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Alexander Hughes

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Sustainable development: constraints or opportunity?

Sustainable development is a concept that has gradually become well known and commonplace in most industries. However, there is also a great deal to suggest that the phrase is used broadly and with quite different interpretations of what it actually covers.

“Sustainable Development” is said to have been launched by the Brundtland Commission, to mean what most people consider it to be back in the first half of the 1980s: “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” It can be said that this definition implies access to and regeneration of resources on one side, and the minimisation or complete prevention of damage to the environment on the other side.

The subject has become topical along with the realisation that in “meeting the

needs of the present”, which in reality is what the industrialisation is doing, the use of the World’s resources is not unlimited, and that the burden on the environment is also not a problem that will be resolved by itself.

We have acknowledged that these opposing conditions represent a real threat to the long-term, continued existence of humankind, and it has therefore, naturally, generated more and more awareness about “Sustainable Development”.

Consciousness about “Sustainable Development” is a shift in the World which has spread and strengthened because it fundamentally involves environmental, economic and socio-political aspects. “Sustainable Development” therefore draws attention from interested parties within environmental, societal and political spheres, and from perhaps the

most influential, namely the economic stakeholders.

In all these areas - and in all other areas for that matter - it is difficult to spot any prize or sympathy for being against “Sustainable Development”.

A significant prerequisite for every company’s continued existence and success is its awareness of the changing conditions within the World in which it exists. It regards such changes as the basis for new opportunities, new markets, new products and new business, and it adjusts its strategy in line with such changes. Businesses that are either oblivious to such shifts or attempt to confront them as a threat will, over time, experience stagnation, recession and ultimately demise.

There can therefore be no doubt that the only response to the question of whether “Sustainable Development” is a constraint or an opportunity, is that “Sustainable Development” is an opportunity equally as great as the awareness and prevalence of the concept today. And neither the awareness nor the opportunity appears likely to diminish in the many years to come.

Evan Tolstoj Hansen
Alexander Hughes Denmark

SUSTAINABLE DEVELOPMENT: A KEY ISSUE AND A COMPETITIVE ADVANTAGE FOR COMPANIES

INTERVIEW WITH FABRICE BRÉGIER,
GENERAL MANAGER OF AIRBUS SAS

WHAT IS YOUR PERCEPTION AND APPROACH OF SUSTAINABLE DEVELOPMENT INTERNALLY?

This is a vital topic for Airbus! Aeronautics is growing by approximately 5% per year on average; this means that it will double in size in about fifteen years, and it would be inconceivable for it to double in CO₂ emissions. Another element: fuel constitutes an important expense for airlines; **aircraft competitiveness depends quite significantly upon their ability to be economical consumers of kerosene and thus low in emissions.**

Aeronautics has been concerned with reducing consumption and emissions. Since the 1970s, CO₂ emissions have been reduced by 70%. **Recently, there has been serious reflection, which has been transformed into a commitment to further reduce emissions by 50% by 2020.**

It has been discussed and supported at the European level through the "Clean sky" program, launched by the European Commission, which is meant to confirm technological building blocks to achieve these objectives: they are engine performance, aerodynamics, the organization of air traffic (to be able to create much more direct trajectories coordinated in space, not waiting to land, etc.). All those elements should help us create a completely new generation of aircraft by 2020. **The A380 already consumes less than 3 litres/100km per passenger, while the fleet average is approximately 4.5 and one half to 5 litres.**

Commitments have also been made in the International Civil Aviation Organization, ICAO to confirm this objective of creating sustainable development, which is to say to grow traffic by approximately 5% per year without increasing emissions, and then to begin reducing emissions. This assumes a very large investment and this is the reason for the debate, at the time that the major loan was issued by the French government, over what might be done to accelerate the maturity of these new, so-called "breakthrough" technologies. There are also all the industrial R&D programs that should help Airbus, along with its partners the aircraft engine manufacturers and motor vehicle manufacturers, to achieve these extremely ambitious objectives...

VISION AND ANTICIPATION ARE THE BASIS OF YOUR R&D STRATEGY GIVEN THE DEVELOPMENT TIME FOR YOUR PROGRAMS...

A completely new aircraft can be developed in 6-7 years but the challenge is not so much the development time for the aircraft but the development and availability of new technologies which integrate the dimension of cleaner energy and sustainable development.

For the potential successor to the A320 with open, unfaired engines, which alone will save approximately 27% on fuel, we have to study completely new architectures, questions of security, reliability, noise, vibration, etc. It will be in the coming 5-6 years that this will play out, in order to be able to say, "yes, we have enough components" by around 2015 and to begin the Development phase on completely innovative designs without taking undue risks.

Air traffic in itself has to be also considered: there, initiatives must be taken at the European level. Airbus is the project manager for a project called SESAR (Single European Sky Air traffic Regulations), which is designed to better coordinate aircraft traffic, in particular during the take-off and landing phases. The Americans have a similar project called NextGen, and there is cooperation between the two programs. **We do not hesitate to cooperate when the challenges are not related to pure competition between Boeing and Airbus, but rather to regulation and optimization.**

WILL KEROSENE ONE DAY GIVE WAY TO LESS-POLLUTING ENERGIES SUCH AS BIOFUELS OR CLEANER ENERGIES?

The biofuel sector needs to develop, even if aircraft will almost certainly be among the last means of transportation to keep using kerosene even partially. But in time, **the biofuels sector should also help significantly reduce emissions.**

In the very long term, nothing should be counted out. For the moment, fuel cell projects have been limited to "ground" applications. Instead of being forced to start an aircraft's accessory engine on the ground to operate its air conditioning, we are considering the possibility of using an autonomous mechanism that operates on fuel cells. We are also working on zero emissions for all airport operations.

We have a technological road map, at the European level, at the corporate level, and for the entire sector which is also being supported through initiatives such as the major loan issued by the French government.

We have ambitious objectives in relation to other industries as we consider it is our responsibility to help develop the Aeronautics sector, whose existence is essential and which generates significant wealth since it contributes about 8% to the worldwide GDP. **It is also a virtuous posture, because in practice, the R&D strategy targets to producing aircraft that consume less energy. Therefore, it is a quest to cut weight and a quest for ways to cut waste.** For aviation companies, fuel constitutes a considerable budget item, especially for long flights; therefore, it is an essential element of our aircraft's ability to compete or not.

WHERE DO YOU FIND YOUR COMPETITIVE ADVANTAGES?

We have the ability to develop aircraft functions which include transverse skills in aerodynamics, power management, aircraft certification, aircraft development, with test flights, performance prediction, etc. **It is what we have learned over the past thirty years, which Boeing knows how to do, and which the Chinese will learn to do.** There, I think we have an important advantage; the barrier to entry is enormous. **Thus, there is an understanding of aircraft development and the confidence that Airbus customers have in the performance, safety, operational availability, maintenance, etc. of these aircraft that cannot be created from equipment alone.**

The other aspect is a question of technological development. There could also be understanding of a certain number of technologies: **for composite aircraft we, along with Boeing, are the only ones able to conduct experiments; we have dozens of years of experience in this area.**

FINALLY, IT IS TO SAY THAT THE ENVIRONMENTAL ISSUE IS A KEY FACTOR AT THE CENTRE OF YOUR CONCERNS ABOUT PRODUCTS...?

It is absolutely genetic! With fuel prices starting to rise again, and which will certainly remain above 100 \$, this is an essential element. The trade-offs between mass and the cost of reducing aircraft weight, which we made in the past when fuel was not as expensive, will now always move in the direction of higher performance aircraft from this perspective, as with the A350 for example.

ARE THERE OTHER ENVIRONMENTAL CONSTRAINTS THAT YOU HAVE TO DEAL WITH AS THE CEO OF A MAJOR INDUSTRIAL CORPORATION?

We have more traditional industrial constraints. We need to know what we are doing to go beyond the compliance with regulations. We have been one of the first companies to be ISO 14001 certified.

All in all, aeronautics is a clean industry. That said, we do use a variety of special metals in snake oil proportions in some components, and thus within the "REACH" framework - the European initiative to remove all products that may cause a danger to the environment in time, the cadmium issue, etc. - a major adaptation effort is in progress.

In this area, the effort remains exclusively European, and subject to European regulation; accordingly, all European industrials are constantly concerned with establishing this type of regulation on a global basis, so as to avoid distortions in competitiveness. **Europe must be at the leading edge, but because pollution does not stop at the borders, we have to be able to impose regulations on all manufacturers and all airlines.**

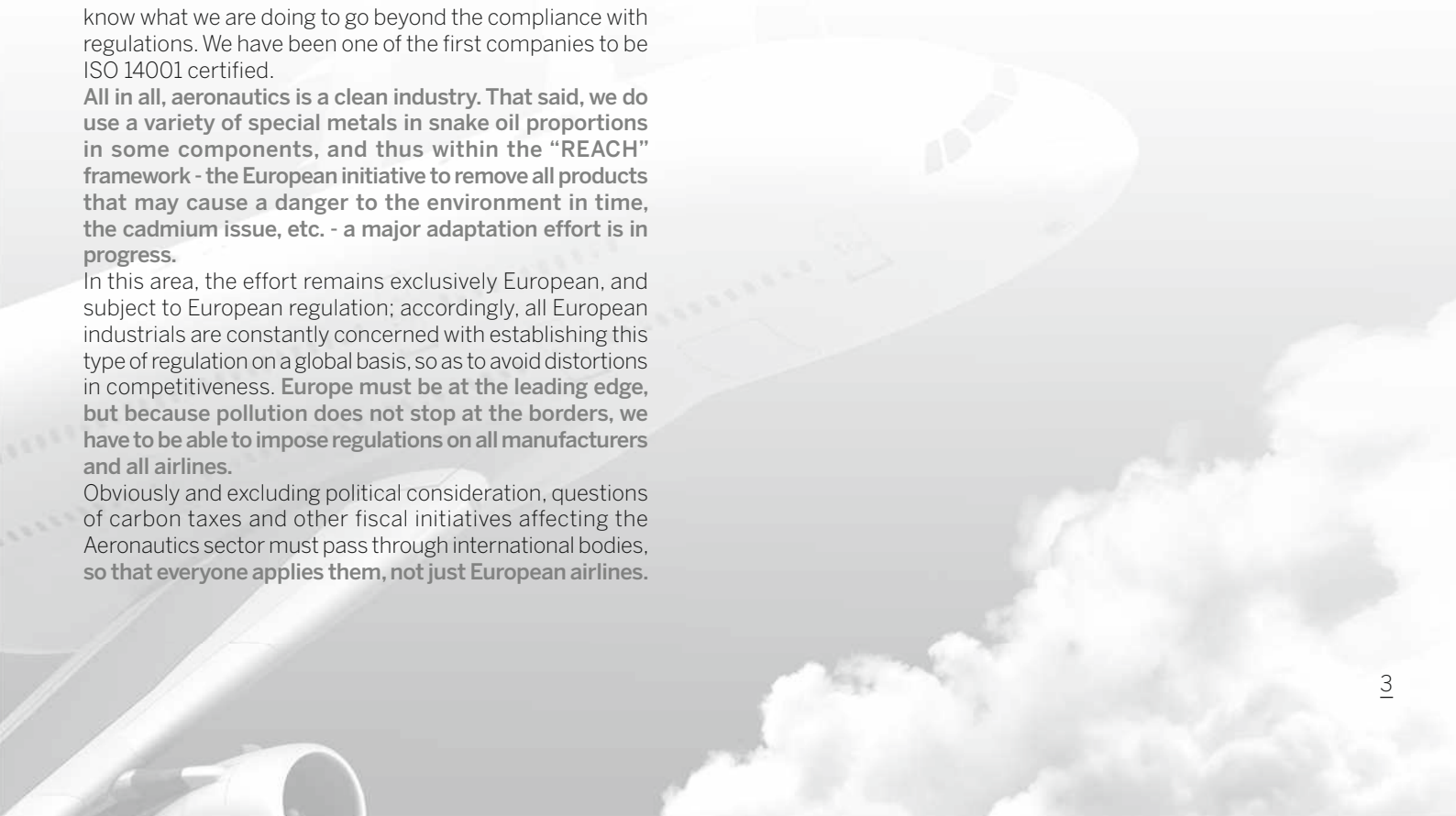
Obviously and excluding political consideration, questions of carbon taxes and other fiscal initiatives affecting the Aeronautics sector must pass through international bodies, **so that everyone applies them, not just European airlines.**

CHINA IS WILLING TO BE AN ACTOR IN THE AIRCRAFT INDUSTRY, DO YOU THINK THAT THEY WILL APPLY TO THEMSELVES THE SAME CONSTRAINTS THAT WESTERN COUNTRIES?

China doesn't have the same social, environmental, and other constraints. But, it is through the little successes or failures such as the "Copenhagen summit" **that we will be able to bring them together.**

HOW DO ALL THESE CONCERNS IMPACT YOUR CHOICE OF EMPLOYEES AND THE MANNER IN WHICH YOU LEAD THEM?

That depends which employees we are talking about as we do have 55,000 of them. If you are referring to management positions, I think that beyond the skills that are necessary and inherent in these highly technological positions, **what we can expect from a manager is a minimum of comprehension - without going as far as expertise - of the way to manage major high-risk programs, and an international openness.** I am speaking about the ability to help multicultural teams work together, especially in an environment such as Airbus, which by nature is international and which has not consolidated - despite what people say and despite efforts in recent years, but which has just juxtaposed different cultures working together.



Thomas Karst, M.Sc. in food chemistry, is director and partner in MAKE Consulting

A consultancy and
publication company
in renewable energy
with focus on wind.

One of the main topics in sustainable development is "sustainable energy". It is a constantly evolving concept.

What is sustainable today

will not, in the same way, be sustainable in ten years. Our current energy consumption is based on fossil fuels, that will run out sooner or later and need to be replaced, and that have impact on our surroundings – climate and nature.

Sustainability today is a combination of finding energy production forms that are less liable and making them replace traditional energy forms. This gives society time to be able to afford them.

As long as fossil fuels will be present in abundance it will be slightly more expensive to produce renewable energy and it will mean a different economy.

Consequently, there will not be enough financial pressure in a free economy to move to the renewable energy forms: people are not prepared to sacrifice their prosperity and their freedom for the sake of the environment. This

is why there will also be a series of political demands, among them that CO₂ emissions must be reduced by 20% before 2020 and that minimum 20% of the energy production must come from renewable energy. In some countries these demands are supported by fines: this is where the pressure will come from. These targets and delay to implement have been set because we know that a ten-year period is required for society and the market to adapt financially and technically to new conditions. These constraints have moved from being a grassroots movement to being an industry and a key part of business economics. For example, besides wind and solar energy, new energy sources such as wave energy, new ways to use the sun's energy have opened new economic fields. This is also true for new applications in energy distribution. After all, wind turbines only work when wind blows, the sun only when it shines and the tide only when the tide changes. Then **everything has to be tied together by an extended network, which makes the electricity easy to move to wherever it is needed.**

Beyond energy, some industries will experience significant changes linked to sustainable development. **In fact all companies and individual households will be challenged and will need to adapt.** For instance if we look at the households: today most of us sort bottles, cardboard and ordinary rubbish into 3 bins. In ten years they may be sorting it into 20 bins! On their side, companies have to set some targets that correspond with 20/2020 - e.g. "By year 2020 we have to use 20% less energy" - and will have to invest a little to make it. It has already become a question of putting the right people in charge of it.

They will require support, including from public funds. However subsidies are good if they are visionary and can start an industry. **They have to have a scale where they gradually disappear, while the industry gains foothold and a cultural change happens.**

Sustainable development has not the same impact everywhere. For example, the BRIC countries are not ready to accept the same level of constraint with regards to sustainability. Russia and China for example have a huge population with a relatively low standard of living, a very large and quickly growing economy that requires enormous amounts of energy to keep growing. They both want the same standard of living as the Western World. **Even if today, they mostly develop on fossil energy, the extent of their needs in the long run will result in an even larger need to move to renewable energy if they want to keep that growth.** It will happen quickly. In fact China already has an enormous program underway concerning renewable energy.

Pressure towards sustainable environment will have a significant impact on the demand for future leaders. Indeed management must change towards an even higher degree of creating and running matrix companies. **To drive the changes that companies will have to face to adapt to sustainable development constraints managers will need to refine even more their vision and ability to shape the future of their businesses.**

Besides driving teams through times of change takes managers with charisma, overview and reserves of energy. Development of new technologies will also rely on the use of new talents that will have to be developed and **fostered within existing organizations, but also be found externally.**

Sustainability constraints will eventually have to be translated into new corporate structure and a **different way of measuring employees.**

Alexander Hughes and Clean Technology

A major challenge to economic growth and corporate profitability is the demand on the world's resources – raw materials and energy – and the emission, disposal and recycling created by the processing of them.

Essentially this is what Clean Technology address: Cleantech includes products, services, and processes that provide superior performance at lower costs and improve the productive and responsible use of natural resources, while greatly reducing or eliminating negative ecological impact. With some of the world's largest industries such as utilities, chemicals, transportation and manufacturing as the most significant Cleantech markets, the market opportunities reach into virtually every sector of the world economy.

Over recent years Cleantech has also been one of the areas that have received the largest technology investments – and still is. Now however the focus is also on getting products into the market and developing the associated manufacturing processes.

Whether the focus is on technology, manufacturing processes or going to market the key to a successful business case and a successful return on investment still is to have the right management and the right competencies in vital key areas.

With a considerable amount of competencies, experiences and track record built over decades in the traditional sense of the above industries and the Alexander Hughes Group's continuous monitoring of market, industrial and economic development we have focused on these industries in the sense of Cleantech from the very birth of this term.

Today the Alexander Hughes Group therefore offers one of the strongest, most experienced and most diverse teams of Cleantech experts in the Executive Search business to service its clients needs for finding, attracting and hiring Executives, Senior Managers and industry experts in the Cleantech sector.

ALEXANDER HUGHES IN CLEAN TECHNOLOGY

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- / Water & Waste Water
- / Waste Management & recycling
- / Public Transport
- / Sustainable Transports
- / Sustainable Building Materials
- / Sustainable Manufacturing & Recycling
- / Air & Environment



OUR CLEANTECH TEAM

Richard Hes

Prague, Czech Republic
r.hes@alexanderhughes.com

Evan Tolstoj Hansen

Denmark, Copenhagen
e.tolstoj@alexanderhughes.com

Kurt Hess

Germany, Frankfurt
k.hess@alexanderhughes.com

Julien Rozet

Paris, France
j.rozet@alexanderhughes.com

Howard Honick

Belgium, Brussels
h.honick@alexanderhughes.com

Terry Veitch

South Africa, Cape Town
t.veitch@alexanderhughes.com

Fivos Kiousopoulos

Greece, Athens
f.kiousopoulos@alexanderhughes.com

Gianluigi Russo

Italy, Milan
g.russo@alexanderhughes.com

Nadia El Iraki

Maghreb, Casablanca
n.eliraki@alexanderhughes.com

Bjorn Akerblöm

Sweden, Stockholm
b.akerblöm@alexanderhughes.com

Dana Patrichi

Romania, Bucharest
d.patrichi@alexanderhughes.com

Ludovic Coquillet

Croatia and Slovenia
l.coquillet@alexanderhughes.com

Simon Bowthorpe

Madrid, Spain
s.bowthorpe@alexanderhughes.com

Can Önen

Turkey, Istanbul
c.onen@alexanderhughes.com

Silvia Umnikova

Bulgaria, Sofia
s.umnikova@alexanderhughes.com

Editor in chief. Julien Rozet

Editorial Committee. Richard Aeschmann, Bjorn Akerblom, Simon Hill, Miguel Codina, Christian Coffinet, Ludovic Coquillet, Susanne Doenitz, Nadia El-Iraki, Richard Hes, Fivos Kiousopoulos, Michael Neumann, Irem Onen, Dana Patrichi, Alexander Plitmann, Smiljana Prpa Rok, Julien Rozet, Gianluigi Russo, Elizabeth Thomas-Gache, Evan Tolstoj, Silvia Umnikova, Terry Veitch, Patricia Zahr.

International Coordinator. Véronique Rambaud

Head Office. 57 bd de Montmorency – 75016 PARIS CEDEX FRANCE Tel.: (33) 01 44 30 22 00 – Fax: (33) 01 42 88 33 95

www.alexanderhughes.com - www.alexanderhughes.com/

e-mail: info@alexanderhughes.com mailto:info@alexanderhughes.com

Offices in EMEA. Amsterdam, Athens, Barcelona, Beirut, Belgrade, Bratislava, Brussels, Bucharest, Budapest, Cape Town, Casablanca, Copenhagen, Dubai, Frankfurt, Geneva, Helsinki, Istanbul, Johannesburg, Lisbon, London, Luxembourg, Lyons, Madrid, Milan, Moscow, Oslo, Paris, Prague, Sofia, Stockholm, Turin, Vienna, Warsaw, Zagreb, Zurich.

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