بسم الله الرحمن الرحيم

In the Name of Allah, the Most Compassionate,
the Dispenser of Grace

Jumu`ah Khutbah
World Environment Day

Questioning South Africa's Nuclear Path

Claremont Main Road Masjid
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Introduction

The 5th June is annually commemorated as World Environment Day.

At the Claremont Main Road Masjid (CMRM) we believe that environmental justice and consciousness is an integral part of what it means to be a conscientious Muslim. Consequently, we advocate the view that Muslims should be at the forefront of campaigns, such as World Environment Day, that seek to create awareness of the critical need for humanity to live in reverence and harmony with nature.[i]

Consonantly in this *khutbah*, which coincides with World Environment Day, I would like to address one of *the* most critical environmental issues facing South Africa at this time, namely its energy crisis. This crisis is currently being manifested in an acute electricity shortage that is causing frequent power outages.[ii]

On 19 May 2015, South Africa's Energy Minister announced in Parliament that one of the principal ways the government is proposing to resolve our country's electricity crisis is by building six new nuclear energy plants by the year 2030.[iii]

This contentious proposal comes at an opportune time for our government, since ordinary South Africans are exasperated by the unprecedented electricity outages and are thus susceptible to embracing the government's nuclear solution. A number of civil society groups, such as the South African Faith Community's Environment Institute (SAFCEI), have already raised the alarm concerning the government's plan to build six new nuclear energy plants.[iv]

An Islamic Perspective on Nuclear Energy

In this *khutbah*, I would like to offer an Islamic perspective on the debate about the use of nuclear energy to resolve our country's energy crisis. It might be useful and expedient to begin by reflecting on a relevant verse from the most primary source of Islamic guidance, the Glorious Qur'an. In *Surah al-Hadid*, chapter 57, verse 25, God, the Sublime, proclaims:

وَأَنْزَلْنَا الْحَدِيدَ فِيهِ بَأْسٌ شَدِيدٌ وَمَنَافِعُ لِلنَّاسِ

> **We bestowed upon you the ability to make use of iron, in which there is awesome power as well as a source of benefit for humankind (Q57:25)**

It is instructive to note that the entire *Surah* takes its name from this critical verse. In his illuminating commentary on the above Qur'anic verse Muhammad Asad (d.1992), asserts the following:

> "It is to warn man of this danger that the Qur'an stresses – symbolically and metonymically – the potential evil (*ba's*) of "iron" if it is put to wrong use: in other words, the danger of man's allowing his technological ingenuity to run wild and thus to overwhelm his spiritual consciousness and, ultimately, to destroy all possibility of individual and social happiness."[v]

In the above verse God not only reminds us of one of the great gifts He has bestowed upon human beings: namely our ability to convert natural resources such as iron into useful technology, but He also

warns us that that this wonderful talent and skill can be utilized for destructive purposes.

On the basis of Qur'an 57:25 and other supporting evidences from the primary sources of Islamic teachings, Muslim jurists have argued that Islamic law is basically neutral towards technological innovation. However, we are invariably confronted with cases of technological advancement in which both positive and negative aspects are mixed. Thus the decision to embrace or proscribe a particular technology should be based on the norm of requiring that forbidding damage or negative consequences be placed ahead of obtaining benefits or positive consequences, known in Arabic as *dar ul mafasid muqaddamun 'ala jalbil masalih*.[vi]

In light of the above juristic norm, the critical question that confronts conscientious Muslims and responsible South African citizens is to consider whether the advantages of our use of nuclear energy to resolve our country's energy crisis outweigh its destructive potential?

Reservations Regarding the Pursuit of Nuclear Energy

During the past few weeks I have carefully reviewed and studied the various arguments for and against the use of nuclear energy.[vii] It is my considered view that while there may be some benefits in building six new nuclear reactors to relieve our country's electricity crisis, the disadvantages and dangers far outweigh the benefits for the following reasons:

1. No Safety Guarantee

First, nuclear energy is never safe and will leave future generations of South Africans with a toxic radio-active legacy to manage. Some of us may remember the worst nuclear disaster in world history – the 1986 Chernobyl catastrophe, when two explosions destroyed a nuclear reactor unit and caused radioactive releases that caused an epidemic of thyroid cancer in people who were exposed as children.[viii]

The 1986 Chernobyl disaster, the 2011 Fukushima earthquake that led to the meltdown of three of six nuclear reactors at the site, and other smaller nuclear accidents, is a stark reminder that nuclear energy can never be a safe choice. There will always be an unforeseen combination of human failure, technological error or natural disaster that could lead to a major accident and a dangerous release of radiation. There is thus no such thing as "nuclear safety". The only way to make sure that these disasters do not happen again is to phase out the use of nuclear energy.

2. Exorbitant Costs

Second, nuclear power is exorbitantly expensive to procure. It is estimated that the building of six new nuclear power stations could cost in the order of R1-trillion. Given the current slow-down of our country's economic growth, and the future not looking any better, we will never be able to afford this extravagant expense.

Energy expert, Steven Thomas, puts the matter starkly in an article in the *Business Day* of 3 June 2015. He challenges our government's estimated nuclear tender costs as follows:

> The government has promised that if the bid prices were higher than $6,500/kW, the tender would be abandoned. Given that prevailing prices in the world are now about $8,000/kW, if the government keeps its promise, the tender being launched this year is doomed to failure. It would be useful for Energy Minister Tina Joemat-Pettersson to confirm now whether the promise still applies and, if it does not, how much the state is prepared to pay.

Moreover, nuclear power plants have a limited lifespan and decommissioning power plants is equally expensive. For example it is estimated that decommissioning the two Koeberg reactors would be in the region of R34 billon.[ix] Who will pay for the decommissioning of six more nuclear power plants when we are no longer around? This will be yet another expensive legacy we leave our children.

3. Limited Employment Opportunities

Third, nuclear technology requires a small and highly skilled work force. Thus building nuclear plants will not provide massive employment opportunities, which our country sorely needs. In addition, while South Africa has a large number of engineers in the nuclear field, it is evident that we do not have the requisite skilled work force to construct and manage six new nuclear power stations. Consequently, our government is now scrambling to send students to Russia and China to be trained.[x]

4. Time to Construction

Fourth, nuclear plants take many years to construct. The historical record of the Koeberg nuclear reactors indicates that it took 8 years to construct Unit 1, while Unit 2 took 9 years.[xi] We are now informed by our Minister of Energy Affairs that our government's proposal to build six new nuclear plants will be completed by the year 2030. Given the fact that almost all nuclear reactors built elsewhere in the world took much longer than initially anticipated it is highly likely that our government's proposed nuclear energy plans will be realized well beyond 2030. [xii] We need energy security now, not in fifteen years' time.

5. Risk of Corruption

Fifth, civilian and military use of nuclear energy cannot be separated. Any uranium plant used for energy is also capable of producing highly enriched uranium for use in atomic bombs.[xiii] The huge security risk associated with nuclear procurement and uranium enrichment, requires high levels of secrecy and confidentiality, which then opens itself up to corruption.

In this regard it is distressing to note that in response to an application by SAFCEI for information regarding South Africa's nuclear deals with foreign entities, our Department of Energy has refused to release any affordability or feasibility study. According to them the process of deciding on the nuclear procurement involves "technical, scientific and commercially sensitive information and if released prematurely could prejudice the interests of the other parties, as well as the State and negatively impact on the process".

This has led SAFCEI's vice chairperson, Moulana Riaz Simjee, to cynically conclude that: "[T]his nuclear deal poses an enormous corruption risk. It is happening in secret and will make the arms deal look like a walk in the park".[xiv]

Unfortunately, the cavalier manner in which our government is proceeding with its nuclear procurement does not help to mitigate against the threat of corruption. For example, in 2012, in my capacity as Chairperson of the Western Cape Religious Leaders Forum (WCRLF), I undersigned a letter on behalf of the interfaith community addressed to President Jacob Zuma expressing our concerns about South Africa's nuclear energy plans.[xv] To date we have not even received an acknowledgement. It appears, therefore, that the government in its haste for nuclear power is in danger of breaking a whole range of constitutional guarantees regarding consultation, accountability and financial expenditure. The pursuit of nuclear power is now threatening our democracy and faith communities and their partners in civil society need to challenge the government to be more transparent and accountable.

For all of the above five reasons and more, it is my considered view that as conscientious Muslims and responsible stewards of the earth (*khalifatu Allah fi'l Ard*) we should join the growing social movement calling on our government to reconsider their commitment to nuclear energy and to rather invest in secure renewable energy.

Harnessing Renewable Energy Resources

South Africa has the best solar energy resources in the world, as well as extensive wind. We only have to harness it. The movement of wind and water, the heat and light of the sun, the carbohydrates in

plants, and the warmth in the Earth—all are energy sources that can supply our needs in a sustainable way. A variety of methods are used to convert these renewable resources into electricity. For example, solar energy – power from the sun - can be collected and converted in a few different ways. These include domestic solar water heating with solar roof panels or conversion of sunlight to electrical energy using mirrors and boilers. Wind energy can be harnessed through wind turbines to pump water or generate electricity. Geothermal energy, which is generated within the earth, can be used with heat pumps to heat a building in winter and cool a building in summer. This form of energy can lessen the power to maintain comfortable temperatures in buildings. Biomass energy – derived from plant material and animal waste - can be converted to electricity with appropriate use of technology.[xvi]

Several countries are pioneers in the use of renewable energy. For example, Iceland gets 85% of the country's electricity from geothermal and hydropower. Norway is around 98% renewable and uses hydroelectric, geothermal and wind energy sources. Portugal relies on hydroelectricity for up to 58% of electricity; wind power contributes one fifth and solar energy around 1%. Germany uses 98% renewable energy. [xvii]

Moreover, renewable energy is safe, it will create more jobs since it does not require highly specialized skills such as nuclear power, and it can be installed relatively quickly. It is decentralized, will not damage our climate, can be constructed on large and small scales, will be cost effective in the long run and private enterprise is longing to invest in it.

Conclusion

In conclusion, on this World Environment Day I make a passionate plea for members of our congregation to strengthen and provide greater support for CMRM's environmental justice project. Our goal should be to promote renewable energy and energy conservation as part of responsible stewardship of the earth and as a faith response to climate change.

I would also like to call upon our congregation to make our voices heard and join SAFCEI's weekly Wednesday morning "No to Nukes vigil" outside the South African Parliament. If you are unable to join the protest, then you can show support by letters of protests and signing petitions calling on our government to reconsider its hazardous and unwise nuclear path.

At this sacred hour of *jumu`ah* please join me in a special supplication to ask the Lord of Compassionate Justice to make us more responsible stewards of the earth:

O Allah the Creator of the heavens and earth
and everything that exists

Forgive our inaction
as we confront the destructive power of nuclear energy

We pray for all those who suffer because of nuclear radiation
and environmental damage

Help us to re-examine our lifestyle choices,
to reduce our carbon footprints and
stem the tide of climate change

We pray for the defenseless creatures harmed or made extinct by our selfishness and heedlessness.

We pray for our leaders to implement new and just policies that will protect our fragile world for future generations.

Inspire us to work together in pursuit of environmental justice

May we follow the example of our beloved Prophet Muhammad (pbuh) in caring and being a source of compassion *(rahmah*) for everything that exists in our precious universe.

Allahumma Amin

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[i] For an elaboration of the CMRM's environmental justice mission see: Omar, A. Rashied, *Restoring the Balance: A Theological Response to Climate Change* (Claremont Main Road Masjid, Cape Town: 6 November 2011).

[ii] For an overview of South Africa's energy crisis see: *Financial Mail South Africa's Energy Crisis: Eskom 2008-201\5* (Johannesburg: Times Media Books, March 1, 2015). Available at Amazon Digital Services Inc. http://www.amazon.com/dp/B00UMX6YX2/ref=rdr_kindle_ext_tmb

[iii] For full text of Energy Minister, Tina Joemat-Petterson's speech see: http://www.gov.za/speeches/policy-and-budget-speech-minister-energy-ms-tina-joemat-pettersson-mp-national-assembly. Accessed 3 June 2014.

[iv] For SAFCEI'S protests against nuclear procurement see their website: http://safcei.org/power-for-people-nuclear-is-a-moral-issue/ accessed 3 June 2015.

[v] *The Message of THE QUR'AN*: Translated and Explained by Muhammad Asad. (Dubai: 2003 Edition, Oriental Press), pp.955-956.

[vi] I am indebted to the "fatwa" of the *Nahdatul Ulama* in Indonesia for their use of this jurist principle in opposing a proposed nuclear plant in Muria, Indonesia. See: "Nuclear fatwa: Islamic jurisprudence and the Muria nuclear power station proposal", APSNet Policy Forum, December 13, 2007, http://nautilus.org/apsnet/nuclear-fatwa-islamic-jurisprudence-and-the-muria-nuclear-power-station-proposal/ accessed 3 June 2015.

[vii] A useful book detailing the history of South Africa's nuclear trajectory is: David Fig, *Uranium Road: Questioning South Africa's Nuclear Direction (*Johannesburg: Jacana Media, 2005).

[viii] New York Times, 23 March 2011, "Anxiety Up As Tokyo Issues Warning On Its Tap Water" by David Jolly and Denise Grady.

[ix] 'Funding Nuclear Decommissioning: Lessons for South Africa' Pay More With Nuclear: Report 2, Report Author: Steven Thomas, University of Greenwich, July 2104 (Johannesburg: Earthlife Africa).

[x] For details see text of Energy Minister, Tina Joemat-Petterson's speech see: http://www.gov.za/speeches/policy-and-budget-speech-minister-energy-ms-tina-joemat-pettersson-mp-national-assembly. Accessed 3 June 2014.

[xi] What Does It Take To Finance New Nuclear Power Plants?' Pay More With Nuclear: Report 3, Report Author: Steven Thomas, University of Greenwich, July 2014 (Johannesburg: Earthlife Africa).

[xii] 'What Does It Take To Finance New Nuclear Power Plants?' Pay More With Nuclear: Report 3, Report Author: Steven Thomas, University of Greenwich, July 2014 (Johannesburg: Earthlife Africa).

[xiii] See document, *Claremont Main Road Masjid Supports Plea for a World Free of Nuclear Arms* (Claremont Main Road Masjid, 1999). For the other views of Muslim scholars on use of Nuclear Weapons see: Sohail H. Hashmi, "Islamic Ethics and Weapons of Mass Destruction: An Argument for Non-Proliferation", in Sohail H. Hashmi and Steven Lee (eds.), *Ethics and Weapons of Mass Destruction: Religious and Secular Perspectives* (Cambridge University Press, 2004).

[xiv] "Keep South Africa's Lights on With Renewable Energy - or Irradiate a Darkened Nation" by Patrick Bond, in *Counterpunch*, February 18, 2015. See http://www.counterpunch.org/2015/02/18/keep-south-africas-lights-on-with-renewable-energy-or-irradiate-a-darkened-nation/ accessed on 3 June 2014.

[xv] For details of this letter dated 18 July 2012, see, CMRM offices, WCRLF Zonnebloem Offices or SAFCEI offices.

[xvi] For information on renewable resources consult:
http://www.altenergy.org/renewables/renewables.html
http://www.ucsusa.org/our-work/energy/our-energy-choices/our-energy-choices-renewable-energy#.VW9hB9qqqko accessed 4 June 2015.

[xvii] For information on renewable resources in different countries consult:
http://www.altenergy.org/renewables/wholly-renewable.html
accessed 4 June 2015.