



# Energized

*Edward M. Lerner*

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No one expected the oil to last forever. How right they were....

A geopolitical miscalculation tainted the world's major oil fields with radioactivity and plunged the Middle East into chaos. Any oil that remains usable is more prized than ever. No one can build solar farms, wind farms, and electric cars quickly enough to cope. The few countries still able to export oil and natural gas—Russia chief among them—have a stranglehold on the world economy.

And then, from the darkness of space, came Phoebe. Rather than divert the onrushing asteroid, America captured it in Earth orbit.

Solar power satellites—cheaply mass-produced in orbit with resources mined from the new moon to beam vast amounts of power to the ground—offer America its last, best hope of avoiding servitude and economic ruin.

As though building miles-across structures in space isn't challenging enough, special interests, from technophobes to eco-extremists to radio astronomers, want to stop the project. And the remaining petro powers will do *anything* to protect their newfound dominance of world affairs.

NASA engineer Marcus Judson is determined to make the powersat demonstration project a success. And he will—even though nothing in his job description mentions combating an international cabal, or going into space to do it.

## **Energized Details**

Date : Published July 17th 2012 by Tor Books (first published July 1st 2012)

ISBN : 9780765328496

Author : Edward M. Lerner

Format : Hardcover 336 pages

Genre : Science Fiction, Fiction

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# From Reader Review Energized for online ebook

## Adam says

I am interested in sources of alternative, and clean, energy. A friend of mine rightfully picked up on that interest and gave me this book as a gift. I like the premise: the world has experienced an upheaval in energy production and prices due to a catastrophe that has ruined the middle east's oil supply. Alternative energy resources (solar, wind, gas, tidal, etc.) are being actively capitalized on. In addition, the US is working towards a new orbital power platform that will beam power from space to the areas that need it most.

There is a lot of interesting science here, and a nice action story to frame it in. I wasn't entirely impressed with the character interactions in the book, but the legs of this story are the action and science. Given what it is, I was very entertained, and would easily recommend this story to anyone with interests similar to my own.

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## Thomas says

Lerner, Edward M. Energized. Tor, 2012.

Here is the premise of Lerner's well-plotted and well-researched techno-thriller: A terrorist act has rendered the oil fields in the Middle East radioactive, making Russia the world leader in oil exports. A fortuitous near-earth asteroid has been pushed into earth orbit and mined to build an American-controlled power transmission satellite. Russian saboteurs, aided by radical Gaiaists, attempt to take out the satellite and most or the world's clean-energy projects. Can some astronomers and engineers save the world from an energy disaster? If you like near-future hard science fiction, Energized has a lot to offer. Lerner, who left a successful tech-industry career to take up full time writing in 2004, is a frequent contributor of both fact and fiction to Analog. Here, Lerner tells us a lot about radio-telescopes and solar power transmission. The plot has plenty of action and suspense. The weaknesses in the novel are about what one would expect from this sort of book, rather perfunctory, even clichéd, relationships between characters. Think TV-movie romance and you won't be far off.

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## Antoine Fleury-gobert says

I've got a peculiar way to read books. I start with the last 10 pages, then I read the first 10 pages, and then I peek in the middle. If at this time I still have not understand the whole book, or if it seems that reading the whole book is worth it, I continue. If not, well...

Usually, doing this allows me to choose good books (in my taste...) while at the bookshop. For this one, I did trust the summary, as I was in a rush. Why did I do that???

Ok, let's go to the book. The plot is thin, very thin. This could be OK, as books like The Martian, where the plot is only one gimmick, shows. But here... to make the story short :

Setup: Oil (petrol) is nearly depleted, only Russia still got some significant reserves. All around the world, every government is looking for a new energy source.... sorry, the US gov. is desperate to find a new energy

source, as everyone else is against the good americans. So they created a satellite platform from a captured asteroid (that they did capture by themselves), with solar farm on it an micro-waves emittor (like in your MW oven) to send energy to ground station. Other energy generation form are used, but only this one would be able to help america to continue to rule the world. As usual, there are leftists baddies called reseters that don't want to have this new free energy.

Plot: on space base Phoenix/PS1 (PowerSat 1), some terrorists take power and start to grill the world at large. Some True Heroes on earth and on Phoenix save the day, and the poor tourists stranded there, and the poor fishes down here. At last, the US government/army/president send the badass marines, determines that the baddies are the russians and the russian president, and decides that they won't abide the UN space treaty and threaten to nuke Russia. Done with the whole book.

Plot loopholes: multiples...

Ok, first all the phony things:

- \* Micro-Waves as in oven microwaves... and everyone is saying it's dangerous except the ones in command... and someone make a point of demonstrating a microwave weapon... what will happen ??? Oh, yes, exactly what you think.

- \* cui bono? at start, the book tries to introduce some telltale possible villains... but makes the terrorists (known from the first chapter) from russian/eastern european descent. guess who?

- \* come on, with the NSA, CIA, FBI, and history lessons, and good knowledge of strategy... no one thought to investigate the past of the guys sent to work on one of the most dangerous dual technology ever created ?????

Second, all the incredible things :

- \* so this MW ray can be a weapon, and no Army/Air Force/Secret 3-letter agent is involved? Sure, a lot of NASA people are ex-US Air Force, but come on...

- \* the premise is "capturing an asteroid" (it rings a bell, if you look at current news). And a debt-ridden US managed to do it, without any other country participation, and no protestation from other countries (China, Russia, Europe...)? come again.

- \* in this heightened tension context, they did not check the background... oh, yes, I said it already.

- \* Security on board Power Sat 1 is so badly designed that the MW-Ray that-no-one-except-the-baddies-thought-of-as-a-weapon can be easily re-targeted and put in full power mode? And I'm just talking about technical security, as in "control rods in a nuclear power plant"...

The whole book reminds me of the plot of an episode from the TV-series "the 6 million dollar man", where the nuclear power plant is replaced by a satellite.

So, not recommended.

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## University of Chicago Magazine says

Edward M. Lerner, MBA'82  
Author

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farms, and electric cars quickly enough to cope. The few countries still able to export oil and natural gas -- Russia chief among them -- have a stranglehold on the world economy.

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For an excerpt, see the publisher's website at:  
<http://us.macmillan.com/BookCustomPag...>

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## **Bryan says**

Good credible hard science fiction, which is truly one of my favorite genres. Don't let the science put you off, though, as it's well-explained and you don't need to be an astronomer to follow the plotline.

The setting is Earth in the very near future, immediately following a cataclysmic oil disaster. The world's oil reserves suddenly diminish to a tiny fraction of their previous levels, and the resulting political intrigue has the Russians jockeying for top spot with their remaining reserves. Some sabotage by undercover Russian operatives takes place, as they attempt to ensure that the world buys only Russian oil (and is gouged on the price, also).

But, the US is not down and out just yet. They've captured an asteroid, and put it in orbit above Earth, using it as raw materials to build a massive 2 mile x 2 mile powersat that collects solar energy and beams it to Earth as microwaves.

And that's the basic setup. If only the Russians could find a way to sabotage this powersat, or better yet... find some way to use it as an orbiting weapon, turning the world against the US.

The book gets the science correct at every step along the way. Pacing is not quite so perfect, however. I enjoyed the first third (the science), but felt the book dragged in the middle (preparing for the trip to the Powersat), and then picked up again when the terrorists made their move.

Characters were okay, but that's usually the downfall of this type of hard SF. In this instance, I think Lerner did a bit better than average, although they do come across a bit wooden, and a whole new level of tension could have been realized with more convincing characterization.

I recommend this book to anybody who wants to enjoy a gripping novel brimming with actual science dealing with the types of things we'd need to consider after our dependence on oil has waned.

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### **James Cox says**

Heavy sci fi but I loved it! This book was awesome which is why I devoured it page by page.

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### **David says**

I'm 120 pages in to this novel and I'm frustrated.

So far it's been about boring dour people complaining about being in even more boring and dull meetings and conferences. 120 pages of boring meetings! Not a good way to start a book.

Seems I've decided not to return to this book.

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### **Read Ng says**

The first third was heavy on the science. I loved it. But it was a long setup for the story. It did little to develop the characters and did even less to set up the good versus evil portion of the conflict.

I did not really care why some of the actors did what they did. I find that the author - Lerner, works with Larry Niven, another author that I admire for the hard science aspects of his work.

Less than good character development. It is also a bit too pro America and anti-Russia. Well, you have to have a good guy and a bad guy, so what else do you have? But I just did not like the way the heroes and villains were developed. In the end, I didn't care what happened to the characters in the story.

I do so want to see us capture an asteroid to mine it's resources and to develop alternate power sources including space based power, but mostly because we can engineer a solution to a problem, regardless of the complexity. It doesn't mean we should, but I want to see if we can. And it is very real that we don't work well together for the greater good, but rather seek ways to warp a project to our personal selfish desires.

This was a so-so read, so go out and have your own GoodReads.

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### **Shellie (Layers of Thought) says**

Original review by John posted on Layers of Thought.

*An exciting futuristic techno thriller – how can an asteroid racing towards Earth be used to help solve the world's desperate energy crisis?*

**About:** In the near future a catastrophe has left a large part of the world's remaining oil reserves radioactive and unusable, plunging the Middle East into chaos and wrecking much of the world's economy. Russia is left as the last major power able to export oil and gas, and it's determined to exploit that new-found geopolitical dominance.

When an asteroid appears from deep space headed in the general direction of Earth, the US hatches a bold plan to pull the asteroid into Earth orbit and to mine it to help create a whole new source of energy – raw materials from the asteroid are to be used to build huge solar power satellites, which will then beam energy back to the US. The US sees it as a last chance to fix its ruined economy and to prevent political servitude; others are absolutely determined to see the plan fail.

Things seem to be going well – the asteroid is successfully tugged into orbit; manned stations and factories are built on the asteroid, and the first huge “powersat” is built. But before it can go live, NASA has to convince everyone that the technology is foolproof and safe; after all, if a system beaming huge amounts of power back to Earth goes even a tiny bit astray, the consequences will be horrendous. Even if it works perfectly, what if it were used as a weapon rather than a power source?

Marcus Judson is a NASA contractor playing a key role in the final tests and approval process, though he'd never imagined that might entail having to travel to the asteroid. As the testing comes to a head, so too does a complex and devious plan to prevent the program's success.

**John's thoughts:** This is an extremely clever idea for a novel – well thought out and well-constructed. Whether or not it would be technically feasible I have no idea, but reading the book you certainly get the sense that it could be. Lerner is clearly someone steeped in technology that loves to create storylines around technical extrapolations and theories that might just work.

There are some wonderful big ideas in here – harnessing the power of asteroids, mining them for raw materials, creative ways of breaking our dependence on oil, and how best to harness the full power of the sun. These ideas are mixed in with a strong plot involving political tensions, personal relationships, career scientists (a strange breed!) and plenty of thrills.

So the book has a lot of positives and I enjoyed the read. For me the thing that held it back a bit where the characters – they sometimes felt a bit two-dimensional and some of their actions and interactions were a bit stretched. But despite the somewhat implausible characters I'd still recommend this book to anyone who likes good somewhat futuristic techno thrillers. It's worth reading for the neat ideas alone! I'd rate the book 3 stars.

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## **William Bentrin says**

Energized by Edward M. Lerner

This book was flat out scary. The plot could be pulled from current events. This details the international subterfuge that forces the United States and most of the world into an increased state of energy dependency. I think one of the things that I found most frightening about this book was its plausibility. Every presidential candidates that I can remember as promised us energy independence. This book explores the premise of the opposite happening.

The protagonists in this book start as adversaries and grow into a much more compatible relationship. There

is a not so subtle glorifying of engineers whom my son, the engineer, saw as factual description rather than glorification. Throughout the book, examples of energy alternatives are touched upon as an aside to the plot. Lerner does an excellent job in defining energy dependency and the perfidy necessary to promote it. The novel includes astronomy, rocket science, Russian treachery and greed and a complicated but very entertaining plot. I highly recommend it.

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## **terpkristin says**

Audiobook from Blackstone Audio, Inc.  
Narrated by Grover Gardner  
Length: 10.5 hours

The SFFaudio crew pegged me to read this book because the description says that one of the main characters is a NASA engineer. I always think it's funny when people specify "NASA" engineer. It's like on TV shows when you see people working near the space shuttle, they're all wearing NASA hats. Nobody does that. The description could just as easily said "aerospace engineer" and the meaning would be the same...but less sexy, somehow. I admit, I was weary of reading this one at first. My experience with people who write about "NASA engineers" is that they have no idea what they're talking about excepting cursory research. I'm happy to report that Edward M. Lerner *does* know what he's talking about with regards to the space and satellite stuff (looking at his bio, it's no surprise). That said, I went into this thinking it was going to be a science fiction book. It's much more a mystery/thriller with science fiction elements. It's as much "science fiction" as *Daemon* is (which is to say, not much).

In the interest of full disclosure, it's probably worth mentioning that I am currently employed by a company that (among other things) designs and builds satellites, both for the government and the commercial sector. I currently work on the commercial side of things and have never worked on a NASA contract. There are definite holes and inaccuracies with the science and engineering in this book. But most people won't recognize them, and they don't impact the overall enjoyment of the story.

That disclaimer done with, *Energized* was pretty entertaining. Set in the near-future United States, the world has gone through a "crude-tastrophe" and the price of oil has skyrocketed to the tune of \$20+/gallon to fill up a car. There is a fixed market, controlled mostly by Russian interests, for oil, so naturally the US explores alternate energy sources. Unfortunately, Rome wasn't built in a day and it's virtually impossible to produce enough energy via alternate sources overnight. NASA has been working on a large-scale satellite that can beam solar energy to earth from space.

The first third of the book (maybe closer to the first half) deals with the public (and private sector) reactions to this kind of a satellite and introduces the reader (listener?) to the concept and its risks. Admittedly, this section could have been shorter without sacrificing much of the story; it did seem to drag on a bit.

The second section of the book introduces the "thriller" aspect. As anybody in the aerospace industry is aware, the stuff built "for the powers of good" in/for space can usually be used to do evil. Sure enough, terrorists find a way to take over the satellite and use its harnessed energy to destroy ground-based and air-based targets. As is typical for thrillers, there are some good guys in the area, capable of stopping the terrorists. In this case it's Marcus Judson, NASA engineer, one of the lead consultants for the power satellite



project, along with some of his colleagues. Yet again, this section seemed overly long and drawn out.

However, the length of the first two sections may only seem long in relation to the final section--the part where the final "battle" occurs and either good or evil triumphs. This part felt a bit rushed, comparatively. In retrospect, I think it was probably the right length and that the other two parts were just a bit too long. I won't spoil it for you, but the final "battle" involves maneuvering (literally and metaphorically) on the ground and on the 2 mile-on-a-side power satellite. It stretches the belief but still left me interested and wanting to listen to see what happened next.

As I stated previously, the book was enjoyable. It was a bit far-fetched but not so far-fetched as to be completely unbelievable. The science fiction elements are there and create an atypical setting for most mystery/thriller type books, and I'd recommend this to anybody that enjoys the mystery/thriller genre.

I believe I've said it before, but Grover Gardner is one of my favorite narrators and he shines in this type of book. He also narrates the Andy Carpenter books, another mystery/thriller series, so it feels natural for him to read *Energized*. The only "weirdness" I had is that the Andy Carpenter books have a character named Marcus as well, so hearing of two very different "Marcus" characters read by the same narrator was a bit jarring at times.

All in all, this is a popcorn-type book, easily consumed and digested. It does have its flaws (with the technical side of things as well as story length), but they're not so big as to ruin the fun. If you're in the market for a hard science fiction book with far-reaching themes, this isn't the book for you. But if you're in the mood for a thriller with science fiction elements, you'll probably enjoy *Energized* well enough.

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## **Vanessa says**

You think \$3.50 gas is bad? Try five times that. Try rationing. That's what life could be like starting in about two years with Edward M. Lerner's *Crudustrophe* in *ENERGIZED*.

Lerner poses a big "What If?" What if suddenly and catastrophically all of the Middle East's oil supply was snuffed out? What would it be like living in a world where energy was in short supply? Would alternative energy be enough to fill the gaps?

And what if there were some people who actually liked it that way?

The story in *ENERGIZED* mostly revolves around Marcus Judson, NASA engineer on the Powersat One--an enormous solar power satellite that is in constant view of the sun, and then beams that energy to Earth in the form of microwaves, where it's then distributed to the already strained U.S. power grid. Marcus is just trying to do his job convincing people that, yes, they do want a giant series of solar panels in the sky; and, no, the microwaves beamed down aren't going to fry you. We hope.

Unfortunately, there are some called Resetters who believe it would be better to just abandon the desperation of alternative energy and go back to the good ol' pre-industrial days. Such as Dillon Russo, whose venture capitalist company on the outside appears to want to help new businesses with alternative energy, but secretly hides a Resetter and Gaia Mother Earth theology.

Then there's Valerie, the astronomer, whose space telescope is pretty worthless with a huge powersat in the

way, and calls NASA to complain. They send Marcus. Queue love story. There are a few other interesting PoV characters, but those three are the ones to really pay attention to. And for the most part Lerner does pretty well with them. They're consistent and their motives are pretty obvious. But they aren't the kind of characters you'll grow to love. Well, maybe a little affectionate.

Lerner sets up the story pretty well, even if the first half of the novel feels rather slow, and the story is heavily enough foreshadowed that very little came as a surprise. I had a hard time getting through the character positioning as well as all the science mumbo jumbo--so much work to get everything just right for the climax. Once we hit about 2/3 of the way, the story finally takes off and everything that went before begins to come together.

While the characters and the plot were serviceable, they lacked pizzazz. And yet I still liked what Lerner did with the story. I love the "What If" ideas in the book, how he presents them, and works around them to make a fascinating thriller of a story. Really, it's the Powersat One that's the main character of the book. Everything revolves around it, how it works, what it's capable of, the problems it presents, and the sacrifices people make to either destroy or save it. ENERGIZED is worth reading if you like exploring the ideas and the "What If."

Recommended Age: 18+ for comprehension

Language: A handful

Violence: References to mass killings, and some on-screen deaths, but not much blood

Sex: Referenced only

\*\*\*Read this and other reviews at Elitist Book Reviews.\*\*\*

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## Ayla says

DNF

I made it till page 17 before I decided to DNF this. Now, usually I give a book approximately 30/40 pages to prove my initial thoughts wrong (if necessary). However, this book made it clear for me pretty quickly that the characters wouldn't really come to life. Besides, the plot didn't really grasp my attention and I personally think things were developing too slowly without any additional interesting elements to the story.

*\*small disclaimer: I hope you respect my decision to rate this book one star (as it is my basic rating for dnf'd books) as I respect your decision to rate it more stars.*

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## Jeffrey says

An enjoyable techno-thriller with some hard science thrown in about astronomy and NASA systems. It was a pretty quick read once I got into it and would recommend it.

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## **Sarah says**

... When it's all said and done, Energized is a wonderful example of incredibly well researched hard science fiction. However, the science fiction genre label shouldn't put you off. Energized is a book about what could be, and the possibilities Lerner shows in his realistic and engaging portrayal of the near future are sure to tantalize you.

Read my full review here:

<http://www.bookwormblues.net/2012/08/...>

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