

Could it be that Stock-Stake Holders Rule Transition Arenas?¹

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Introduction

The theme of the book is about turning the energy sector in the direction of sustainable development. A handful academic colleagues have been pushing the ‘energy transition’ to ‘sustainable development’, long before both concepts became icons in the scientific and societal debate. The decade 1973–1983 opened windows of fresh understanding and hopeful opportunities, but the overcapacities in fossil energy supplies and nuclear power plants locked end-users, companies, and politicians in the old business model: growth of material production correlated to similar growth in commercial energy use. We lost a few decades of valuable time to make this world a safer and more sustainable place to live. Forced by planetary scale environmental destructions and threats, in particular (but not exclusively) climate change, many more people see the necessity of a fundamental energy transition. “After more than two decades, a shift of paradigm in energy policy is on the agenda in industrial as well as in developing countries for several reasons” (Mez and Brunnengraeber 2011).

Energy transitions old and new

Energy is of all times and everywhere present. The links between energy, science, technology, and civilization are intense, interlaced, and reciprocal (Simmons 1989). The start of the industrial civilization period coincided with the substitution of hard coal for wood, charcoal and peat, and for various kinds of distributed and renewable energy. This energy transition took more than 150

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²This essay is written in honor of Lutz Mez, political scientist at FFU-Berlin. Our research roads crossed around 2005 at the occasion of REALISE, a EU research project. Since then, Lutz was kind enough to invite me to the annual REFORM meetings in Schloss Leopold, Salzburg. REFORM blends collegial courtesy with audacious experimental idea testing, almost extinct by cadaver discipline in modern academia. Lutz is the father and supervisor of that blend. It is a pleasure to offer him this essay, and it will be a pleasure to hear his critical comments, perhaps in Salzburg next time?

years for coal to reach its top market share of ca. 50% of global energy supply around 1935. By that time two other major energy transitions that started in the last quarter of the 19th century, were grown adult: petroleum and electricity. “Stationary and mobile steam power revolutionized manufacturing and transport which in turn expanded the demand for coal. Likewise internal combustion engines, automobility, and petrochemicals, among others, were driving the growth of the oil industry. Electrification of lighting, industrial drives, and transport (trams and locomotives) gave rise to electric utilities” (Grubler 2012:10). Along oil, also natural gas became an important source of fossil energy, what often leads to the label ‘oil & gas sector’, although oil remains dominant because it is the most versatile and flexible fuel. Electricity is secondary energy, ‘generated’ from other sources (globally more than 2/3 from fossil fuels, mainly coal and gas; a few % more than 1/6 from renewable energy with hydro as major source, and a few % less than 1/6 from nuclear fission). Since ‘atoms for peace’ there was much to do about nuclear power as the substitute for all other energy supplies, but this announced transition failed: the share of nuclear power in global electricity supply is decreasing since 1992, a trend likely to continue (Mez et al. 2009). Several renewable energy sources are physically abundant, and differently available all over the globe (IPCC 2012). The major question about energy transition is whether renewable energy can take over in due time at full scale to realize the urgent and drastic reductions in greenhouse gas emissions necessary to control the threats of climate change and of nuclear risks. The phasing out of non-sustainable fossil fuels and nuclear energy for a phasing in of sustainable renewable energy supplies, is now called the energy transition.

But let us first take a step back to the ‘oil & gas’ and electricity transitions, and the enormous interests that they created and continue to create. Both sectors followed an exponential growth path during nearly a century that kinked in the middle of the 1970s. By that time industrial societies were tightly locked in these modern energy systems, and the drive of non-industrial societies was to emulate the industrial ones as soon as possible. The lock-in is broad and deep in the end-uses of energy, woven into all major human activities, like: food (from agriculture and life stock elevation, over industrial processing and storage, to kitchens and restaurants), shelter (houses, offices, and buildings for various activities such as education, recreation, culture, health care, manufacturing), mobility (people and goods), industrial processes (steel, cement, chemicals, textiles, to high-tech industries like the production of photovoltaic cells). The demand for energy services is mainly through technologies requiring oil & gas or electricity. Their supply is organized via extended infrastructures and installations. Oil & gas is a global activity in exploring, drilling, winning, and shipping the resources: the resources are owned by the countries of origin, but the infrastructure is often

controlled or fully owned by major international companies, mostly US or UK based. Crude oil is refined mostly in the regions where it is consumed, and the diverse products distributed to end-users via pipelines, ships and trucks. Natural gas is imported by pipeline or LNG ship, and distributed via networks. Electricity is organized at the national or continental level. It required huge investments in fuel and waste handling, power plants, high to low voltage grids, transformers, distribution networks, and end-use connections.

Seven salient attributes are relevant for understanding the probable barriers that societies will face when these sectors have to be decimated or fully turned over in the coming years to decades:

1. Major companies supply the global bulk of oil & gas and of electricity; they belong to the most capitalized corporations in the world.
2. The corporations own significant monopoly power, permitting huge profit volumes that provide leverage to finance the future that they prefer.
3. The investments and financial value of the sectors' assets are immense and irrevocable, i.e. the assets cannot be converted to other business than the central supply of energy. The technological lock-in stretches into numerous equipment and service supplier companies.
4. The sectors' structure is like pyramids: few resource suppliers at the top; several intermediate activities including many subcontractors; millions to billions end-users. The jobs and incomes of many people depend on the sector.
5. The societal impact of the corporations is incredibly vast and strong by their know-how, technological mastership, seemingly unlimited access to money and capital, social networks, political impact.
6. Energy companies apply strategy and tactics to control and influence societal/political decision entities and processes that affect their interests. They lobby lawgiving bodies, executive administrations, and regulators, but also influential media, academics, public arenas that condition the formal decision-making powers.
7. The top twenty historical global CO₂ emitters are almost exclusively well-known oil & gas and power companies. A low-carbon energy world is the opposite of what they created and what feeds their interests.

The above list evidences that, presumably, the full conversion of the present centralized energy supply systems in sustainable renewable energy alternatives will not be a "walk in the park". Few revolutions passed peacefully; most were harsh; some smothered in blood. Long-lasting profound revolutions (like Christianity substituting Rome's empire) alternate over the full span of standoff tactics. Be prepared for the unexpected.

Transition to low-carbon energy systems: the oil & gas sector's future

Only a few words about the transition woes in the oil & gas business, although they are the most dreadful one can imagine. Our analysis (Verbruggen & Van de Graaf 2013) is that peak oil supply is a bad joke. The earth houses massive oil & gas resources. Their full exploitation would devastate human life for humans on this fragile planet by destroying the atmospheric and climate balances. Transition to global low-carbon economies implies that most oil & gas has to stay underground. Follows the necessity for a fast creation of an irrevocable peak in oil & gas demand, i.e., reducing the consumption of oil & gas and as a corollary its production. Oil & gas interests are forward looking, more than most other entities in the world. This is splitting the oil suppliers in two camps: 'friendly' oil (the core are the major Western oil companies with Qatar, Saudi Arabia and the emirates as allies) and 'hostile' oil (Iran, Venezuela, Ecuador as core, with earlier OPEC members such as Algeria, Libya, Sudan, Iraq). There are also transient producers floating between the extremes: Russia was one, but more and more driven to the hostile camp in the Ukraine crisis. Since years, conflicts, embargos, and wars are going on, instigated by the friendly oil camp, to keep the hostile oil underground: Iran, Iraq, Libya, Sudan, Syria, Venezuela, ... the goal is not to conquer the oil & gas resources of these countries, but to paralyze them. It follows that the instigated wars do not need winners, but continuation. Similarly, the gas exports from Russia have to shrink and be substituted by resources and investments controlled by the friendly camp (e.g. the global excess capacity in LNG). The preparatory oil & gas transition scuffling is already extremely cruel, but sobering for all who hope and believe that the transition to low-carbon energy economies may be a walk in the park.

Power control by power companies: a case story

The electricity sector operates at the frontline of the energy transition. The most promising renewable energy supplies provide electric power, for example water, wind and solar PV. Additionally, electricity will substitute for energy supplies using fire. Despite humans differ from animals because they learned to control fire, the era of sustainability may ban fire from all economic applications, and preserve it for leisure moments like camping or BBQ. Electric power will provide mobility, heat top-efficient buildings, and drive most industrial processes. This fulfills the "all electric for all purposes" 1960s dream of power company

bosses. Only: not gigantic nuclear breeder and fusion reactors will generate most electric power, but small-scale, continuously innovating, renewable energy technologies, by preference harnessing local sources.

However, the full transition requires engagement to develop renewable energy as definite backstop energy supplies. The expected unit costs of reliably delivered kWh in a 100% renewable electricity system are higher than the presently accustomed kWh prices (not reflecting the full costs of fossil and nuclear full use). Increasing kWh unit prices are affordable when end-users correspondingly lower the electricity intensity³ of their activities and practices (Verbruggen 2006). Despite normal noise around the economic law of demand, the bills end-users pay are the decisive drivers of the long-term level of energy efficiency. Commercial energy is a disinteresting commodity: dirty, stinking petroleum; suffocating, explosive gas; invisible, lethal electric current; people and organizations decide quite rationally on the quantities used in obtaining energy services. High prices pull efficiency technologies (Fri 2003) and clear information, institutional, financing, and other barriers.

The contentious pricing points are: why and how are the higher end-use prices set? And more: who is cashing the bills paid by end-users? When the public interest steers the energy transition, electricity prices are set to increase efficiency and phase-in sustainable renewable energy options. Money above costs paid by end-users is recycled to support them in transition efforts. When power companies set the prices and obtain the cash, it is spend in function of the future that these companies prefer. The surrealist “MagritteGroup”, created in October 2013 and composed of CEOs of the largest energy companies, intends to retard and deform renewable electricity growth. The “MargritteGroup” and its press communications are but the visible small top of the iceberg of obstruction by incumbent interests of transition paths to a sustainable energy future. It is instructive to study the full iceberg before entering the transition arenas where power companies guard their interests. The case is based on accumulated experiences about how the Belgian ‘corporate’ ELECTRABEL (= its triumvirate predecessor utilities before their 1990 merger = the expanded French corporate GDF-SUEZ with inclusion of ELECTRABEL and TRACTEBEL) pursues and exerts societal power.

3 Energy intensity is the product of the structure of the economy (how much of what kind of activities compose the GDP) with technical end-use energy efficiency when performing the activities.

Unwritten rules of executing power by the corporate

1. Use power sparingly, targeted and invisibly; this multiplies the impact and the size of power. For negative power execution, engage external agents or distant subsidiaries of the corporate.
2. Highlight the façade of the corporate; full secrecy about the clockworks of its functioning.
3. Submit the corporate to elite corps discipline. On the one hand, the elite supersedes standard societal fault lines (e.g., political party adherence, religion, birth class, race, etc.); pluralism is necessary when you want to control the full society. On the other hand, the elite is absolutely selective between the own camp and the others not belonging to the elite.
4. Others are weighed and approached in function of their danger or utility for the corporate, graduating on a scale of -100 (extremely dangerous), to 0 (neutral), to +100 (fully useful). Weighing others' danger or utility is based on their assessed strengths and weaknesses.
5. The corporate avoids loss of reputation by unsuccessful public trouble. When animosity against an important corporate case is too strong, don't play the ball but (invisibly) fight the player.

Four phases characterize the interactions between corporate and others: convince, seduce, enforce, eliminate. They span the full bow from velvet talk to cutting steel. The corporate has an outspoken preference for the soft approach because of the pluralism of the own corps, and because of effectiveness and efficiency in exerting power. Although the four phases overlap and interact, it is didactic to document them one by one.

The 4 major phases in exerting corporate power

Phase I: Convince

The corporate advances its vision via three main channels: 1) established media; 2) lobbyism; 3) forums where societal visions of tomorrow are discussed and shaped.

1) The main media (TV, radio, printed press) are crucial: when they broadcast the corporate vision successfully, it becomes very difficult for politicians to negate or oppose that vision. The corporate works actively on three media fronts. First, create (maintain) the aura of scientific superiority, which supports the image of neutral and benevolent partner. More in the past than today, most journal-

ists were happy with easy info food from the corporate when they had to talk or write about the intricacies of electricity problems. Indeed, the technical and factual know-how of the corporate is significant and mostly excellent, but clearly insufficient for addressing the challenges of a transition to a sustainable energy future. Second, the corporate spends large budgets on publicity in established media; they are intended to embellish the façade of the corporate in being a trustworthy partner of customers and citizens in general. Third, journalists and media managers are monitored and contacted by the corporate, referring to technical know-how and publicity budgets. The corporate is not amused by friendly exposure of its critics in media that they sponsor. Journalists making this ‘mistake’ come in the crossfire of hour- or day-long squeezing debates via telephone or summoned meetings: the busy journalist is explained it is more efficient and safer to adopt information provided by the corporate.

The corporate ambition to control the media has grown more difficult with the mushrooming of media, on the one hand. On the other hand, it became easier with established media transmuted in financial corporate, substituting spectacle for information, info stew for diversity of visions, VIP and ‘Jack the plumber’ one-liners for expertise, etc.

2) Lobbyism is now accepted as semi-official communication channel between interest groups and decision makers. Next to the corporate sector, NGOs use the lobbyism channel because it may be effective at minor expenses. The conception and delivery of EU lawgiving are major targets of lobbyism. Very understandable when considering the position of the lonely eurocrat that must deliver a draft Directive on some intricate technical-economic issue, (e.g., Combined Heat & Power). The eurocrat changed office two years ago, and will switch to another field next year. What the hell is CHP? After reading the various positions of interest groups and some technical literature, desperation reigns: how to get a draft out of this mess? One day, a ministering angel walks in with a ready draft text, with all Q&A’s in annex: all what’s needed. Additional benefit: the angel is equally the devil equipped and ready to torpedo every other draft. Modest voices of green NGOs and prophets of a better world paint in pleasant colors, but miss the bolts and nuts expertise needed to comment and bring up technical alternatives. Once a Directive draft is launched, it is extremely difficult to redirect its basic approach and incorporated biases. David-Goliath stories are heart-warming, but Goliaths seem to prevail in the corporate world.

3) Societal forums play an important role in modern societies of networks, multi-level governance, and polycentric decision-making. Stakeholder participation and co-creation of solutions (even of knowledge) is a favored approach. In the energy transition debate, arenas are available to brew blueprints of the future mixing the many ingredients contributed by official and academic experts,

stakeholders, citizen panels, and what's more. Next to discussion arenas, scientific research programming by public organizations is more and more subjected to the approval of stakeholders. The latter also follow-up research projects and their results and can assign or refuse the requested valorization stamp. One step further, the corporate sector directly mingles in the academic business. For example: GDF-SUEZ is one of the several corporate "institutional members" of the IAEE (International Association for Energy Economics). The Electricity Policy Research Group (University of Cambridge) got an Energy Policy Forum "supported by stakeholder membership (business and policy associates), leveraging our research funding, extending our international sphere of influence and enhancing our ability to respond to important research questions as they arise." Who is setting the agenda? What results are accepted as publishable? Who's interests are served by this conflation of public and private resources? Is this not the surrender of science to corporate interests?

Particularly disturbing is the poor theoretical and empirical research about models and rules to include and work with stakeholders in such arenas. For example, how are the internal rules of representation, subject scoping, minimum requirements of evidence, voting and decision-making, etc.? Hendriks (2009) denounces the lack of political authorization, accountability and responsiveness of what she calls 'governance networks'. One such a network is the Dutch energy transition arena. The arena did not scope controversial issues like market liberalization, atomic power, and climate change. This "democratic soup" flattened the floor for the recent construction of three new coal-fired power plants in the Netherlands.

Phase 2: Seduce

The border between Convince and Seduce is thin. Seducing means that some other(s) outside the corporate asks more than general convincing material (e.g., approaching particular academics individually). Seducing starts with finding out when and how the target is weak. Vanity is own to most humans, but some are more sensible to it, especially the ones in the limelight and also academics. Others love dining and wining, what enlarges hearts and clouds minds. Or what about a few days trip to some interesting spot, learning in the meantime about the benefits of nuclear power? In Belgium, mayors of municipalities and cities were well guarded and could day and night count on the power utilities for solving irritating problems or futilities. Invisibly, the constituency paid the bill of the extra service.

Three mechanisms of seduction by the corporate are documented: 1) insane coalitions; 2) select friends, but also enemies (opponents); 3) admiration for experts.

1) The insane coalition is a short- or long-term, formal or implicit agreement between the corporate and occasional partners, in order to obtain significant gains, paid by third parties, mostly (small-scale) customers, tax payers (via authorities). The corporate absorbs the bulk share of the gains, and leaves crumbs to the coalition partner. However, this partner is instrumental and necessary to establish the construction and defend it against criticism. Indeed, when criticism arises, the partner is in the frontline and saves the mechanism, with the corporate silent on the backbench. Some examples:

- The anti-energy tax coalition. Since the budding energy transition of beginning 1980s was nipped in the bud by energy price declines, energy taxing was blacklisted by the energy sector. A politician proposing a tax could forget political career fortune. Loudest voices against taxing come from consumer organizations, trade unions, and energy poverty grass-root groups. No taxing has two main effects: external costs of fossil and nuclear energy remain unpaid, and energy companies obtain more leverage for maximizing profits by monopoly pricing.
- The renewable energy support drake of tradable certificates in Flanders. Partners are independent and green producers of renewable energy that by the very lousy support system also could cash a share of the excess profits. Proposals to improve the system faced protests via green voices.
- The coalition of the corporate and mayors to supply electricity at far too high prices to domestic and other small consumers with additional federal tax evasion. Partners here were mayors, enjoying easier life, almost guaranteed of re-election if they were not so stupid to change the terms of the coalition.

2) In most cases, one can select her/his friends within a willingness set of people. Enemies are considered as unwanted misfortune or fall-out of a failed friendship. The energy business is a rather complicated one, technical, economic, institutional, legal, political, etc. To grow to a dangerous enemy, it takes years, hard study, many experiences, and a wicked character (phase 4 tells how the corporate reacts on this kind of aliens). But in society, you are nobody if you don't have enemies: the corporate needs enemies – the media need enemies of the corporate to balance the energy fuss debate. The corporate helps the media sidelining the real dangerous enemies, by creating favorite enemies. The best place to find favorite enemies is among young politicians that are fervent in defending the green cause, but are uneducated and non-experienced in the corporate sector matters. They are willing to speak hard against the corporate; there is media firework with lots of smoke but little heat. Often the corporate knows to arrange

the quarrel such that the opposite politician's statements are helpful at later occasions to advance the corporate case.

3) Admiration for experts is another good seduction calling upon the vanity of humans. The mechanism is most helpful in mapping the strengths and weaknesses of a person, providing detail information about the field and positions in a strategic decision process. In case an expert or an official occupies a crucial position in a particular decision-making process (e.g. the enactment of an important law, a multi-million investment project, etc.), the corporate is keen to organize a seminar meeting with a small audience. It is announced as an exchange of information among high-level experts. Even at first reluctant to accept the invitation, the external person is curious about the knowledge and position of the corporate. Arriving at the seminar the person is greeted with honors, and asked to present his analysis, findings, and positions. The corporate listens careful, takes notes, asks questions, and stimulates the speaker to display all knowledge and data. When the moment comes for the corporate to present, it's time for dinner. When the person insists the corporate also should transmit information and knowledge, many excuses arise, like: the corporate expertise is minor compared with the visitor's admirable know-how. Good result for the corporate: they know exactly how to design the most effective and efficient strategy to realize their goals.

Phase 3: Enforce

When seducing does not work, it shifts to enforcement. Impress is a soft version of enforcing. One day, the stubborn other is invited for his last opportunity to cooperate with the corporate. The setting of the meeting is pleasant and may impress: a restaurant with access limited to the corporate top. The goal of the meeting is to conclude decisively whether the other stands at the side of the corporate or not, where 'not' is equalized to 'opposite'. The impacts of the two positions for the other are described. At the side of the corporate, the future is bright: sharing in the circle of highly educated captains of the civil society, international exposure and respect, good and safe income, ... The other side is filled with failure, danger, sorrow, blame, ... The choice is so evident that appeal to common sense is needless. But in case common sense is lost, e.g. too much pride to U-turn beliefs and societal position, the corporate leaves a neat way out: "let the complicated energy problems to the corporate as real specialists, and redirect interest and focus, e.g., general equilibrium computational models". True, life will be simpler, but certainly less relevant than delving into energy issues.

The fully helpless ones that reject the last offer of cooperation or self-censorship, undergoes the verdict. But the corporate does not like enforcement, and sees it as

own failure in convincing or seducing others. Executing verdicts is precarious because it means other's elimination from the energy decision-making loci.

Phase 4: Eliminate

Obdurate opponents need elimination, meaning removing opponents from the decision centers about important corporate issues. It suffices to denude relevance from the opponent, e.g., by launching the corporate selected enemies, and by spreading insinuations and gossip about the other. Gossip is deadly because the victim cannot defend himself. Either reacting triggers: "see, he is looking to argue, but in vain", or not reacting: "see, he is silent, because he cannot defend himself". The corporate and its affiliates evade all communication with the opponent, also at social events like concerts or receptions. Sometimes the opponent is invited for a committee or debate, but the conditions are made so unequal, that a clever opponent only can refuse the pitfall. Such refusal tears somebody by doubts between participation to avoid isolation or abstention to safeguard relevance.

The corporate may aim at eliminating an opponent from a privileged social position with possibilities to study, speak, and influence societal processes, e.g. an academic with tenure. The corporate exerts pressure to exclude obstinate opponents from public forums and influential media. For example, the corporate contracted Saatchi & Saatchi to design and monitor an expensive campaign for the Nuclear Forum to promote the nuclear renaissance. When the contract was agreed, the names of some opponents were explicitly mentioned as persons to be silenced. In the power sector in Europe, physical elimination is no option; in other areas and sectors of the global energy business the reality is harsher.

Conclusion

The global energy transition implies disruptive upheaval for established fossil fuel suppliers and major electricity companies. Given the history, accumulated capital, and dominant business models, it is naïve to assume that such interests are suicidal and will friendly cooperate in the transition to low-carbon energy systems and the corresponding societies. The surrealist Magritte Group exemplifies how large electricity companies work to retard and deform the transition to renewable electricity supplies.

A corporate case study reveals 4-phased strategies of convincing the general public, seducing selected individuals or groups, enforcing unwilling opponents, and finally eliminating obstinate outliers. Can poorly organized "indignados" beat the corporate sector in these fields? Ending incumbent energy interests is

possible by turning these irrelevant, i.e., no longer wanted nor needed, because better alternatives are put on line. Building space, priority, and protection for decentralized renewable energy supplies, asks for muzzling incumbent interests. Public interest strategy is wanted. I suggest a few constituent components:

- Stop the stakeholders' fury that allows stock-stake holders full control of governance networks, transition arenas, science programming and even scientific research itself. In the meantime, when entering transition arenas be prepared, protected, and armed.
- Transform far-off heavenly sustainability dreams in down-to-earth work on the bolts and nuts of energy systems and energy policy. The ship's bridge is full of chattering captains, but the machine room is staffed with incumbent experts, sailing the usual direction.
- Forget peak oil supply as a problem. Conflicts and wars are raging about which oil and gas is forced to stay underground. Energy transition is not a walk in the park; it will be harsh with some extremely bloody acts.

References

- Fri, R.W. (2003): The Role of Knowledge: Technological Innovation in the Energy System. *The Energy Journal* 24, 4, 51–74.
- Grubler, A. (2012): Energy transitions research: Insights and cautionary tales. *Energy Policy* 50, 8–16.
- Hendriks, C. (2009): Policy Design without Democracy? Making Democratic Sense of Transition Management. *Policy Sciences* 42, 4, 341–368.
- IPCC (2012): *Renewable Energy Sources and Climate Change Mitigation*. Cambridge University Press.
- Mez, L., Schneider, M. & Thomas, S. (2009): *International perspectives on energy policy and the role of nuclear power*. Multi-science Publishers, London.
- Mez, L. & Brunnengräber, A. (2011): *On the Way to the Future – Renewable Energies in Altwater*, E., Brunnengräber, A. (Eds.) *After Cancún. Climate Governance or Climate Conflicts*, Springer VS, Wiesbaden.
- Simmons, I.G. (1989): *Changing the Face of the Earth. Culture, Environment, History*. Basil Blackwell, Oxford.
- Verbruggen, A. (2006): Electricity intensity backstop level to meet sustainable backstop supply technologies. *Energy Policy* 34, 1310–1317.
- Verbruggen, A. & Van de Graaf, T. (2013): Peak oil supply or oil not for sale? *Futures* 53, 74–85.