SEEM INCOMPATIBLE: BUT THE REALITY IS THAT THEY ARE NOT.

THE WORLD IS GOING TO DEPEND ON HYDROCARBONS FOR MANY YEARS YET. DEMAND CONTINUES TO GROW MUCH OF IT DRIVEN BY INCREASED DEMAND FROM ASIA AND THE FAR EAST. HOW DO WE BALANCE THESE APPARANTLY CONFLICTING REQUIREMENTS?

MY TEAM WORKS TO INFLUENCE THE POLICY SPACE DEMONSTRATING TO OTHER GOVERNMENTS WHAT ALTERNATIVES ARE AVAILABLE: RENEWABLES (WIND, SOLAR, TIDAL ETC) REDUCE DEMAND AT THE SAME TIME AS THEY REDUCE EMISSIONS. PROMOTING ENERGY EFFICIENCY (IN HOUSES, VEHICLES, SHIPPING, AIR TRANSPORT) BRINGS SIMILAR BENEFITS AS WELL AS LOWERING INDUSTRY COSTS. CAREFULLY MANAGED BIOFUEL CULTIVATION BRINGS SIMILAR BENEFITS, REGROWTH TAKING UP THE CARBON DIOXIDE THAT BURNING THE FUEL HAS RELEASED. AND AT THE UK’s GIANT DRAX COAL FIRED POWER STATION THEY ARE EXPERIMENTING WITH WOOD PELLETS WITH THE ULTIMATE AIM OF CAPTURING THE CARBON DIOXIDE THROUGH CARBON CAPTURE STORAGE AND PERMANENTLY LOCKING IT AWAY. IF WE CAN PERFECT THIS THEN WE WILL HAVE FIND A METHOD OF GENERATING POWER THAT <u>EXTRACTS</u> CARBON DIOXIDE FROM THE ATMOSPHERE.

UNFORTUNATELY THE COMPLEXITY OF THE ISSUES DOES NOT END HERE.

ONLY A FEW YEARS AGO ENERGY TENDED TO BE VIEWED AS A STAND ALONE ISSUE. HOWEVER, AS DEMAND HAS INCREASED AND EASILY ACCESSIBLE SUPPLIES DWINDLED THE COMPETITION FOR ENERGY AND THE COST OF ACCESSING IT HAVE RISEN SIGNFICANTLY – FROM AS LITTLE AS US$$25 PER BARREL IN 1999 TO A PEAK OF ALMOST US$150 PER BARREL IN JULY 2005 AND WHILST PRICES HAVE DROPPED TO AROUND A MORE MANAGEABLE US$100 PER BARREL NOW THE LONG TERM FUTURE TREND FOR BOTH OIL AND GAS CAN ONLY BE UPWARDS. THE IMPACT OF HIGHER PRICES AND INCREASING DEMAND IS INCREASINGLY LEADING TO GOVERNMENTS VIEWING THEIR ECONOMIES AND FOREIGN POLICY THROUGH AN ENERGY PRISM.

HIGH PRICES HAVE THE GREATEST IMPACT ON THOSE WHO CAN LEAST AFFORD THEM – POOR COUNTRIES AND POOR PEOPLES. MANY GOVERNMENTS HAVE TRIED TO OFFSET THE IMPACTS OF HIGH PRICES BY INTRODUCING SUBSIDIES. BUT THESE ARE A BLUNT EDGED SWORD, OF GREATEST BENEFIT TO THOSE WHO USE THE MOST ENERGY – THOSE WHO LIVE IN LARGE AIR-CONDITIONED HOUSES AND DRIVE VEHICLES THAT USE LARGE QUANTITIES OF PETROL. THE BENEFITS TO THE

TRULY POOR, THE FAMILY LIVING IN A ONE ROOM HUT WITH LIGHT FROM A SINGLE LIGHT BULB IN THE CEILING OR A PARAFIN LANTERN, ARE MINIMAL. YET ONCE INTRODUCED SUCH SUBSIDIES ARE HARD TO REMOVE – AS WE HAVE SEEN FROM RIOTS IN NIGERIA AND INDONESIA. BUT AS ENERGY COSTS RISE SO DOES THE COST OF GOVERNMENT SUBSIDIES, RISING TO LEVELS THAT DAMAGE ECONOMIES. THE GLOBAL COST OF SUBSIDIES REACHED OVER $523 BILLION IN 2011, SEVERAL TIMES THE FUNDING INVESTED IN LOW CARBON ALTERNATIVES.

ELSEWHERE WE SEE OTHER NATIONS PREPARED TO ADJUST POLITICAL ALLIANCES, IGNORE HUMAN RIGHTS ISSUES OR TO OFFER DEVELOPMENT AID IN RETURN FOR ACCESS TO HYDROCARBONS: TO SUBJECT THEIR NATIONALS TO SIGNIFICANT RISKS TO EXPLORE AND DEVELOP RESOURCES IN THE MORE INACCESSIBLE AND UNSTABLE PLACES IN THE WORLD; AND MANY OF THE COASTAL DISPUTES THAT WE SEE AROUND THE WORLD HAVE THEIR ORIGINS IN EXTENDING TERRITOTIAL WATERS AND THEREBY GAINING ACCESS TO POSSIBLE ENERGY RESERVES OR CONCERNS REGARDING THE SECURITY OF MARITIME ENERGY ROUTES.

IN EUROPE WE SEE COUNTRIES SEEKING ALTERNATIVE SUPPLIERS AND NEW PIPLELINES TO TRY AND AVOID RUSSIA'S MONOPOLY OF THEIR ENERGY SUPPLIES AND POTENTIAL POLITICAL MANIPULATION OF THE SAME. ELSEWHERE OTHER COUNTRIES HAVE FOUND THEMSELVES UNABLE TO FULLY SUPPORT SANCTIONS AGAINST IRAN AND HAVE HAD TO NEGOTIATE WITH THE UNITED STATES FOR AN EXEMPTION TO CONTINUE TAKING IRANIAN ENERGY BECAUSE OF A LACK OF ALTERNATIVES.

ELSEWHERE I AM SURE THAT INDIA WOULD PREFER ALTERNATIVES TO THE GAS PIPELINE THAT IS CURRENTLY BEING CONSIDERED THAT WILL HAVE TO TRAVERSE THE TERRITORIES OF AN UNSTABLE AFGHANISTAN AND PAKISTAN, A NATION WITH WHICH INDIA HAS A TROUBLED HISTORY, WHERE INDIA'S NEED FOR ENERGY NOT SO GREAT AND OTHER POTENTIAL N SOURCES OF SUPPLY SO FEW. AND WHAT OF JAPAN? I SUGGEST THAT RUSSIA WOULD NOT BE THE SUPPLIER OF CHOICE FOR GAS AND ELECTRICTY IN A MARKET PLACE WITH MORE CHOICES AND FEWER COMPETITORS.

AND THESE CHALLENGES APPLY EQUALLY TO THE INTERNATIONAL OIL COMPANIES. WITH MOST OF THE WORLD'S KNOWN AND MORE EASILY ACCESSIBLE RESOURCES ALREADY COMMITTED THE OIL MAJORS ARE EXPLORING FOR RESOURCES TO MEET GLOBAL DEMAND IN THE INHOSPITABLE CHALLENGES OF THE ARCTIC AND THROUGH 18,000 FEET OF WATER AND SEABED TO ACCESS HYDROCARBONS LOCKED BELOW BRAZIL'S PRE-SALT.

IT IS ALSO VERY NOTICEABLE THAT MANY OF THE WEST'S LARGE 'OIL COMPANIES' NO LONGER DESCRIBE THEMSELVES AS OIL OR GAS COMPANIES BUT AS ENERGY COMPANIES. RECOGNISING THAT THE WORLD WILL HAVE TO PURSUE A LOWER CARBON FUTURE MANY ARE PUTTING VAST

SUMS INTO RESEARCH AND DEVELOPMENT OF ALTERNATIVE ENERGIES, FROM BIOFUELS TO GENERATION 4 FUELS (SPECIALLY CULTIVATED ALGAE AND THE LIKE); SOLAR; WIND AND EXTRACTING COAL THROUGH MELTING TECHNIQUES. AND A NUMBER OF ENERGY COMPANIES ARE LEADING THE TECHNOLGICAL EFFORT TO MASTER CARBON CAPTURE AND STORAGE AT AFFORDABLE, COMMERCIAL SCALE. CCS SUCCESS WOULD ENABLE THE CONTINUED USE OF HYDROCARBON FUELS FOR MANY MORE YEARS AND UNTIL ALTERNATIVE ENERGY SOLUTIONS ARE DEVELOPED. IN SHORT THE NEED FOR ENERGY IS TESTING ECONOMIES, ALLIANCES AND RELATIONSHIPS AND TECHNOLOGY AS NEVER BEFORE.

AND BRINGING OUR SUBJECT FULL CIRCLE, THESE ENERGY COMPANIES HAVE CREATED CAPABLE POLICY UNITS TO IDENTIFY TO GOVERNMENT THE POLICY CHANGES NECESSARY TO MAKE THE TRANSITION TO GREATER EFFICIENCY AND ALTERNATIVE ENERGY SOURCES POSSIBLE. AND, WE AS GOVERNMENT SERVANTS, WORK TO BALANCE THE POLICAL DECISIONS OF OUR GOVERNMENT MASTERS AND THE NEEDS OF THE INDUSTRY BY OFFERING PRACTICAL POLICY ADVICE THAT BRINGS THE TWO AS CLOSELY TOGETHER AS POSSIBLE. THE ROLE OF EACH OF THESE PARTIES IS CRITICAL TO DELIVERING SUCCESS. IF FURTHER PROOF OF THIS PHILOSPHY IS NEEDED THE EVIDENCE LIES IN THE FCO'S EMPLOYMENT OF TWO SENIOR ENERGY ADVISERS TO BRING PRACTICAL AND PROFESSIONAL KNOWLEDGE AND EXPERIENCE TO GOVERNMENT'S SIDE OF THE TABLE, AND TO ANALYSE THE INFORMATION THAT COMES TO US FROM THE INDUSTRY AND TO ENSURE THAT THE POLICY ADVICE THAT WE OFFER OUR MINISTERS IS BALANCED.

RECENT TECHNOLOGICAL DEVELOPMENTS HAVE MOVED US FROM A PERIOD WHEN GLOBAL CONCERNS REVOLVED AROUND PEAK OIL AND GAS CONCERNS TO A NEW AGE OF PLENTIFUL HYDROCARBON SUPPLIES, EVEN IF MANY OF THESE MAY BE LOCATED IN CHALLENGING LOCATIONS. UNCONVENTIONAL OIL AND GAS HAVE SIGNIFICANTLY BOOSTED MARKETS IN A VERY SHORT PERIOD OF TIME AND IT IS POSSIBLE THAT METHANE HYDRATES MAY YET DO THE SAME. BUT AT THE SAME TIME AS THESE TECHNOLOGIES HAVE SOLVED OUR IMMEDIATE ENERGY NEEDS THEY HAVE RAISED OTHERS.

INCREASED HYDROCARBON USE IS IMPACTING OUR CLIMATE, LEADING TO LESS PREDICTABLE RAINFALL, REDUCED RAINFALL FOR SOME AND TORRENTIAL, DIFFICULT TO COLLECT RAINFALL FOR OTHERS. AND THIS AT A TIME WHEN THE GLOBAL POPULATION IS SET TO RISE FROM TODAY'S 7 BILLLION TO 9.2 BILLION BY 2050 REQUIRING EVER INCREASING AMOUNTS OF FOOD AND WATER. OUR NEW ENERGY TECHNOLGIES ARE EXACERBATING THE STRESS NEXUS OF FOOD, WATER AND ENERGY STILL FURTHER AS THEY REQUIRE MORE WATER THAN EVER BEFORE WITH SOME UNCONVENTIONAL PLAYS IN THE US REQUIRING AS MUCH AS 100,000 TRUCK LOADS OF WATER TO ACCESS THE ENERGY THEY HOLD.

WE ARE ALREADY SEEING THE IMPACT OF THESE STRESSES. IN CHINA DEMONSTRATING FARMERS FORCED THE AUTHORITIES TO RELEASE WATERS FOR AGRICULTURE THAT WERE BEING SAVED BEHIND A DAM FOR ENERGY PURPOSES. THERE ARE MYRIAD DISPUTES ACROSS ASIA (INDIA, CHINA,

PAKISTAN AND BAGLADESH TO NAME BUT A FEW) RELATED TO WATER RIGHTS, AND PROPOSED DAMS FOR ENERGY AND AGRICULTURE. IN THE HORN OF AFRICA, ETHIOPIA AND ITS NEIGHBOURS ALSO QUARREL OVER SUCH PROPOSALS. IN SUDAN, MUCH OF THE CURRENT INSTABILITY HAS ITS ORIGINS IN QUARRELS OVER PASTORALIST AND AGRICULTURALIST RIGHTS TO SCARCE WATER RESOURCES: AND ON A SMALLER SCALE TANZANIA AND KENYA SEEK TO MANAGE SIMILAR CHALLENGES AS MASAI PASTURALISTS CLASH WITH SETTLED AGRICULTURALISTS. FAILING RAINS AND EXCESSIVE DEMAND HAVE SIGNIFICANTLY REDUCED THE WATER AVAILABLE FROM LAKE CHAD, REDUCING THE LAKE TO A FRACTION OF ITS FORMER SIZE, WHILST IN KENYA LAKE TURKANA'S FAMED FISHING LODGE AND ITS JETTY NOW SITS ALMOST 2 KM FROM THE LAKE'S EDGE. TO QUOTE THE FILM OF THE SAME NAME THERE IS A 'PERFECT STORM' OF INTERCONNECTED ISSUES BREWING HERE IF WE DO NOT GET A GRIP ON CLIMATE AND THE STRESS NEXUS OVER THE NEXT FEW YEARS.

SO HOW IS THE UK MANAGING ITS OWN ENERGY CHALLENGES? OUR OWN CONVENTIONAL RESOURCES ARE DIMINISHING JUST AS OUR DEMAND FOR GAS IS GROWING. INCREASINGLY WE HAVE TO IMPORT WITH SIGNIFICANT QUANTITIES OF OUR SUPPLIES PASSING THROUGH AREAS WITH STABILITY ISSUES (STRAITS OF HORMUZ AND SUEZ). UNCONVENTIONAL SHALE RESERVES MAY OFFER SOME RELIEF IN THE FUTURE BUT AT BEST THIS IS ONLY LIKLEY TO MEET A PERCENTAGE OF OUR NEEDS OVER THE SHORT TERM.

CONSISTENT WITH OUR CLIMATE RESPONSIBILITIES WE ARE WORKING HARD TO REDUCE DEMAND, IMPROVE ENERGY EFFICIENCY WHILST ALSO DEVELOPING OUR OWN RESOURCES WHERE WE CAN AND MAKING THE UK AN ATTRACTIVE PLACE TO TRADE ENERGY. MY COLLEAGUE, EDMUND, HAS EXPLAINED THE WORK THAT HIS MINISTRY DOES DOMESTICALLY TO MAKE THESE GOALS A REALITY.

AND WHILST THE DEPARTMENT OF ENERGY AND CLIMATE CHANGE FOCUS ON THE NEXT 5 – 10 YEARS AND KEEPING THE LIGHTS ON NOW, THE FCO ADDS VALUE BY LOOKING 25 - 30 YEARS INTO THE FUTURE. WHERE MIGHT OUR ENERGY NEEDS COME FROM THEN? CAN WE BUILD THE RELATIONSHIPS NOW THAT WILL MAKE US A WELCOME CUSTOMER SO MANY YEARS IN THE FUTURE? THROUGH ENGAGEMENT, SUPPORT TO FLEDGLING INDUSTRIES AND POLICY SUPPORT WE BELIEVE SO.

MEANWHILE WE REACH OUT TO TODAY'S SUPPLIERS AND ENCOURAGE OUR SUPPLIERS TO CONSIDER AS MANY ENERGY RELATIONSHIPS AS POSSIBLE. THE UK CURRENTLY RECEIVES GAS IN THE FORM OF LNG FROM TWELVE DIFFERENT COUNTRIES AND WE ARE ALWAYS LOOKING FOR OPPORTUNITIES TO EXPAND THIS LIST.

BUT WHY WOULD SUPPLIERS WISH TO SUPPLY THE UK AT US$12 PER MMBTU WHEN THEY CAN GET US$ 16PER MMBTU IN THE EAST. THE UK ENSURES ITS MARKETS ARE OPEN AND WELCOMING. WE

HAVE FACILITIES ADEQUATE NOT ONLY TO SUPPLY OURSELVES BUT ALSO SUFFICIENT TO SUPPLY ON THROUGH INTERCONNECTORS TO EUROPE. WE ARE A RELIABLE CUSTOMER, HONOUR OUR CONTRACTS AND PAY OUR BILLS. AND JUST AS WE WANT RELIABILITY OF SUPPLY, SO SUPPLIERS WANT RELIABILITY OF PURCHASER. THE HIGHER PRICE OF THE EAST MAYBE ATTRACTIVE BUT THAT IS LITTLE CONSOLATION IF ANOTHER FINANCIAL CRISIS OR POLICY CHANGE UNEXPECTEDLY REDUCES DEMAND AND THE SUPPLIERS' INCOME. SO MANY PRODUCERS WILL ACCEPT A LOWER PRICE ON SOME OF THEIR PRODUCE FOR THE SAKE OF THEIR OWN ECONOMIC SECURITY. KEY TO THE UK STAYING AHEAD OF THE COMPETITION IS MAINTAINING OUR REPUTATION AS A 'GOOD, RELIABLE CUSTOMER'.

THE CHALLENGES OF ENERGY SECURITY AND CLIMATE CANNOT BE MET BY GOVERNMENT WITHOUT SUPPORT FROM INDUSTRY NOR BY THE INDUSTRY WITHOUT SUPPORTING GOVERNMENT POLICY. MORE IMPORTANTLY NO COUNTRY CAN SOLVE THESE PROBLEMS ON ITS OWN. THE MORE COUNTRIES AND INDUSTRIES WORK TOGETHER, THE BETTER PLACED WE WILL BE TO SOLVE THESE ISSUES AND ENSURE SUSTAINABLE, AFFORDABLE ENERGY FOR ALL.

WE STAND READY TO WORK WITH YOU ON ANY OR ALL OF THESE ISSUES EITHER THROUGH OUR POSTS AND THE SUPPORT THEY CAN OFFER THROUGH THE PROSPERITY FUND; OR YOU ARE ALWAYS WELCOME TO CONTACT MY TEAM DIRECT.

THANK YOU.

Contact: report@tky.ieej.or.jp