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Executing Turkey's 2023 energy vision in the context of the 'game-changing' dynamics in world energy

Mehmet Öğütçü[1]

Imagine the world 12 years down the road – the world of 2023 which corresponds to the centenary of the founding of the Republic of Turkey. Then close your eyes to ponderabout what kind of an energy world in which we could be living, and how we and the next generation should be preparing for the new opportunities and the ever increasing challenges.

One thing is clear: The ultimate goal will remain unchanged– "the provision of secure, cleaner, environment-friendly, technologically advanced, uninterrupted and affordable energy" for our households, industry and transportation. Given that energy industry operates on the basis of long-lead times, today's decisions and investments in energy will bear their fruits only in a decade or so. Also, transition to cleaner fuels and smarter industries or any attempt at change of fuels in energy mix cannot happen overnight – it requires considerable digestion and adjustment period, up to 25-30 years unless there will be an unforeseen breakthrough in technology..

Therefore, contemplating a 2023 vision for Turkey's energy is not too far fetched and should indeed start from now.

Turkey's future energy policy needs to be constructed around three core priorities: enhancing economic competitiveness, ensuring security of supply, and achieving transition to a low-carbon and smarter economy.Given its large gap in energy supply, Turkey depends heavily on the world energy system to secure the necessary fuel for its rapid, but sustainable, economic growth. There is no credible choice other than importing hydrocarbonsand boosting power generation including through renewables and nuclear plantswhile at the same time enhancing domestic energy production and investment in foreign equity oil and gas.

[1]Chairman, Global Resources Corporation UK). He is also an independent non-executive director on the board of Vallares Plc, senior advisor to BG Group, NUMIS Securities Corporation, chairman of Invensys Plc Advisory Board and London Oil Club. He can be contacted via mehmet@ogutcu.org

To achieve these goals by 2023, the government would need encouraging greater investment, introducing globally competitive energy prices (while compensating socially disadvantageous population), providing targetedincentives for more electricity capacity and energy efficiency improvements, imposing a price on carbon emissions, and building world-class, private sector-led Turkish “energy champions”. Without such wide-ranging reform on these areas, energy will remain Turkey’s “soft-belly” and “Achilles’ heels”.

How will the future dynamics of the global energy be shaped?

Turkey’s energy should be considered in the context of changing global dynamics given its heavy dependence and extensive interactions with the world system. Crystal-ball gazers have been promising us space-age lifestyle inventions for decades — along with cures for cancer, supersonic trains, and other feats of technology. We are still waiting. Getting the future wrong is all part of the fun, of course. Maybe it is the innate human need to hope for the best and plan for the worst; maybe it is simple curiosity about how we will live, love, and get around in years to come.

Global warming is still a reality, but it is happening too slowly for people to maintain interest and get alarmed. Rising oceans were not enough to make people question their devotion to the car, but with dwindling oil reserves seeing petrol prices nudge the $200-a-barrel mark in the next decades, many will be forced to abandon their vehicles. It might lead to record amounts of scrap metal. The rise of "car graveyards" in many major cities is likely to become a new problem for local governments. Zippy electric cars may also become a ubiquitous presence on the roads. Who knows what will come of hydrogen and fuel cell.

Those hoping that their childhood fantasies of future transport would be fulfilled by 2020 could be disappointed. Though the “Back to the Future” films made the bold prediction that hoverboards – skateboards that float an inch above the ground – would be flying off the shelves by 2015, there is no sign that the technology has developed that sufficiently. Your car probably will not fly, but it might drive itself.

While we are yet to see any technology that can potentially revolutionise the energy marketplace, the global energy scene is going through a fundamental transformation that may not only change the rules of the game; it may also change the game itself, and its players.

Profound changes, currently under way, in world energy includes, *inter alia:*

First, with oil’s per barrel declining from $147 in July 2008 to $40 per barrel six months later and then increasing to around $112 in November 2011, volatile prices shifted power significantly to producing countries, especially a few large ones, where the majority of remaining reserves are located, such as the Gulf, Russia, and Central Asia. These countries seek a changing or reshaping of the traditional rules of the game for the benefit of their interests. Aware of their increasing power, many of the resource-rich countries either have re-nationalized their oil industries, or have established strategic control through further transfer of power into the hands of

governments. Production sharing contracts are giving way to technical service contracts.

Second, there is an increasing concern over the security of the energy supply on the consumer's side. Due to increased demand and depletion of domestic reserves, major consumers will have to rely more on imported oil and gas, from a few politically instable regions such as the Middle East, Africa, Russia and Central Asia, through long-distance pipelines, and vulnerable sea routes. This, combined with the fact that the international market is less stable and more prone to the disruptions of natural disasters, terrorist attacks, and isolated geopolitical acts, has increased the vulnerability of these consumer countries. Yet, suppliers are also concerned about demand security given the depressed prices and demand in most OECD economies as a result of the economic recession.

Third, although the OECD countries are still the largest oil consumers, the current increase in demand for oil and gas is mainly driven by fast economic development in developing countries such as India and China, which account for one-third of the world population but only consume 17 percent of world energy. If things continue the way they are, we will have a hard time meeting the growing demand with the available resources. What no one disagrees with is that demand is surging. The rapid growth of China and India matched with the developed world's dependence on oil, mean that a lot more oil will have to come from somewhere. Today we consume an average of 85 million barrels daily. According to the most conservative IEA estimates, that figure will likely rise to 113 million barrels by 2030.

Just consider one fact: The US consumes 25 barrels of oil per capita annually, Europe ten barrels and each Chinese only two barrels a year. So even a small increase in Chinese consumption could have a massive impact on the market. Therefore, this is not the time to slacken efforts to find ways to use oil and gas more efficiently. We must push ahead with conversion to alternative fuels, and seriously look at ways of diversifying our energy supplies to reduce vulnerabilities, while co-existing with fossil fuels for a long time to come.

Fourth, a rising concern for security of demand among major producer countries may prevent large scale of investment from happening. To meet the rising energy demand, a huge amount of investment is needed. Yet, energy investment worldwide has plunged over the past few years in the face of a tougher financing environment, weakening final demand for energy and lowering cash flow. Furthermore, the resource owners want to earn more from the exploitation of their endowments. “Seven Sisters,” big Western oil conglomerates, are now losing ground vis-à-vis “Seven Brothers,” national oil companies like Gazprom, CNPC, Petrobras, Petronas, Aramco, KMG and ONG. The balance of interests is changing in favour of them. What is needed is a new business model where the upsides are shared within a fair and just framework.

The uneven distribution of energy resources among states, and the critical need to access those supplies by all states, leads to significant vulnerabilities. The coercive manipulation of energy supplies, competition over energy sources, the tendency of energy producing countries to political instability, attacks on supply infrastructure, competition for market dominance, accidents, and natural disasters are all adding

significant risks to global energy security. Increased competition over energy resources may also lead to the formation of security compacts to enable an equitable distribution of oil and gas between major powers.

Concerns over energy security are not limited to oil. Power blackouts on both the east and west coasts of the U.S., in Europe, and in Russia, as well as chronic shortages of electric power in China, India, and other developing countries, have raised concerns about the reliability of electricity supply systems.

Western countries are producing less and less of their own energy, and are therefore having to import more and more. This is having a massive impact on the transfer of wealth. The energy guru, Daniel Yergin, has estimated that, at early 2008 prices, the U.S. is currently transferring about $1.3 billion to the oil-producing countries every day - or if you prefer, $475 billion a year. If we include China, the EU, India, and Japan in this calculation, every year the major oil consumers are transferring over $2.2 trillion to the oil producers. What we know is that these massively increased energy revenues not only mean more economic power for the oil producers, but also, of course, increasing political power and influence in shaping the new global security order.

This brings us to the next concern. As the world's need for energy grows, the ability of the traditional suppliers to continue to meet the demand is far from certain. Europe, for example, is increasingly dependent on Russian oil and gas. But Russia's currently exploited energy reserves are depleting fast. Russians now consume more and more of their own gas at home and the country's energy output is shrinking due to a lack of investment in new technology, and in developing new fields.

Another concern is the protection of critical infrastructure. As western, domestic sources of energy start to dry up, oil companies are drilling in much more isolated and hostile environments, because technology makes extraction more commercially viable. More oil and gas is extracted from under the sea rather than from under the land. Tankers criss-cross the oceans delivering these products from one continent to another. Pipelines are getting longer and often pass through unstable areas. Over the past few months we have seen several examples of how easily these sophisticated supply networks can be threatened - in the Nigerian Delta, off the coast of Somalia, and in the Southern Caucasus.

As climate change impacts on energy exploration and transit routes, it will also increasingly impact our security. As the polar icepack melts, and the Northwest Passage to Asia opens up, an increasing amount of shipping will pass through one of the most remote and inhospitable parts of the world. Intervening in the event of an environmental disaster or even a terrorist attack would be very difficult indeed.

In today's world, transition to a ***cleaner energy economy*** is not a choice; it is an absolute necessity. The current environmental system can hardly sustain our wasteful world energy order. Yet, there is no reasonable ground to be hopeful of alternative fuels that will come to our help in meeting this demand growth. In the foreseeable future, our dependency on fossil fuels will remain more or less at the same level. The overall share of the renewable energy sources including wind, solar and hydro-electrical energy within the global energy is 7.4 percent. Nuclear energy

makes up only 6 percent. The remaining 86 percent are fossil fuels including oil, natural gas and coal.

Despite the "green energy" movement that works hard to convince the politicians of the virtues of renewables, more than 80 percent of the world's energy supply still comes from fossil fuels. Claims that it is possible and affordable for the world to achieve 100 percent renewable energy by 2030 seem to be a pipedream.Solar panels and wind turbines have no been able to make much of a dent in coal and petroleum's dominance. Achieving 100 percent clean energy would require building about 4 million 5-megawatt wind turbines, 1.7 billion 3-kilowatt roof-mounted solar photovoltaic systems, and around 90,000 300-megawatt solar power plants.

Experts disagree on what will actually keep the lights on in 2023. The nuclear renaissance is not going well, either; the accident in Japan slowed down the acceleration in the nuclear energy. Germany and Italy decided to phase out the nuclear energy. It is now necessary to work extremely hard for the next ten years to reinstitute the level of progress in nuclear energy that existed before the accident. Nuclear is poised for a comeback, though it's unlikely that by 2023 the atom will provide much more than the 8.3 percent it offers today's domestic energy market.

There are lots of innovative renewable options but so far the race to commercial viability hasn't produced one cheap enough to compete with coal, oil, and gas. So expect more of a slog than a race in the next decade. We will generate more renewable energy by 2023, yet it will not account for more than 10 percent of what we need.

The future shape of the world energy will be gloomy unless new energy resources are discovered, massive investments channelled, revolutionary technological advances made, consumption curbed, environmental problems addressed and major improvements achieved in energy efficiency. To make things worse you may add the geopolitical tensions triggered by resource scarcity, marine piracy threatening oil and gas tankers, legal disputes, transit issues and technology and price issues.

Turkey's place in the regional energy map

Anybody who would take a look at the energy map of our region will get confused. There are a number of pipelines crisscrossing Turkey from north to the south and from the east to the west. Some have been in use for a long time whilst some others are either under construction or still on the drawing board. There is no prospect that all will be implemented and operated. The decisions to be made in the next few months will shape the future of these projects.

The pipeline issues are so complicated. If you find the resource you may not be able to find the investor that will provide money. If you find the investor, you could hit the roadblocks by the hosting country. If you overcome all these issues, then you may have to deal with legal, political or commercial issues that you encounter with respect to attractive buying markets. Convincing those with funds or explaining your situation to the insurers can also become a really hard task.

For its part, Turkey appears to be pursuing a two-pronged energy strategy. First, it seeks to diversify its own sources of imported fuel. Second, the Turkish strategists see the turning of their country into an east-west and north-south energy corridor as part of a broader plan aimed at enhancing Ankara's geopolitical role in the region. Indeed, the main components of the Turkish energy corridor are the Straits, the Baku-Tbilisi-Ceyhan crude oil pipeline, the Shah-Deniz natural gas pipeline (Baku-Tbilisi-Erzurum), the Blue Stream, Iraq and Iran pipelines and the Trans-Caspian/Nabucco Gas Pipeline projects.

Turkey’s development as aregional energy hub looks natural, with vast oil and gas reserves lying in the countries to its east, and one of the world s biggest energy markets to its west. The daily capacity of the Baku-Tbilisi-Ceyhan oil pipeline conveying crude oil from the Azeri-Chirag-Güneşli field in Caspian Sea part of Azerbaijan is around 1 million barrels a day. It is expected that this will rise to 1.7 million barrels after the integration by KTCS of part of the Kazakh oils from Kashagan and Tenghiz from mid-2010s.

Ceyhan, on the Mediterranean, is already the terminal for a pipeline from Iraq's Kirkuk oilfields. There are attempts to increase the oil production by threefold in the years to come out of Iraq with 115 billion barrels of oil reserves whose 90 percent is not used from current daily capacity of 2 million barrels. Iraq’s Kurdish region also seeks to increase its daily production to 1 million barrels per day. In consideration of the closure of the Hormuz Strait in times of crises, projections are drafted to pump the Basra oil towards the north. Another pipelineis the planned 550 km, 1.5 million barrels line from the Black Sea city of Samsun to Ceyhan, but is is now dormant. Altogether, these pipelines are expected to carry 8 percent of global crude oil trade. Better connections with both supplier countries and energy consumers would increase Turkey's geopolitical standing and generate "lucrative business," such as transit fees as well as new refineries, terminals and trading facilities.

Things are more complicated when it comes to natural gas. First, the sulphurcontent should be cleaned after its extraction. Not every country has the necessary equipment or cost advantages to convert it to the liquidized natural gas, which enjoys a better market price. In general, natural gas gets shipped to the consumption centres thousands of miles away via pipelines. Because there is no global market for it except for LNG, the prices are affected by the regional supply-demand balance, transportation costs and political risks.

Prospects for Turkey’s2023 energy vision

Turkey's rise in that volatile, troubled region that is increasingly peaceful, is good for the West and the world. This is a role Turkey could play - as a regional "hub," rather than a "bridge." This is what Washington, Moscow and Brussels should be supporting wholeheartedly, rather than getting worried about. The signature policy of Turkey's new self-confidence is the policy of "zero problems with neighbors." Though seriously set back for the past few months, this is still a revolutionary change from the mentality" that promoted the view that Turkey was surrounded by enemy countries.

In terms of energy security, Europe should be aware of the fact that it is indeed competing with China for Caspian/Central Asian energy supplies and not with Russia. There is little doubt that Russia's energy overtures to Turkey have a strong geopolitical dimension. It wants to draw Turkey into a closer strategic alignment with Russia, but, primarily, they are designed to have an effect on Europe. That effect is both political and specific: Russia wants Turkish interests to be so intertwined with Russia's that the E.U'.s southern gas corridor project, Nabucco, would be less of a threat to Russia's interests.

But while Russia may see closer ties to Turkey as a means of limiting the increase in Europe's role in the economies of the former Soviet Union, it would be an overstatement to say that Turkey is turning its back on Europe, or simply playing the Russia card against the West in order to strengthen its own hand. For Turkey - and, for that matter, Europe - a closer Turkish-Russian partnership in energy need not be a zero-sum game. Turkey could provide both a new and reliable transit corridor capable of transporting both Russian and non-Russian gas to Europe in the event of a supply crisis. Turkey therefore has a chance to turn this partnership into a win-win proposition. Its co-operation with Russia could benefit it, Russia and Europe. If so, it could help to allay deep-seated concerns in the Russian-European relationship.

In view of the foregoing, Turkey’s 2023 energy vision should embrace:

Alignment of foreign/security and energy policies. Being an energy hub is not having pipelines criss-crossing your territory. Turkey's first priority must be to secure its own supply for its own citizens, uninterrupted, and with affordable prices. The new Turkish interest in non-western directions has been the outcome of Turkey starting to 'read' its neighborhood and energy interests through its own lenses, from where it firmly dwells. Turks are not content only to be a simple "bridge" over which energy flows; they aspire to become a regional "hub," extracting greater value for the crisscrossing oil, gas pipelines and power interconnections, and turn this role to foreign/security policy gains.

Turkey’s external energy outreach starts from Chinas north-west province of Xinjiang- Uyghur Autonomous Region and extends to the North African tip of the Mediterranean, as well as from the Straits of Hormous, all the way to the Arctic, where 22 percent of the worlds oil and gas reserves are located. As the virtual boundaries have been removed, Turkey is now facing the East, the North and the South directly. Those who define Turkeys will to be part of the solution to the problems of the East with its self- formulated prescriptions as a 'shift of axis in foreign policy' are falling into the grave mistake of trying to read Turkey based on its erstwhile habits, both in foreign and security policy and in energy equations.

Being a reliable transit/hub country is of paramount importance. No matter what political or economic problems are, Turkey must maintain its credibility as a country over which energy flows will not be disrupted. It has become almost common place for Turkish government leaders to assert that energy transit to Europe via Turkey is not only an economic project but also a Turkish geopolitical project that strengthens Turkeys hand strategically vis-à-vis Europe and producing regions around it. Any misuse of Turkey s energy transit role by the Turkish government for political leverage on the EU could diminish Turkey’s value to the EU. Overplaying Ankara’s

hand could, moreover, cast doubt on Turkey s reliability as a transit country from a business perspective, quite apart from EU debates and European politics.Yet, it should be borne in mind that Turkey's top priority is to satisfy its own energy requirements and interests.

Moving towards smarter industries. Many alternative energy advocates claim that it is possible to replace our fossil fuel economy with a cleaner one that runs on a combination of nuclear power and renewable energy from the wind, the sun and the farm. Credible scientific estimates suggest that they are right. However, those advocates often fail to consider one critical issue that could derail their plans, the rate-of- conversion problem. How long will it take to make such a transition?

In this context, we should ask ourselves: Is Turkey going to support some of the most effective policy that has yet been deployed for transitioning Turkish business and industry to a clean energy future and away from the dangers of fossil fuel, or will Turkey walk away from the green shoots of this economic recovery to let other nations lead in the coming low-carbon economy? What areas of renewables and alternative fuels can we focus on, and aim to be the leading player on the world stage?

Substantial backup power capacity will be required to support higher levels of intermittent renewable generation even with transformational grid change and storage. These backup costs will be required not only in power capacity but also in the broader fuel supply chain, notably if gas is used as backup. The system cost, which is large and in addition to the stand-alone costs of renewable generating assets, needs to be recognized. The enormous operational complexity of incorporating large swathes of intermittent generation also needs to be recognized, and the resulting issues will need to be handled with the utmost attention.

The extension of renewables into the system will entail significant costs above lower-cost alternatives for many years. Subsidy supports are not expected to fall below today's levels before 2035 at the earliest and could continue at high levels through to 2050. If passed through on a pro-rata basis, this would add up to €100 to the average annual residential electricity bill and up to €2,000 to the typical annual business company in the EU. Although these costs are necessarily uncertain, it is clear that costs will be significant and likely in this range. These costs need to be weighed against the wider benefits to the macro-economy and society. The big risk to power investment is that Turkish consumers could revolt and not pay for all of the decarbonisation costs or that the costs will make Turkey uncompetitive.

Pricing reform. The government wants to achieve its 2023 target to reduce the share of gas in power generation from 50 per cent to 30 per cent. At the same time, electric capacity is expected to approximately double. The 2023 target, driven by energy-security concerns about rising dependence on gas imports, could be achieved in part through a switch to renewable energy and nuclear power. Such a scenario assumes a strengthened feed-in-tariff policy to provide incentives to develop renewable power. New feed-in tariff rates are between €5.5 per MWh for wind and small hydro to €10 per MWh for biomass and solar photovoltaics. Although the tariff levels will in several cases remain lower than expected wholesale prices, they provide a revenue floor during periods when wholesale prices are lower. This

leads to a lower risk premium for the financing of renewables, therebyboosting their uptake. If the construction of Turkey's first nuclear power plant at Akkuyu, with a capacity of 4.8 GW, will begin in 2013, as planned according to the government's contract with Rosatom ofRussia, Turkey will likely have up to 15 GW of nuclear capacity by 2030.

With the removal of remaining electricity-price cross-subsidies, the price differential between industry and the residential and commercial sectors increases; residential and commercial prices increase and industrial prices fall by an equivalent amount.

Gas-fired generation continues to be the lowest-cost option for new power plants during the period 2010–20, but the expected rising gas-import prices and constraints on available lignite combine to make hard coal the favouredsource of new generation capacity beyond the 2020s.The partial and delayed liberalisation of the gas market may lead to somewhat higher gas prices from 2016 to 2020, as BOTAS is assumed to be able to exercise market power.

There could be a more complete liberalisation of the gas market, with the early entry of major international rivals providing competition to BOTAS. This would have long-term benefits for consumers, reducing gas prices even before 2020. Between 2020 and 2030 gas prices are assumed to rise in line with IEA forecasts, with the import markets for gas opening and full liberalisation of the domestic gas market likely to keep the prices at world market levels. Energy-efficiency regulations are strengthened, for example through information and energy-performance certification schemes and better enforcement of building regulations (including mandatory inspections). This leads to greater uptake of shared heating systems with higher efficiency, condensing boilers, insulation and heat meters.

The greatest impact of the new policies will be felt in thepower sector, where the rapid expansion of nuclear power woulddisplace a great deal of gas capacity. These policieswould not fulfil the Turkish Government's aspiration to generate 30per cent of electricity from renewable sources by 2030, includingan additional 20 GW in new wind capacity and a doubling of thecurrent hydropower capacity.Outside the power sector, the planned policies would markedlyincrease the commercial viability of thermal modernisation and the installation of heating controls in residential and commercialbuildings.

Making important strategic investments in clean energy. Turkey should be a pioneer, rather than a follower, in solar, geothermal and hydro energy technologies. It should extend funding for short-term financing programs, which are proving their worth by jump-starting the development and construction of such clean energy projects. The need to incentivize private capital flow into clean energy development is greater than ever and will become more urgent with time. Financing mechanisms and incentives will evolve as the market demand for clean energy evolves.

Exchanging investment risk for upfront cash grants to cover 30 percent of the clean energy project costs makes investing in the development of clean energy projects attractive to investors and is the right boost for the nascent clean energy industry. These short-term financing mechanisms that encourage private capital flow into clean energy must be complemented by policy to enhance domestic manufacturing

capacity and productivity. Building a clean energy industry in Turkey not only means more electricity from clean, renewable sources. It also means more high-paying jobs in every region of the country, because clean energy will require us to get to work producing and assembling new technologies on a mass scale.

Energy efficiency improvements are the best energy security investment.There is a need to retool Turkish industry progressively to compete in a low- carbon economy and move away from energy- intensive and "dirty" industries, such as iron-steel mills, cement, fertilizer and aluminum. Turkey should be able to adopt a specific target to reduce the energy intensity of its economy by at least 2.5 per cent a year. It should increase the effectiveness of its capacity to implement robust policies, market-based mechanisms, business models, investment tools, and regulations with regard to energy use, and recognize that improvements in energy efficiency remain one of the most effective means of both cutting carbon emissions and improving access to energy.

As the EU proposes tighter emissions caps and auctioning of allowances in Phase III of the EU E.T.S., energy intensive industries must demonstrate their level of exposure to external competition in order to qualify for protection, and avoid carbon leakage.

Time has come for building Turkey's world-class "energy champions". Such an important energy consumer, transit and terminal country should create its own energy champions that will be able to play the game by the international rules in oil, gas, electricity, coal, renewables, to generate technology and improve efficiency levels in such a way as to mobilize the private sector with its dynamism and international resources.

The world has seen a resurgence of resource nationalism in the past few years as wide income inequalities -- amid soaring world commodity prices -- have prompted demands for a larger share of the windfall from energy resources. This trend is bringing to life new forms of partnership and corporate structures that Turkey needs to understand better and adapt to. It is not only resource-rich countries that are gaining the upper hand in the new energy game. Industrialized importing countries are also resorting to what is called "economic patriotism" to protect strategic sectors. The expansion of government-owned companies from hydrocarbon importing developing countries such as China and India into oil and gas exploration activities on a global scale is gaining added momentum.

There is no black-and-white answer to the question, "Should the economy should be left to the functioning of the market players or there is a need for strategic direction from the state?" The rapidly changing economic, political and security realities usually dictate being pragmatic, leading to some sort of a third way between these two extremes. Hence, it is advisable for Turkey to create national energy champions to survive and succeed in this ongoing competition. The first step could be to achieve synergies between the Turkish Petroleum Corporation (TPAO), currently in charge of exploration and production, and the Turkish Pipeline Company (BOTAŞ), which looks after transmission and distribution without reinventing the wheel but learning from international oil companies and national oil companies' best practices.

This suggestion might seem to be awkward given that there is a strong tendency to ensure the role of the state in the economy will be reduced and energy markets will further be liberalized. Please don't get it wrong: This is not a naive proposal to create yet another wasteful and bureaucratic public economic enterprise which will add to the troubles. What's proposed here is to bring to life companies that will operate under market rules and get backed up strategically by the state if needed. In terms of funding, they can be sustainably financed through initial public offerings up to 49 percent in the Istanbul Stock Exchange as well as in London, New York, Hong Kong and Dubai.

Hammering out an integrated energy management and vision. Last but not least, Turkey's energy policy should be seen as a sub-set of a broader government vision.It is closely related to taxation, environment, competition, industry and investment, trade policies, foreign policy and security strategy, and needs to be managed in an integrated way.

Management structures must be streamlined and made more effective and responsive to the needs of the energy economy, finance and geopolitics. Competitive energy markets facilitate reduced manufacturing costs, thus minimising energy price increases. In this area it is important to reduce dependence on supply of gas and oil from one source, remove barriers for changing a supplier of electrical energy and gas, change the operating principles of platforms for trade in electricity and introduce market mechanisms in establishing prices of heat. The human capital, too, must be enriched, as at the end of the day, everything boils down to the quality of people, who can invent new energy technologies and fuels, manage complex policies, and stakeholders.

To *Caesar* What Is *Caesar's?*

Turkey's ruling AK Party, currently in office for the third consecutive term, has significantly addressed Turkey's overall "vision deficit"in recent years byforging its own brand of vision, training cadres and devising a roadmap for the future that it believes in.

Prime Minister Tayyip Erdogan set out the "Turkey Ready - Target 2023" as the fundamental election manifesto for the 12 June 2011 general elections. There was a strong boost to hopes when other political parties too released future visions and made them the centrepiece of election campaigns. In a climate where people have been engrossed in daily preoccupations and endless polemics, it is gratifying to see how such future visions are competing, albeit in a superficial manner, and politicians, business world, civil society, even the military become an integral part of this much welcome transformation.

Of course, what counts here is not who owns the patent rights of the 2023 vision. What's more important is to determine its substance, strategic orientations, feasibility, who will own and lead it, by which resources and how it will learn from the world's best practices in this area. It goes without saying that the 2023 vision set out by the government or those parties slated for power is the most important as it will have the greatest chance of being put into practice and delivered.Yet, one should not forget that the most desirable vision is the one, which will be owned and widely

shared by all segments of the society, the one that will embrace expectations, and the one whose implementation will be wholeheartedly supported.

A vibrant and realistic vision is needed to remain alive every day, raise hopes and push the limits of imagination, as well as solid goals, values, timelines and discipline that would serve as an anchor. A roadmap will give people something to look forward to along the road to progress and require leaders with dreams who can competently transform them into strategic goals, and have abilities to communicate these goals effectively to their audience.

The 21st century aspirations cannot be achieved without such a comprehensive roadmap that reflects the whole picture and a high-calibre education system, which encourages freethinking, creativeness, sharing, cultural enlightenment and respect for common values.

For the future generations, and us today a new energy vision can and should be forged to focus on the country's competitiveness, sustainability, cleaner environment as well as social dimensions. It should also take into account the ongoing transformation that will become more influential in the years to come in the world. If not, the country's roadmap could be decided elsewhere - perhaps in Brussels, Moscow or Washington.