

The superior choice

Bangladesh and India should build solar farms, not coal plants, on both sides of the border

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LAST week, Bangladesh's Power Development Board (PDB) and India's National Thermal Power Corporation (NTPC) announced that they will form a committee to decide whether to build a large coal plant or solar farm in India for additional power import into Bangladesh. Going by the numbers—economic, job creation and environmental—there really should be no debate. The choice is solar.

The facility will be run by the Bangladesh India Friendship Power Company, which was initially formed to build the controversial 1320MW coal-fired power plant near Rampal, Khulna. The fact that PDB and NTPC might seriously compare the costs and benefits of coal versus solar PV for the first time is good news for citizens of both countries.

Here are three undeniable reasons why solar farms are the superior choice to coal plants in both countries.

COST Renewable energy costs in India have fallen by 50 percent in two years, and are forecast to continue dropping apace. New wind and solar is now 20 percent cheaper than existing coal-fired generation's average wholesale power price, and 65 percent of India's coal power generation is being sold at higher rates than new renewable energy bids in competitive power auctions. Bangladesh would save money in the short- and long-term by developing its own solar resources as well as by importing solar-generated electricity from India, and using its existing gas-fired power plants at night to back up solar power.

Our international team of researchers



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at the International Centre for Climate Change and Development and the University of California, Berkeley are about to publish groundbreaking maps of Bangladesh that indicate potential areas for solar and wind energy projects. After excluding all areas likely to be environmentally or socially unacceptable for such projects, we found that there is far more utility solar energy potential than previously estimated, at costs lower than new coal power.

In 2016, electricity demand in Bangladesh was 11.4GW, mostly coming from natural gas. The government of Bangladesh currently plans to develop 13.3GW of new thermal coal by 2021, and less than 2GW of solar farms. But Bangladesh could replace all 13.3GW of planned coal plants with solar farms at 20 percent lower costs than new coal plants.

Solar farms can be built much faster than coal plants, and battery storage isn't needed as long as solar comprises less than 20 percent of the grid. Solar resources are free and deflationary, while coal is inflationary and subject to price hikes. Overall, solar PV is excellent financial news for electricity consumers and governments, and PV costs are expected to keep falling, in line with India's experience.

FOOD Our study makes clear that solar farms can supply 13.3GW of energy without converting large areas of precious agricultural lands. Solar plants can now be designed with space between the panels to allow for fish ponds or crop production, preventing impacts on food security and farmers.

HEALTH AND SAFETY

Choosing solar farms will avoid the widespread toxic contamination of air with sulfur dioxide, nitrogen oxides and particulates that come from even the best coal plants, sparing tens of thousands of Indians and Bangladeshis from premature deaths, low birthweight babies, heart attacks, respiratory disease, and cancer. Mercury spewed from coal plants falls on rice fields and wetlands, concentrating in rice grains as well as fish, crustaceans and shellfish. Pregnant women eating these contaminated foods have babies with birth defects and permanent brain damage.

Solar farms also avoid coal ash waste dumps that pollute downstream ecosystems like the

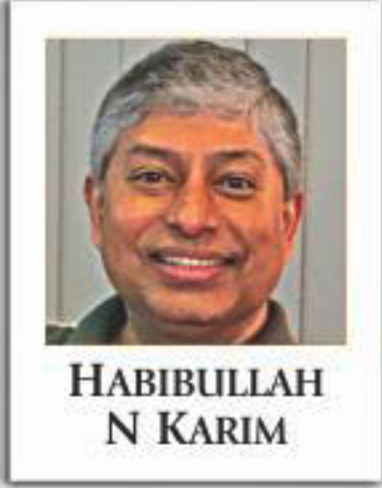
Sundarbans mangroves, which protect millions of people in both countries from floods, storm surges, and cyclones. The proposed coal plant at Rampal alone is predicted to cause an additional 6,000 premature deaths as far away as Dhaka and Kolkata; low birth weight of 24,000 babies; and spew 10 tonnes of mercury into the air or water, threatening Sundarbans and Bay of Bengal fisheries

Burning coal is the largest source of greenhouse gas, warming the ocean and melting sea ice at the poles. Low-lying Bangladesh is one of the most vulnerable countries on earth to the impacts of climate change. These effects on our climate cause deadly storms, floods, droughts, extreme heat waves, sea level rise, salinification, and desertification. Bangladesh has committed to 100 percent renewable energy by 2030 pending international support; and a five percent reduction of greenhouse gas emissions from the power, industry and transport sector by 2021. These global effects are important, but they pale in comparison to the local health impacts and the water costs alone.

Bangladesh and India can better meet their goals for sustainable electricity for all, sustainable development and climate justice by channelling investment into cheaper, well-planned solar farms than into coal-fired power plants.

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Padmaavat: An epic film with lessons for us all



ALL that brouhaha and petty religiosity surrounding the release of the Bollywood film *Padmaavat* built up a huge anticipation

among moviegoers around the world. So much so that when on a family medical trip to Singapore recently I could not resist the temptation to go watch the movie on the third day of its worldwide release on January 25. I had to shop around a few cinema halls online before I could get some decent seats—all shows were almost fully sold out! That is not unexpected for a movie that had more than a million viewers in India alone on the opening night.

After almost half an hour worth of trailers and advertisements when the movie started, I was outside fetching popcorn for my starving companions. Once back inside I was regaled with a picturesque hunting scene reminiscent of *The Revenant* but not as dramatic perhaps.

The movie has been in the media limelight for all the wrong reasons; nonetheless it is principally about a medieval Indian princess well versed in the arts and crafts of good living and political gamesmanship. Pulling in a narcissistic and psychopathic marauder from history in the character of Sultan Alauddin Khilji as a purely fictional antagonist was a stroke of masterly storytelling that kept the audience on the edges of their seats throughout.

While Deepika Padukone is sublime in her exquisite performance in the role of Princess of Singhal and later as Queen of Chittor, Ranveer



Padmaavat is a signature achievement for director Sanjay Leela Bhansali. The blockbuster is a tasteful depiction of an Indian classic of the order of Helen of Troy.

Singh's portrayal of the villainous conqueror smacked of over-active trivialisations that probably do not do justice to the historical setting of the storyline. In the shadow of the protagonist of the plot, Shahid Kapoor as the royal consort, ahem, King Ratan Singh of Chittor, is as subdued as a virtual footnote to the story.

The movie is a signature achievement for director Sanjay Leela Bhansali—he has excelled in cinematography, set selections, balance between CGI animation and acting, and an overall tasteful depiction of an Indian classic of the order of *Helen of Troy*.

It is quite sad that *Padmavat*, one of the most well-known Indian

classics of the medieval age by Malik Muhammad Jayasi, has only now captivated our imagination when it should have been part of our common literary reading as *Padmavat* was adapted into a Bengali epic by one of the earliest Bengalee literati Syed Alaol.

Padmavat's depiction of life's good and evil gave melancholy a grand expression through the heightened stature of the highest political establishment in medieval India until the advent of the Mughals—the Khilji Sultanate of Delhi. Amidst all the pomp and grandeur of the courts of the Khiljis and the Singhs, one might easily lose the plot but the epic is truly outstanding for the deification of the larger-than-life central female

character in the personality of Queen Padmavati of Chittor. The exaltation of Padmavati to a god-queen came with its own edicts which are even more extraordinary given that they celebrate women's leadership and wisdom in a medieval India while we struggle to give women equal treatment in today's world whether in Asia or America.

Bhansali's *Padmaavat* highlights several socio-political lessons that petty fight-mongers all over should take heart to note.

The topmost message coming through this epic is that women can be intelligent, upright, forceful, visionary and brave. There is never any doubt that the protagonist of this story is the female lead portrayed

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impeccably by Deepika Padukone—the so-called fictional Queen Padmavati of Chittor in a 14th-century historical setting in Rajput India. The fictional context is especially poignant as historically the Khiljis ruled in the 12th century and as such the story has no bearing on history except for giving meat to the narration. Though pure fiction, it's a powerful depiction of equality of merit of men and women. In fact in Padmavati we find a woman who excels her consort and antagonists in statecraft and humanity.

The second lesson is that priests can be just as deceitful, depraved and criminally inclined by carnal desires as any other human being. In fact the world is full of such social pests from

all religious varieties—be it Buddhists, Catholics, Hindus, Jews or Muslims. Just the other day the prime minister of Australia apologised for all the pedophiles lurking under the garb of Catholic Jesuits. We cannot afford to drop our guards when dealing with so-called religious gurus because we must remember that they are just as flesh and blood as everyone else and can succumb to temptations of the senses like everyone else.

The final lesson is that Indic kingdoms lacked technology and warfare strategies and that's why Indian rulers with mammoth infantries still lost battles with relatively much smaller armies from beyond the Hindu Kush mountains because these nomadic armies of Mongoloid hordes had superior military technologies and battle plans. The Mughals, once the richest monarchy in the world, and their surrogates fell cheaply to British mercenaries in the 18th century for the same reasons. Everyone loves peace and tranquility but we must not relegate the security of our lives to the goodness of others but must be ready with superior technologies and security strategies to defend ourselves from foreign adversaries no matter where they come from.

The movie *Padmaavat* has its proponents and detractors—one thing nobody can take away from it is its rich palette of historical fiction to drive home the universal messages of equality among men and women, debauchery among people of all strata of life and supremacy of self-preservation.

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QUOTABLE Quote

WILLIAM CONGREVE
 English playwright and poet of the Restoration period (1670-1729)

There is in true beauty, as in courage, somewhat which narrow souls cannot dare to admire.

CROSSWORD BY THOMAS JOSEPH

ACROSS

- Scenic outlook
- Deadly snake
- Top story
- Castle of dance
- Coniferous tree
- Annual visitor
- Yale rooter
- Demonstrated
- Sardine holder
- Plopped down
- 2010 org.
- Hangs low
- Bridge charges
- Greedy one
- Jay-Z's genre
- Art inspirers
- Pesters
- "2001" computer

DOWN

- Parking attendants
- Napoli's nation
- Malipulative bunch
- Peculiarity
- Message targets
- Guest

- Simple denials
- Spot
- Clinic concern
- Very popular
- Lipstic slip
- Wide awake
- Caesar's land
- Smith's place
- Bygone auto
- Printer part
- Persia, today
- Office drudges
- Keys in
- Peruses
- Brewery sight
- Bro's sibling
- Research site
- Army bigwig
- Mutilated
- Abel, to Adam
- Friend of Jerry and Elaine
- Hunting dog
- Rashness
- Employee group
- Foal's mother
- Singer Reed

2-15

YESTERDAY'S ANSWER

L	A	P	D	B	A	S	E
E	M	A	I	L	M	I	N
V	I	R	G	O	E	L	G
E	N	T	O	N	E	L	O
L	O	V	E	S	E	T	R
R	I	V	E	T	O	A	R
G	A	S	A	G	A	P	E
P	O	D	B	I	G	L	O
L	O	V	E	I	N	S	L
A	S	I	A	N	A	B	I
T	E	S	T	S	C	A	T
O	D	E	S	R	E	S	T

BEETLE BAILEY

REMEMBER, WHEN YOU INVADE A TOWN DON'T DESTROY ANY BARS

GREAT WORK WALKER

9-29

BY MORT WALKER

WHEN WE WIN A BATTLE, WE NEED PLACES TO GO TO CELEBRATE!

BABY BLUES

ZOE! HAMMY! DINNER TIME!

HAMMY! WHY DO YOU ALWAYS GET DIRTYER THAN ZOE?

IT'S NOT MY FAULT!

BY KIRKMAN & SCOTT

I'M JUST BUILT CLOSER TO THE GROUND