

EUROPEAN ENERGY REVIEW

EER MONTHLY | JUNE 2013

A complete monthly survey of our new publications

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ENERGY, NEVER A DULL MOMENTUM

By Ben Warner - editor-in-chief

This EER month the emphasis lay upon developments at the east flank of the EU with articles about Cyprus, the South Stream and Druzba Pipelines and an interview with Dr. Kabuz, Director of the Hydrocarbons Division at the Mediterranean Energy Observatory, who talked about a gas bonanza in the East Mediterranean. There was no specific reason for this accent other than developments in this area surpassing those in the Northwest of Europe. In the EU as a whole the centre of discussion showed a more political issue as

the 20-20-20 targets and their feasibility came under pressure. The increase of CO₂-emission is causing a warming up and a fear house effect for missing one of the 20's. Cheap beats clean. The market in this case proved to be stronger than goals and government. A dilemma is born. To leave the economic crisis behind, Europe ironically needs growth of production and spending consumers, leading to a higher demand for energy, which under the circumstances leads to higher pollution. Which sword can split the Gordian knot for

there is hardly time for a careful and sluggish process.

The preview of Alexander Mirtchevs book, which featured May 6, certainly gets a follow up, because his vision that we are dealing with megatrends and a sort of paradigm shift concerning our way of thinking about the use of energy cries for a profound analysis of his arguments. If possible we will ask some experts for their comments to see if his assumptions and conclusions are in any way controversial.

In the meantime EER is preparing a number of articles in which the state of affairs of the transition strategies and programs of different countries are analysed to detect the differences of approach in individual countries and the reasons for this spread.

How the Alternative Energy Megatrend will impact global geopolitical relations

The Greening of Geopolitics



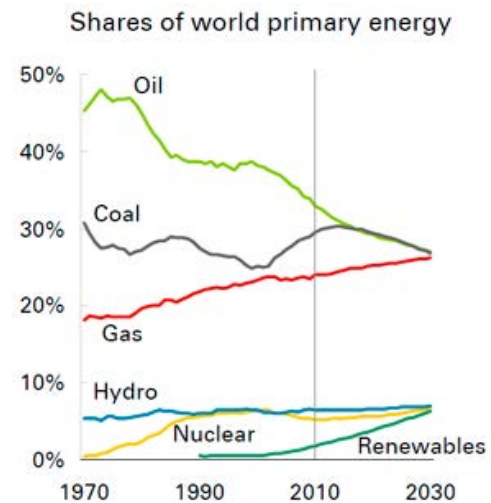
The advent of renewable energies is generally regarded from a fairly narrow perspective: whether – and to what extent – they are able to replace fossil fuels and what this would mean for the energy system and the economy. Such a perspective profoundly underestimates the potential consequences of what is in fact a revolutionary global development: a socio-political and techno-economic megatrend that has the ability to become a global societal game-changer, writes Alexander Mirtchev, Vice-President of the Royal United Services Institute for Defence and Security Studies (RUSI). According to Mirtchev, the ‘Alternative Energy Megatrend’ will have far-reaching effects on global geopolitical relations and security concerns – effects that have yet to be fully grasped by most observers. This article is adapted from his upcoming book: “The Alternative Energy Megatrend: A Global Security Discourse in the Universally-Securitized World”.

| *By Dr Alexander Mirtchev*

The transformation of renewable energy into a global phenomenon is the result of an intensifying search for alternatives to the presently dominant sources of energy – oil, gas and coal. Renewable sources of energy are of course not a new invention and have not appeared overnight. Indeed, the momentum behind the relevant technologies is the product of a centuries-long accumulation of diverse applications of known and existing approaches, views and techniques. But what has changed

is that these technologies are now seen and applied throughout the world from a new socio-political and techno-economic frame of reference. This phenomenon can be considered the Alternative Energy Megatrend.

There are a number of reasons why the development of ‘alternative energy’ morphed into a Megatrend. First, previously dominant state actors are no longer exclusively in control of the



Shares of world primary energy
(BP Energy Outlook 2030)

Second, related to this, the global system is no longer determined by the pattern of hegemonic relations that characterized the Cold War period, but has become 'multi-centric'. With the post-Cold War period creating new opportunities and opening up resources, actors that were constrained by the two major world powers are now able to devote additional resources to their own positioning in the vacuum left by bipolarity.

Third, the ongoing global technological revolution is the breeding ground for a number of modern trends with the capacity to deconstruct and reform societal notions, political and economic practices, and social order. This revolution represents an era of increasing use of diverse technologies – from ingestible radio transmitters and fluorescent quantum dots for medical diagnosis and treatment, to mobile phones that also take photographs and receive and transmit email messages. Within this ongoing stream of technological advancements, socio-technical systems emerge that create their own reality and in turn affect the global technological revolution.

Drivers and attributes

It would be a mistake to think that the Alternative Energy Megatrend is only driven by the desire to replace fossil fuels. Its drivers are much broader than this. They encompass a number of developments and considerations:

the world's insatiable demand for energy prompts diversification and energy

independence considerations that increasingly rely on renewables man's adverse effect on the environment has led to a worldwide movement to protect the human habitat in which alternative energy plays an important role

intensifying global economic growth challenges are prompting new solutions, with renewable energy sources staking a claim to be one of the most important elements of these solutions

technological progress propels the development of alternative energy technologies, reinforcing their viability as well as creating the backbone of institutional knowledge to enable their eventual mass deployment

renewables can help reduce defence budgets, improve logistics and efficiency and bring new capabilities and technological advantages

new forms of empowerment: alternative energy can contribute to the ability of state and non-state actors to achieve previously unobtainable goals and impose their will on cross-border agendas.

quasi-ideological expectations: the

development of renewables is partly driven by moral and ethical societal values and visions of a better future government policies and regulatory frameworks create an environment that helps propel alternative energy developments

Driven by this diversity of concerns, modern alternative energy developments exhibit attributes that categorize them as a 21st Century socio-political and techno-economic megatrend. The most notable attributes include:

novel reactions and unparalleled responses by policy-makers and global society

geographical scope that encompasses the globe and is even moving into space

a reshaping of contemporary societal order by offering ways of improving humanity's well-being in line with the moral, techno-economic and ideological visions associated with renewable energy a claim of longevity: alternative energy developments have acquired an aura of irreversibility, inevitability, durability and infallibility

This range of attributes is continuously evolving and generating new conditions that are gradually accepted as the prevalent reality, confirming that the modern alternative energy phenomenon is in fact a global megatrend – more than the sum of its parts.

Previously dominant state actors are no longer exclusively in control of the energy regime

Geopolitical consequences

One of the most ignored aspects of the Alternative Energy Megatrend is its geopolitical, geo-economic, security and defence implications. These implications are interconnected and mutually influencing in their own right.

In the emerging new security environment of the 21st Century – shaped by globalization, interconnectivity, anti-globalization tendencies, the ongoing technological

revolution, and fluid geopolitical relations in a multi-centric world framework – alternative energy developments are increasingly becoming part of the overall pursuit of new advantages. They create a framework for the convergence of different strategic interests and the pursuit of new ways of influencing local, regional and global agendas.

The geopolitical significance of renewables stems from the broad array of economic and social factors they affect – from manufacturing vehicles, food production, distributing water resources, to international trade, foreign aid initiatives and cross-border infrastructure projects. As environmental security becomes a more important political consideration, alternative energy could provide state and non-state actors with new abilities to exert power and to influence political agendas.

Note that the way in which security issues themselves are approached by policymakers is changing (independent of the development of renewable energy).

The traditional distinction between national, predominantly military, and implicit security considerations is blurring. We are living increasingly in a world in which security is becoming an issue of universal application and meaning. Different security threats, mitigation approaches and solutions are mutually dependent and interlinked in the modern world. The growing number and variety of global security threats transcend national borders and are already beginning to break down the sacred boundaries of national sovereignty. The broadening notion of security encompasses a wide spectrum of political interactions between states, non-state actors and individuals that are concerned with the safety and vulnerability of those actors, social groups and people.

The geopolitical significance of renewables stems from the broad array of economic and social factors they affect

The policy response to this has been to designate an increasing number of objects as requiring protection from threats, which has resulted in what may be called ‘universal securitization’. Securitization means determination of whether or not an issue is a matter of security. It is a process of determining threats to security, prioritizing them, formulating mechanisms to mitigate them and implementing them. The Alternative Energy Megatrend is affected by – and generates – both narrow (geopolitics, energy and defense) and broad (environmental and economic) security connotations.

Explicit security considerations

How are narrow (explicit) security priorities related to the Alternative

Energy Megatrend? The distribution of renewable energy resources permits new geopolitical stances and offers novel forms of empowerment and repositioning within the global equilibrium.

Thus, the Alternative Energy Megatrend can be a contributing factor to the alleviation of existing regional and international competition, tensions and conflicts. It can help modify strained relations between traditional energy suppliers and consumers, playing a part in altering the characteristics, power and positions of old and new players, including international, multilateral and non-governmental organizations. One might even say that it could endow both state and non-state actors with the capacity to assume new roles in a modern 'Great Energy Game'.

True, renewable technologies still enjoy only a minor share in the global energy mix. But what matters here is that they can be a local solution to a global problem. Alternative energies are a local, practical means of enhancing energy security. For

this reason they have the potential to affect to a disproportionate extent energy security calculations and balances. As an indigenous source of power they can help protect states from energy manipulations by others.

By offering an alternative to fossil fuels, renewables will help diversify energy choices, help improve resilience, strengthen diversity of supply, enhance domestic energy independence and contribute to global interdependence. In this way, the trend could be one of the elements that facilitate the creation of a new global energy infrastructure, including improved energy storage, distribution and transmission. It offers solutions to threats ranging from production interruptions and supply disruptions to distribution diversions and blockades of transport routes.

Alternative energy is also poised to play a role in reducing the broader threat of diminishing resources, another issue of concern to energy have-nots. The assumption that renewables are

a public good that is both indivisible and non-excludable suggests they will offer inexhaustible energy supplies that cannot be subjected to the control of select players. This offers the potential for reducing uncertainty regarding

But what matters here is that renewable technologies can be a local solution to a global problem

the increasingly mutable relations among producers, transit countries and consumers.

The megatrend can also be part of the development of new forms of political deterrence and contribute to actors' ability to gain new leverage in international negotiations. It can thus be part of both geopolitical stabilizers and sources of geopolitical influence. By modifying broader geopolitical attitudes and perceptions, it can reduce the

significance of notions such as 'energy imperialism' and 'resource nationalism'.

But not all outcomes are necessarily positive. The alternative energy phenomenon may also exacerbate energy

security threats by contributing to energy imbalances.

Just as with hydrocarbons, as long as renewables are seen as important for economic growth, and some stakeholders wish to secure access to them, governments may consider a number of mechanisms, including even the use of force, to prevent any single government from controlling the market. For example, the United States government has accused China of funnelling billions

of dollars in subsidies through state-run banks to its solar photovoltaics producers, enabling Chinese PV producers to dump inexpensive PV systems onto US markets with the goal of driving competitors out of the solar energy field.

Broader security considerations

How are broader security priorities – such as environmental and economic security, as well as other implicit security concerns

systems from disruption, depletion or damage, and for averting the adverse effects of climate change, emissions, and sustainability in the process of protecting the global commons.

As to economic security, the trend's elements and manifestations are factored more and more into economic security considerations because of their perceived ability to be a mitigating

The potential side-effects and environmental footprint of a number of renewable energy technologies remain untested, and could even generate more environmental harm than benefit

– influencing and being influenced by the progression of the alternative energy megatrend?

As far as the environment is concerned, renewable energy is increasingly perceived as the cure of choice for protecting natural environmental

factor in addressing threats to economic growth and stability, including volatility, price shocks, poverty, and other aspects of economic security, such as income inequality or national wealth erosion.

The alternative energy trend is already included by policy-makers in wider

considerations about protecting productivity, cross-border trade and even the institutional framework of the world economy. At the same time it has led to the creation of new industries, helps in developing mechanisms to protect states from economic manipulation, and can help preserve the economic livelihood of specific stakeholders.

On the other hand, the megatrend's environmental and economic security repercussions can also have undesirable results. The potential side-effects and environmental footprint of a number of renewable energy technologies remain untested, and could even generate more environmental harm than benefit. Though mass deployment of alternative energy might contribute to economic stabilization, it could also cause disruption and uncertainty in the existing global economic system. It could provoke new economic shocks and geopolitical tensions resulting from intensifying trade rivalries, new trade barriers and regulatory conflicts, perhaps even leading to trade wars. In addition, it could provide

new opportunities to manipulate energy supplies, which can give rise to threats to the economic security of existing fossil fuel suppliers.

Policy options

Given the megatrend's potentially huge repercussions, there are several broad policy options that policy-makers may consider when dealing with this development. The first is to utilize the market as a mechanism that can

most efficiently guide and govern the multiple factors and elements that constitute the alternative energy megatrend. To channel their complex interaction toward beneficial outcomes, facilitating the emergence of an alternative energy market appears warranted. There is also a question of the sway that vested interests and society can have on decision-making processes, including renewables development. That makes the need for removing predispositions and proclivities apparent, in order to establish alternative energy as a self-propelling and self-sustained

industry. The market remains the only known mechanism with proven record of performance that is capable of delivering such results.

The second policy choice relates to the importance of innovation for achieving the necessary viability of the alternative energy technologies. Policymakers need to look at how to facilitate the process of alternative energy innovation within the ongoing global technological revolution. It is important to enhance the participation of both manufacturers and end-users in innovation processes, as such a “democratisation” would inevitably bring about better and more varied outcomes and solutions. Policy mechanisms should aim at minimal restrictions and maximum flexibility, in order to be sustainably open-ended and non-prohibitive.

A third policy issue that requires attention is the need for the establishment of securitization mechanisms for the megatrend itself and for its impact on narrow and

broad security affairs. Securitizing renewables development would entail incorporating the megatrend’s elements into the global security architecture. In essence, securitization means creating a triggering mechanism that initiates counter-measures to alleviate specific issues arising out of alternative energy developments. Particular focus should be set on the process of securing the technologies themselves, their development, their side-effects and their replication.

Is it really going to happen?

Admittedly, although alternative energy developments have already claimed significant achievements, they have yet to fully live up to their promise. Renewable energy has made substantial progress in recent years and could serve as a springboard for advances in various fields of development while breaking the pre-eminence of fossil fuels – and even provide new applications for fossil fuel energy sources, such as natural gas. Alternative energy technologies could also spur purely scientific undertakings

The fluctuations of fossil fuel supply and demand will inevitably also effect the future of alternative energy developments

and achievements that could underwrite technological progress, even though some have yet to translate into energy and non-energy related security benefits.

At the same time, no alternative energy technology, barring nuclear power, has yet been able to match the density and capacity of fossil fuels, nor have they proved capable of competing with fossil fuels.

The fluctuations of fossil fuel supply and demand will inevitably also affect the future of alternative energy developments. From the perspective of the megatrend’s capacity to provide openings for radical transformation, its energy security role continues to be circumscribed by renewables’ still questionable capacity to replace fossil fuels in the near future, and other vulnerabilities renewables face, including storage, transmission,

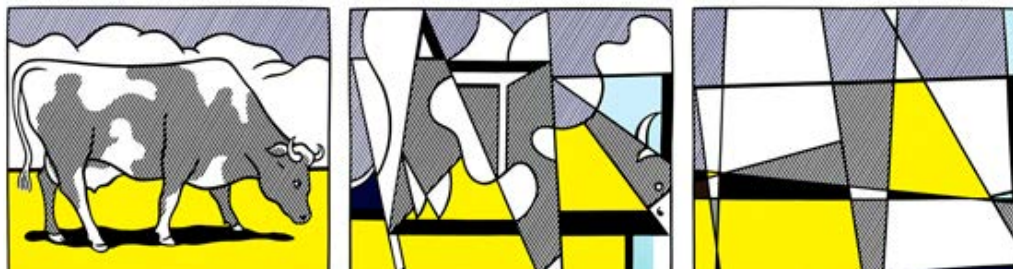
intermittency and side-effects.

There are various possible scenarios of what might happen in the future. Alternative energies may be headed for a downfall. They may also continue on a more or less linear evolution with some non-linear (unexpected) developments. But the scenario that appears most likely is that of a non-linear progression determined by the impact and, among others, the side-effects of unanticipated consequences of the megatrend itself.

Though unexpected events could always transpire that would make the megatrend dissipate, it has already demonstrated the capacity to both transform and be transformed. Its current presence results to a large extent from – and is continuously reinforced by – its future

promise. If history is any guide, the future of the alternative energy megatrend will align with similar past trends and stake a claim for a real role in humanity's continued development. In short: the Prologue is over, the First Act has begun.

To end on a lighter note, when first considering undertaking this study, I visited the Washington National Gallery of Art on a Sunday afternoon, where I came upon Roy Lichtenstein's famous Cow Triptych (Cow Going Abstract). This triptych shows three consecutive paintings of a cow, each gradually zooming closer and simultaneously transforming.



© 'Cow Triptych (Cow Going Abstract)', Roy Lichtenstein, 1974

It occurred to me that the current development of the alternative energy megatrend and its security implications evolve in an analogous manner, with the second iteration being a recognizable outgrowth of the first, rather pastoral image, and the progression from the first to second being more or less predictable. The result of the third stage is unexpected, as the context is not only transformed beyond recognition, but actually represents a distinct new reality. Using this analogy, the alternative energy megatrend is currently more or less leaving the first canvas and entering the second, into the brave new 21st Century world. ■

Who is Alexander Mirtchev?



Dr. Alexander Mirtchev is Vice-President of the Royal United Services Institute for Defence and Security Studies (RUSI), London, est. 1831, and Executive Chairman RUSI International. He is a Senior Scholar, American Founding Council Member of the Kissinger Institute on China and the United States at the Woodrow Wilson International Center for Scholars, and a Member of the Wilson National Cabinet, and serves as Board Director and Member of the Executive Committee of the Atlantic Council of the United States. In his distinguished academic career, he has also served in a number of positions, including as Senior Fellow at the Russian and Bulgarian Academy of Sciences, Adjunct Professor, and awarded a Doctor Emeritus degree by the University of Foreign Trade and Finance, Kyiv, Ukraine. He obtained his LL.M. degree in International and Comparative Law at the National Law Center of the George Washington University, Washington, DC, and Ph.D. from the St. Kliment Ohridski University and studied economics and finance at the London School of Economics, Boston University and the Harvard Business School. Dr. Mirtchev is also president of Krull Corp., US, and has served as Chairman and Director of multi-billion dollar international industrial enterprises. He participated in laying the foundation for market democracy, accession to WTO, EU and NATO of several transitional economies. He has served as editor and publisher of academic and professional journals, has appeared as analyst on major international media, and is the author of four monographs and numerous articles, as well as a Forbes contributor.

The present article is adapted from his upcoming book: "The Alternative Energy Megatrend: A Global Security Discourse in the Universally-Securitized World" (a project of the Woodrow Wilson International Center for Scholars).

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Geopolitics

06/05 The Greening of Geopolitics

See page 2.

16/05 South Stream shapes European energy security, Nabucco falls behind

South Stream is an ambitious endeavor of Russia's energy giant Gazprom to get direct access to the EU energy market. It is portrayed and criticized by some politicians in Europe as a "dangerous" gateway to a broader economic relationship with Moscow. Remarkably enough, Bulgaria, Serbia, Croatia, Slovenia and Hungary have one-by-one opted for the project. [Read the full story →](#)

23/05 Druzhba Pipeline - No more friendship just business?

Former members of the Council for Mutual Economic Assistance (COMECON) were linked through pipelines showing their Brotherhood - Bratstvo (natural gas) or Friendship - Druzhba (oil). During the Cold War nobody could really imagine any supply disruption between the socialist allies. But after the collapse of the Soviet Bloc, only uncertain business and "empty" names remain. This has been proven few times when Russia and Ukraine/Belarus had price disputes leading to the supply shortages (e.g. 2007 for oil, 2009 for natural gas). Therefore, in the following article we would like to tackle, particularly, the security of oil supply (SoS) of the Central European members of the EU. Are they ready for a potential Druzhba breakdown? What do they do with the purpose of improving their SoS? Do the concerned refineries have access to any alternative crude oil supply route? [Read the full story →](#)

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Market Dynamics and Trade

13/05 The Big Drill: All Eyes on Cyprus' Aphrodite

It's Spring 2013. The time is now for Noble Energy men to start gearing up for a new drilling leg in the Eastern Mediterranean waters, offshore of Cyprus. In a usual so-called 'appraisal' procedure, several wells will be drilled in various spots of Cyprus' Aphrodite gas field to determine its size and quantify the hydrocarbon reserves. A rig should be made available by June, so that the operation can kick off as planned. Cyprus, together with the Noble Energy team, is holding its breath: this discovery could turn Cyprus into Russia's main competitor in European gas supply. But are they right to be hopeful? European Energy Review looks into the level of certainty of the recent gas finds. [Read the full story →](#)

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Future of fossil fuels

27/05 Changing prospects for natural gas in the Eastern Mediterranean

Exploration in the east part of the Mediterranean Sea proved to be very successful. In the so called Levant Basin several huge resources have been found in different areas and therefore also belonging to various countries in this region. Although the final quantities still have to be determined there is enough for export to other surrounding and adjacent countries. Of course a smooth progress is requiring stability in a region known for its tensions. Dr. Sohbet Karbuz, Director of the Hydrocarbons Division at the Mediterranean Energy Observatory (OME) sheds his light on the situation.

[Read the full story →](#)

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Alternatives & Innovation



30/05

Why carbon capture must shed its image as an ‘unproven’ technology

It’s up to technologists to refine CCS, independently of policy and funding, in order to accelerate the sector. Winning EU funding is rarely without its obstacles, even for a technology such as Carbon Capture and Storage (CCS), which has the potential to transform fossil fuels into a low carbon energy source. However, CCS is too important for technology vendors to sit back and wait for policy to support it, the industry needs to take a proactive approach to improving the appeal of CCS, from the inside out. [Read the full story →](#)

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