

1 How does the N-deal help the climate?

20,000 MW of nuclear power is a carbon saving of 145 million tons

Nuclear power is a renewable energy. It doesn't consume fossil fuels and doesn't emit carbon. It is also cost-effective over the long-term, unlike other green energy sources like wind and solar.

This is why many cite nuclear power as the ultimate climate-friendly power source. It would help solve India's key green dilemma. To provide electricity to 500 million Indians who do not have electricity and revive its manufacturing sector, India will need to increase its energy consumption manifold. But this will mean increasing carbon emissions by the same amount.

Stanford University's David Victor and Vinay Rai have shown that every 20,000 MW of nuclear power capacity in India would save the world 145 million tons of carbon, an amount nearly equal to the entire Kyoto Protocol commitment of the European Union. Nuclear power would allow India to get wealthier while reducing the carbon impact of that growth.

DOWNSIDE: Nuclear power produces radioactive waste. However, India will have access to reprocessing knowhow under the nuclear deal which would allow some of that waste to be converted into fuel.



2 How does the deal help India get energy?

Only 3,800 MW of India's total power production of 160,000 MW is nuclear

Everyone can tell India is desperately short of electricity. The shortfall in electricity during peak demand was 14,500 MW last year. India's imports of natural gas and oil are reaching escape velocity. The country, warn experts, may become a net importer of coal in a few decades.

No one claims the whole economy can run on uranium. But energy security is best served by having several sources of energy on tap, in case turmoil disrupts supplies of one fuel or the price of another fuel gets too high. Nuclear energy is also price competitive — in the West, says an MIT study, nuclear power's kilowatt-hour price is between that of coal and natural gas. In India nuclear prices are especially high because of technology sanctions and expensive uranium.

Reactors are expensive and take a while to build. Which is why the follow-up to the Indo-US nuclear deal is another deal, this time with India's private sector, allowing it to enter the business and build and run their own reactors. This would end the shortage of capital that bedevils Indian nuclear power.

DOWNSIDE: Nuclear energy can never fulfil more than a fifth of India's electricity requirements. But that's still plenty in an economy growing so fast.



3 How does the N-deal help us get technology?

The technologies denied to India by sanctions run into thousands

Everyone knows nuclear tech and fuel are denied to India because it refuses to sign the Nuclear Nonproliferation Treaty. But this denial also encompasses thousands of dual-use technologies that can be used in both nuclear weaponry and civilian industry.

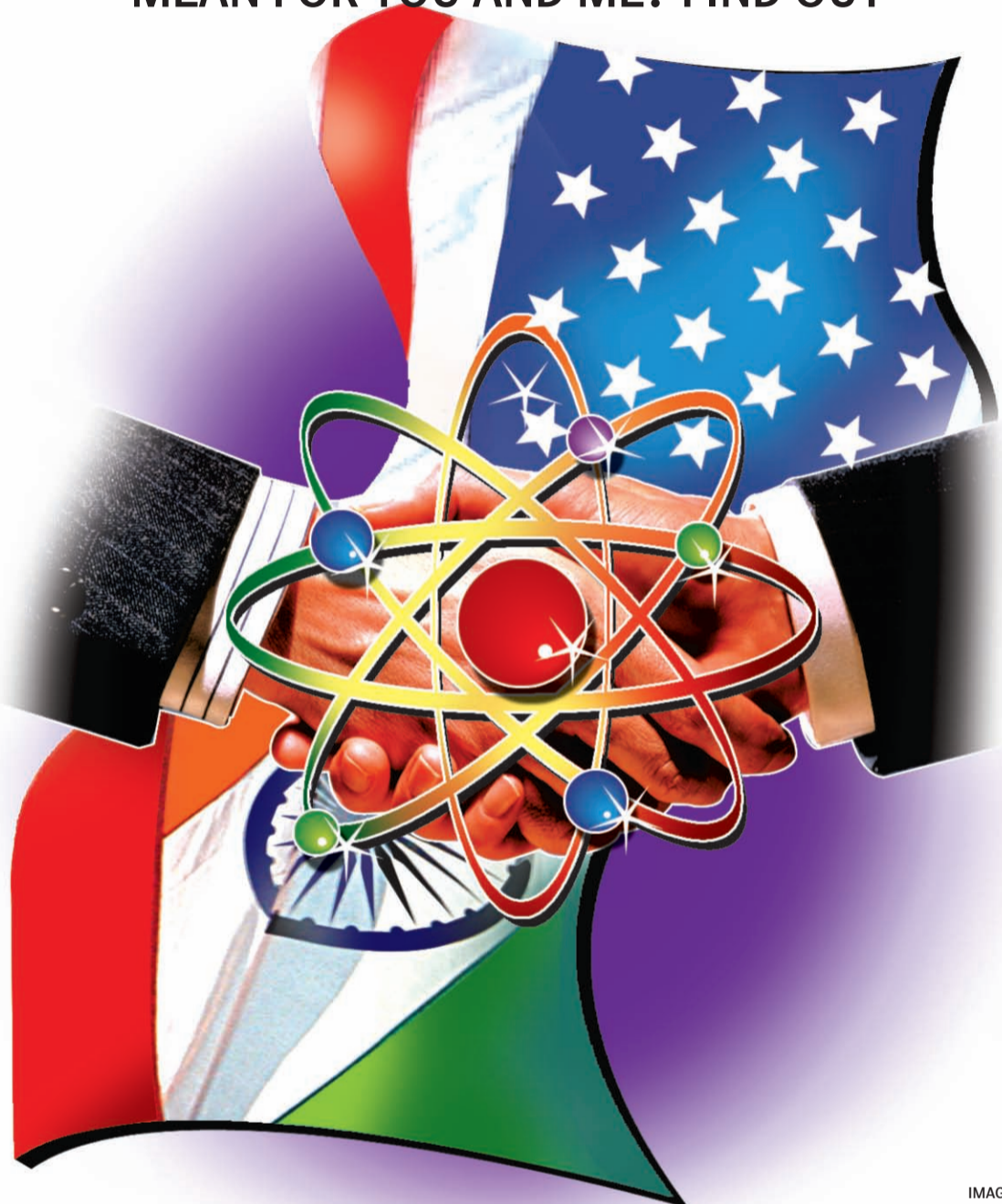
Remember the battle over India's attempts to buy a Cray supercomputer in the 1980s for monsoon prediction? The problem was the Cray's dual use status. A similar story is the recent arrest of Indians trying to buy heat-resistant integrated circuit chips in the US.

Technologies in six categories are denied to India because of the NPT: aerospace and avionics, advanced computing, composite materials, electronics related to sensors and lasers, telecom information security, and marine engineering and propulsion. India cannot buy cutting-edge weapons, cannot participate in frontier missile and space programmes. The manufacture of key components in everything from magnetic resonance imaging machines to remote sensing satellites cannot take place on Indian soil. Worse, as science advances, the number of technologies falling in the dual use category are increasing.

DOWNSIDE: The nuclear deal will give us the rights of NPT signatory countries, but there are other tech controls imposed by individual governments. India will have to join a number of international technology control regimes as well, but as an insider not a victim.

NUKE CLEAR

IT HAS BEEN DROPPED ON US AND THE NATION STANDS DIVIDED. BUT WHAT DOES THE INDO-US NUCLEAR DEAL MEAN FOR YOU AND ME? FIND OUT



IMAGING: SEBASTIAN

Pramit Pal Chaudhuri

DON'T EXPECT nuclear reactors to drop out of the sky the day after the Indo-US nuclear agreement is completed. Don't expect to get a job in a brand-new silicon chip factory the week after. On the other hand, don't presume the Star-Spangled Banner will become part of the Republic Day parade. Or that India will wake up to find itself bereft of its nuclear deterrent.

To grasp why the deal is important, it helps to ask a simple question. Why does Prime Minister Manmohan Singh believe the nuclear deal is so crucial to the country's future?

Singh is uninterested in symbolic prizes for India. He barely lifted a finger to get India a permanent UN seat. "If our economy grows by 10 per cent for 10 years, we will get the seat automatically," he says. Singh told China's Hu Jintao he found G-8 summits a waste of time.

An economist frets about giant unexpected shocks. A politician fears small, temporary stumbles. When you ask Singh aides what he is focusing on these days, the response will inevitably be something like "energy and education".

The nuclear deal's main accomplishment will be to help safeguard India's forward progress against major disruptions. This is the diplomatic equivalent of a nationwide insurance policy. That it also salves a long-standing Indian gripe about being in the same room as nuclear pariah Pakistan is also there, but it is secondary.

The first concern is an energy shock. Nuclear power can't solve all of India's endemic power shortages. But given the uncertainty about the future of global energy, it is prudent to keep India's dying nuclear programme alive. If West Asia explodes again or the world's oil supplies ran out; or global warming became so acute the world bans exports from countries who use mainly coal — then nuclear energy will be India's white knight. It is possible none of these crises will happen, but the stakes are too great for this option not to be preserved.

The second concern was technology. Whether you like it or not, services and technology are going to remain the drivers of the Indian economy for decades to come. Even the manufacturing revival is taking place at the point where brain meets brawn. If, as the es-

tablishment likes to say, India is a knowledge power than it should seize an opportunity to remove layers of sanctions that denied Indian firms and scientists access to the newest of the new. The deal elevates India from the gutter of Technopolis to its penthouse.

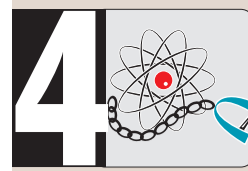
The third concern was foreign policy. Singh, and much of the Indian leadership, has accepted that the country that can contribute the most to the rise of India is the US. It is a superpower and is endowed with exactly the sort of knowhow and capital that India needs.

By coincidence, the US is happy to play a supportive role. Washington accepted that a key barrier to moving the relationship further was dissipating the decades-long distrust of the US that existed in New Delhi. It was India that said: "Give us a nuclear deal to prove yourself." In a way, the deal was an act of penance by the US for its past sins.

The consequences for India, if the nuclear deal is completed, will be a mix of the symbolic and the substantive. But they will be long-term and incremental. The deal unlocks many doors for India.

However, how much India gains will depend a lot on India having the will to pass through these portals. For example, India will be able to import nuclear fuel and reactors but if it doesn't allow private firms into the business, its energy problems will still remain. This is a deal that helps India help itself.

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4 How does the deal hurt our sovereignty?

The Jekyll of nuclear testing and the Hyde Act

The Left points to the various encrustations on the Hyde Act calling on India to help the US against Iran and so on. These would be sound criticisms except that all of these are in the non-binding sections of the Hyde Act. They are, in fact, dropped from the text when it goes to the US President for signing. They can be compared to the inflammatory statements made by Indian parliamentarians during bill debates — sound and fury signifying nothing. Much US foreign policy legislation is encumbered with such clauses and matter not a whit.

More substantive is the BJP's complaint that the Indo-US nuclear deal circumscribes India's ability to carry out a nuclear test. It would be more accurate to say the price of India carrying out such a test has increased. Washington cannot give India a pass on this: a nuclear cutoff after a test applies to all nations, even close allies like Israel and Britain. India has successfully negotiated a set of buffers to ensure such a cutoff will not be automatic. But does it matter? Most of the reactors India imports will be French and Russian. US law doesn't apply to them.

DOWNSIDE: All international agreements ultimately are about trading a bit of sovereignty in return for some broad benefit. Time will tell if India got a good trade. But keep in mind that if the deal falls apart, it will only mean we go back to our present nuclear status.



5 How does the N-deal make us an ally of the US?

"Let India be India, but help it become a stronger India," is the US mantra

It doesn't make us an ally. There is no military alliance or treaty obligation attached to the Indo-US nuclear deal. Which raises the question of why is the US bending backwards for India, especially after harassing India on the nuclear issue for so many decades?

The deal represents the coalescing of a number of different interest groups in Washington, all of whom like India for different reasons. The neoconservatives and George W. Bush instinctively feel the US should be closer to the world's largest democracy. The Pentagon see India as a potential balance to China. The intelligence agencies and others see India as a bulwark against Islamic terrorism. The list goes on.

Will India follow a path that is in the US's interests? Most American policymakers accept helping India is a gamble. New Delhi has a rep for being touchy and independent-minded. Americans are optimistic. But they accept India will become a positive global role automatically, as its economy grows and its interests expand. One reason they don't think it's much of a gamble: the US cannot believe a liberal democracy will ever be a threat. "Let India be India, but help it become a stronger India," is the Bush administration mantra.

DOWNSIDE: India and the US will drift together because their foreign policies have plenty in common. But they will never be lovey-dovey; expect their historic spats to resume after Bush leaves.



6 How does the N-deal help our global status?

The world's sole superpower has agreed to bend international rules for India

Some have complained that India will not get the full status of a recognised nuclear power, merely the privileges of such a power. That's true, but the fact is that the later you become a nuclear power the less privileges you get. China, for example, has less nuclear freedoms than the US under the NPT.

The deal also doesn't help India get a permanent seat at the UN Security Council. Contrary to popular belief, that has nothing to do with having nuclear weapons. But UN reform is a complex business and India's case will depend on its economic performance, its willingness to help the international system and not just its nuclear status.

That the world's sole superpower and an insular US president agreed to bend international rules for India has forced a major reevaluation of India in many capitals. The past year's political gridlock has undermined this aura, but many more governments pay attention to India then before.

The Chinese like to say the ultimate goal of their country is to become a rule-maker for the world. The nuclear deal helps India move closer to that status, allowing it to have a say in future technology, trade and nonproliferation regimes that it doesn't have now.

DOWNSIDE: With global status comes global responsibility. A big question is whether India is prepared to actually do heavy-lifting to help solve international problems. Is it just interested in power without responsibility? Even Indians aren't too sure.



In an increasingly interdependent world we live in.... India and the United States must stand tall and work shoulder to shoulder.

Prime Minister MANMOHAN SINGH after the talks with US President George Bush on Wednesday.