DEGROOF PETERCAM ASSET MANAGEMENT

Controversial Activities policy

August 2019

Table of Contents

INTRODUCTION

A historic leader in Sustainable investing, Degroof Petercam Asset Management (DPAM) has launched its first sustainable European equities expertise in 2003, and it has continuously enhanced its offering of Sustainable strategies since then. At DPAM, it is our conviction that Sustainable investing is a long term trend, which is to continue in the future. Because Sustainable and Responsible Investing is essential to the identity of DPAM - as illustrated by our motto: *Active – Sustainable – Research driven* - we strive to offer Sustainable strategies achieving a high level of ESG quality. Leveraging on our sixteen years learning-curve, we have set-up a robust Sustainable investment process, capitalising on our in-house expertise in positive sustainability screenings (Best-In-Class/Best-In-Universe, ESG scorecards, Thematic stock-picking), in negative screening (Norms-Based, Controversial Activities), as well as in Corporate Engagement & Proxy-voting, and more recently in Impact finance.

Negative screenings, and in particular the Controversial Activity screening have an important role to play in ensuring that investment portfolios are not exposed to corporate activities that are deemed unethical and / or irresponsible and / or unsustainable. In this document, DPAM aims to communicate in full transparency over which business activities and sectors it **excludes** from its investment strategies. Moreover, DPAM applies **an ESG integration approach** onto several controversial activities. In such case, there is no “hard exclusion” forcing portfolio managers to fully divest, but DPAM’s centre of expertise in the area of sustainable & responsible finance (the “*Responsible Investment Competence Centre*”) sensitizes portfolio managers over the sustainability risks associated with some sectors. This leads portfolio managers to reduce their portfolio exposure to these contentious sectors (underweight positions) and sometimes to fully divest from these sectors. The sectors and activities subject to DPAM’s ESG integration approach are also listed in this document.

Importantly, DPAM effectively excludes some of these controversial activities not only from its **sustainable strategies** but also from its **mainstream strategies**. This further evidences our group’s commitment towards sustainability. The controversial activities exclusions applying to mainstream strategies are outlined in the first part of this document. The exclusions applying to our Sustainable strategies are detailed in the second part of this document.

A **controversial activity**: refers to a business activity that stirs-up debate among various parties and that is contentious.

For DPAM, three key elements are common to all controversial activities:

- There are **diverging opinions** on a particular topic or question, fuelling a debate, with exchanges of arguments between several parties;
- There is a **discussion taking place** among the parties **over a period of time**;
- The debate lasts over time as it can't be resolved easily. This illustrates the complexity of the topic or issue which is discussed and the difficulty of settling diverging opinions.

In the context of Sustainable finance, the key stake here is to define the position of DPAM on each of these controversial activities, and to eventually decide whether to fully divest from the companies involved in controversial activities, or to only recommend a reduction of our portfolios exposure. When deciding whether to exclude or not a controversial activity from its investment portfolios, DPAM follows a pragmatic approach based on dialogue, in-depth expertise and consistency. DPAM sees exclusion as a last recourse. Our group's approach is to advocate best sustainability practices within each economic sector. Rather than divesting from whole sectors, DPAM aims to identify the leaders within each sector and to avoid the laggards which may potentially harm the reputation of the company and its investments.

Complementing DPAM's in-house knowledge with external expertise: Listening to specialists

Ahead of determining its position on controversial activities and with a view to define a well-balanced, robust and consistent controversial activity policy, DPAM firstly aims to develop a better understanding of the debate, of its broad context, and of its causes and effects. To this end, DPAM consults subject experts who enlighten us about sustainability topics, and often help us looking at the subject from alternative point of views.

Every quarter, DPAM invites external experts (academics, scientists, NGO representatives, etc.) to speak at specially organized internal conferences called the *Responsible Investment Corners*. All DPAM staff members are invited and debates are organized with a view to allow for a genuine exchange of ideas and to make sure that no question or remark is taboo. For example DPAM has invited the Secretary-General of the nuclear Research Centre in Mol (Belgium) to share his view on the risks and benefits of nuclear energy notably in the context post the Fukushima accident.

Another RI Corner hosted a Professor from the University of Ghent (Belgium), who, as an expert on biofuels, extensively discussed their impact on foodstuff prices.

Shale gas is another contentious subject DPAM has been reflecting upon. A professor of geology from the University of Brussels provided us with a detailed description of the actual environmental impact of shale gas, and put it into perspective with alternative energy sources.

Recently, a Professor from KU Leuven who is an expert in bio-engineering and bio-economics expanded on biotechnology in the context of agriculture.

CONTROVERSIAL ACTIVITIES EXCLUSIONS APPLYING TO MAINSTREAM STRATEGIES

ANTI-PERSONNEL LANDMINES (APL), CLUSTER MUNITIONS (CM), AND DEPLETED URANIUM MUNITIONS & ARMOURS (DPU)

These three families of armaments (Anti-Personnel Landmines (APL), Cluster Munitions (CM) and Depleted Uranium Munitions and armours (DPU)) are subject to prohibition of financing in several countries. Belgium, France, the UK, the Netherlands, Switzerland, Italy, Spain and Canada (among other countries) all introduced legal limitations to the financing of some or all of these weapons. Thus, the exclusion of these families of controversial weapons is more regulatory in nature, and DPAM has set-up the necessary instrument to make sure that all our strategies fully comply with the law. As a matter of fact, most of these regulations only apply to actively-managed strategies, and index strategies are generally exempted from these legal requirements. Yet, as a proof of its commitment towards Sustainable & Responsible investing, we at DPAM have decided to go further than the law, by excluding these three families of controversial armaments (i.e. APL, CM, and DPU) from our index strategies too. Thus, our index strategies are effectively divesting from any company which has a proven involvement in anti-personnel landmines, cluster munitions, or depleted uranium munitions and armours.

In practice, screening corporate involvement in these controversial weapons requires some dedicated research and data. DPAM uses the research from the ESG rating agency: ”ISS-Ethix”, which has a qualified and specialized team of analysts based in Stockholm. ISS-Ethix provides us with a comprehensive overview of all the companies (both listed and unlisted) across the World, which are involved in these controversial armaments. ISS-Ethix classifies companies into three categories, in a way to constitute an “alert system”: *Green* (no involvement), *Amber* (risks of involvement but lacking evidence) and *Red* (proved involvement). All *Red* companies, i.e. companies with a proved involvement in these controversial weapons, are excluded from all DPAM’s funds (actively-managed and index). DPAM again goes further than the law as it also excludes from its actively-managed strategies the Amber companies, that is to say companies which are strongly suspected of being involved in these controversial armaments, but for which evidence of involvement is still lacking (usually because of a lack of transparency).

DPAM exclusion on ANTI-PERSONNEL LANDMINES (APL), CLUSTER MUNITIONS (CM), and DEPLETED URANIUM MUNITIONS & ARMOURS (DPU)	EXCLUSION THRESHOLDS
For mainstream strategies: actively-managed and index	**APL, CM & DPUs**: • **Any direct exposure** leads to exclusion

NUCLEAR WEAPONS

DPAM further demonstrates its accountability as a responsible investor through the exclusion of Nuclear Weapons from both its actively managed strategies, and its index strategies.

Unlike the other controversial armaments mentioned above, the financing of companies involved in Nuclear Weapons is not prohibited neither under national laws, nor by international law (a prohibition of financing nuclear weapons was discussed as part of the 2017 Treaty on the Prohibition of nuclear weapons, but it was not included in the final text[1]). Yet, the fact that the financing of nuclear weapons is not prohibited by law does not mean that DPAM, as an investor, should not question whether such investments are ethically sensitive. To the contrary, nuclear weapons have by design indiscriminate and disproportionate effect on populations (notably through the effects of radiations and radioactive pollution which subsists and causes harm long after the blast). Hence, DPAM views Nuclear Weapons as controversial weapons, and a dedicated Nuclear Weapons exclusion policy has been defined.

For all its mainstream strategies, DPAM excludes all companies which are **directly involved** in nuclear weapons from a 10% revenue exposure threshold. In other words, all companies deriving 10% or more of their consolidated revenues are excluded from all DPAM mainstream strategies.

By **indirect involvement** we mean companies which are involved in nuclear weapons through their shareholding and financing. For our mainstream strategies, we have defined a 50% tolerance threshold for an equity or credit stake in companies which are directly involved in nuclear weapons. Beyond this critical threshold the company is considered to be indirectly involved in nuclear weapons and it is excluded from all Sustainable strategies. In other words, companies owning an Equity or Credit stake above 50% in a company directly involved in nuclear weapons are excluded from all DPAM mainstream strategies.

DPAM exclusion on NUCLEAR WEAPONS	EXCLUSION THRESHOLDS
For mainstream strategies: actively-managed and index	**Nuclear Weapons**: • Directly-Involved companies: from **a 10% revenue exposure**; • Indirectly-Involved companies from **50% equity stake / credit stake.**

[1] https://www.sipri.org/commentary/topical-backgrounder/2017/after-72-years-nuclear-weapons-have-been-prohibited

TOBACCO

The detrimental effects of tobacco consumption on human health are long known. Yet, the global consumption of tobacco remains close to its all-time high, notably as tobacco consumption is growing in emerging countries. This trend is likely to cause a surge in premature deaths over the coming decades. In addition to this appalling human impact, these fatalities will hinder the socio-economic development of these countries and contribute to locking the affected families into poverty[2]. As a responsible asset manager, DPAM has decided to exclude tobacco (i.e. not only producers, but also the whole supply-chain) from all its actively-managed mainstream strategies. In practice, DPAM excludes all producers of tobacco from a 5% revenues exposure, and all suppliers, distributors and retailers of tobacco from a 15% revenue exposure. These thresholds apply to all actively-managed mainstream strategies.

DPAM EXCLUSION ON TOBACCO	EXCLUSION THRESHOLDS:
For actively-managed mainstream strategies	**Producers:** • Revenue exposure **≥ 5%** → exclusion **Suppliers, distributors and retailers:** • Revenue exposure **≥ 15%** → exclusion

[2] https://www.who.int/tobacco/mpower/mpower_report_tobacco_crisis_2008.pdf

ESG AS OUR FIDUCIARY DUTY

As a historic player in Sustainable finance, DPAM is willing to build and maintain relationship with the other stakeholders active in the area of Sustainable Development. It is DPAM's view that dialogue and constructive exchange of ideas are fundamental to continuously improve our understanding of Sustainability issues and trends. This helps us identifying the Sustainability risks and opportunities our investments are exposed to, and to take them into account throughout our investment decisions. In this way, we are convinced that developing our Sustainability expertise helps us fulfilling our **fiduciary duty** towards our clients.

In this context, DPAM monitors the compliance of its mainstream portfolios with international standards (i.e. U.N. Global Compact) as well as their exposure to several additional "controversial activities". This monitoring does not lead to any formal exclusion. Yet, our mainstream portfolio managers are increasingly encouraged to take them into account throughout their investment decisions. This is part of DPAM's ESG integration approach, which is applied to all mainstream strategies.

Throughout our monitoring of portfolio's compliance with the ten principles constituting the **United Nations Global Compact**, DPAM promotes the fundamental Human Rights and Labour rights, it adopts a precautionary approach towards environmental issues, opposes corruption, supports transparency over tax-optimization practices, and it encourages sound Corporate Governance practices.

Additional details about Degroof Petercam Asset Management's positions on several sectors, business activities and sustainability issues are available in the "other controversial activities and sustainability" section at the end of this document.

SUMMARY TABLE OF THE EXCLUSION APPLYING TO MAINSTREAM STRATEGIES

EXCLUSIONS APPLYING TO MAINSTREAM STRATEGIES:	EXCLUSION THRESHOLDS
Anti-personnel landmines (APL), cluster munitions (AM), and depleted uranium munitions & armours (DPU)	Exclusion from actively-managed mainstream strategies and from index mainstream strategies of all companies involved in Anti-personnel landmines (APL), cluster munitions (AM), or depleted uranium munitions & armours (DPU): • **Any direct exposure** / revenues leads to exclusion
Nuclear Weapons	Exclusion from actively-managed mainstream strategies and from index mainstream strategies of: Directly-Involved companies: • Revenue exposure **≥ 10%** → exclusion Indirectly-Involved companies • Equity stake or credit stake **≥ 50%** → exclusion
Tobacco	Exclusion from actively-managed mainstream strategies of: -Producers: • Revenue exposure **≥ 5%** → exclusion -Suppliers, distributors and retailers: • Revenue exposure **≥ 15%** → exclusion

▌CONTROVERSIAL ACTIVITIES EXCLUSIONS APPLYING TO SUSTAINABLE STRATEGIES

ANTI-PERSONNEL LANDMINES (APL), CLUSTER MUNITIONS (CM), AND DEPLETED URANIUM MUNITIONS & ARMOURS (DPU)

With a view to set-up a robust, systematic and judicious exclusion policy on companies involved in these controversial weapons, DPAM has adopted a detailed approach, based on the following criteria. Firstly, companies can be involved in legally-excluded controversial weapons through various means:

- The company can be the **manufacturer** of a legally-excluded weapon system (APL, CM, and DPU). This is a case of "direct involvement".
- The company can be a **supplier** critical components or critical services for a legally-excluded weapon system. This is another case of "**direct involvement**".
- The company can provide **financing** to a company with is directly involved in a legally-excluded controversial armament (the cases of the first two bullet-points above here). This is then a case of **indirect involvement**.

Secondly, for a component or service to be considered a "**critical component**" or a critical service, and constitute a cause for company exclusion, the component or the service must meet two conditions at the same time:

1. the component or the service must be **specifically designed** or specifically made or specifically modified, for the legally-excluded weapons;
2. the component or the service must play a **relevant role** in the weapons system. In other words, we do not exclude companies providing so called dual-use components or dual-use services. This means we would not exclude a company providing products and services which are part of the supply-chain of a legally-excluded controversial armament but which would play a negligible / not relevant role in the armament system. For instance, facility cleaning services at a site involved in a controversial armament's supply-chain does not play a relevant role in the controversial armament weapon system, and therefore does not constitute a reason for company exclusion.

Analysing corporate involvement in controversial activities requires data on companies' business activities. DPAM conducts its own complementary analysis thanks to DPAM's centre of expertise dedicated to Sustainable finance, the *Responsible Investment Competence Centre* (RICC).

Yet, as a first step, DPAM purchases dedicated data from three ESG rating agencies, namely ISS-Ethix, MSCI-ESG and Sustainalytics. In practice, DPAM first and foremost refers to the list of involved companies drawn up by ISS-Ethix. The ISS/Ethix's list provides a comprehensive overview of all the companies (both listed and unlisted) across the world, which are involved in anti-personnel landmines (APL), cluster munitions (CM), and depleted uranium munitions & armours (DPU). ISS-

Ethix classifies companies into three categories, in a way to constitute an "alert system": *Green* (no involvement), *Amber* (suspected involved but no evidence) and *Red* (proved involvement).

DPAM excludes all "*Red*" companies from all DPAM's Sustainable and mainstream strategies (actively-managed and index). In addition to that, DPAM also excludes from its actively-managed sustainable and mainstream strategies all "*Amber*" companies.

With respect to DPAM's sustainable index strategies, all companies deriving any direct revenues from anti-personnel landmines, cluster munitions, and depleted uranium munitions & armours are excluded (in line with MSCI SRI index methodology).

DPAM exclusion on ANTI-PERSONNEL LANDMINES (APL), CLUSTER MUNITIONS (CM), AND DEPLETED URANIUM MUNITIONS & ARMOURS (DPU)	EXCLUSION THRESHOLDS
For Sustainable strategies: actively-managed and index	**APL, CM & DPUs**: • **Any direct exposure** leads to exclusion

With regard to investments in Sustainable Government bonds, both DPAM's Government Sustainable strategy (OECD countries) and DPAM's Emerging Market Sustainable strategy (emerging & frontier countries) are applying a scoring criterion about the *Ottawa treaty* on Anti-Personnel Landmines. In practice, if a state fails to ratify the Ottawa Treaty, it will obtain a score of zero on this criterion. Thereby, a failing country will be penalised through its overall sustainability score.

NUCLEAR WEAPONS

DPAM’s Nuclear Weapons exclusion policy distinguishes between companies which are directly involved and indirectly involved in nuclear weapons related activities.

We consider companies to be directly involved when they engage in the **development, testing, production, manufacturing, maintenance, sale or trading of nuclear weapons-related technology, parts, products or services.** Their involvement can occur through the weapon system as a whole, through “critical components”, or through delivery systems / delivery platforms. In order to be considered as “**critical components**” of nuclear arms, two conditions must be met simultaneously:

1. the component must be a key element of the fully-fledged weapon system, i.e. it must play a “**relevant role**” in the weapons system (we apply the same principle as for legally-excluded controversial armament);
2. and it must have been **designed specifically** to be integrated into a fully-fledged nuclear weapon system. In other words, we do not exclude companies providing so called dual-use components or dual-use services.

In accordance with the “critical component” criterion, delivery systems / delivery platforms are excluded from our investment portfolios when the delivery systems / platforms are specifically designed or modified to be used with a Nuclear Weapon. For example, an artillery system modified specifically (may it be its hardware or software) to shoot a nuclear ammunition would be considered a Nuclear Weapons system. On the contrary, an artillery system which was not initially designed and was not specifically modified to deliver a nuclear warhead would not be considered a Nuclear Weapons system.

Moreover, DPAM’s exclusion policy of nuclear weapons is based on the following principles:

- We exclude whole companies not only nuclear weapons related projects;
- We exclude companies associated with nuclear weapons including through joint ventures;
- We exclude companies regardless of their country of origin;
- We exclude companies regardless of their country of operation;
- We apply DPAM’s Nuclear Weapons policy to all markets;
- We apply DPAM’s Nuclear Weapons policy to all existing and future investments.

For Sustainable strategies (actively-managed and index), DPAM excludes all companies which are **directly involved** in nuclear weapons from a 5% revenue exposure threshold. In other words, all companies deriving 5% or more of their consolidated revenues are excluded from all DPAM sustainable strategies

By **indirect involvement** we mean companies which are involved in nuclear weapons through their shareholding and financing. For sustainable strategies, we have defined a 10% tolerance threshold for an equity or credit stake in companies which are directly involved in nuclear weapons. Beyond this critical threshold the company is considered to be indirectly involved in nuclear weapons and it is excluded from all sustainable strategies. In other words, companies owning an Equity or Credit stake above 10% in a company directly involved in nuclear weapons are excluded from all DPAM sustainable strategies (actively-managed or index).

DPAM exclusion on NUCLEAR WEAPONS	EXCLUSION THRESHOLDS
For Sustainable strategies: actively-managed and index	**Nuclear Weapons**: • Directly-Involved companies: **from a 5% exposure** → exclusion; • Indirectly-Involved companies **from a 10% equity stake or credit stake** → Exclusion.

OTHER ARMAMENTS

In addition to its exclusion on anti-personnel landmines (APL), cluster munitions (CM), and depleted uranium munitions & armours (DPU), DPAM excludes from both its actively-managed sustainable strategies and its index sustainable strategies all companies involved in **Biological and Chemical weapons**. This exclusion applies as soon as a company derives any revenues from activities related to Biological or Chemical weapons.

DPAM also excludes conventional armaments from its actively-managed sustainable strategies. In effect, DPAM excludes **the whole Defence and Aerospace sector** (based on the MSCI-GICS typology) as well as all companies deriving **5%** or more of their revenues from **conventional armaments**.

Moreover, DPAM excludes from its actively-managed sustainable strategies all **civilian firearms and civilian ammunitions**, from a **5%** revenue exposure threshold.

With respect to Degroof Petercam Asset Management sustainable index strategies, in addition to the exclusion of anti-personnel landmines (APL), cluster munitions (CM), depleted uranium munitions & armours (DPU), **biological weapons and chemical weapons**, are also excluded all companies deriving any direct revenues from blinding lasers, non-detectable fragments or incendiary weapons (in line with MSCI SRI index methodology).

Degroof Petercam Asset Management sustainable index strategies also exclude all companies deriving at least 5% of their revenues from the production of **conventional weapons**, as well as all companies deriving at least 15% of their revenues from components, parts or support systems and services (in line with MSCI SRI index methodology).

Moreover, Degroof Petercam Asset Management sustainable index strategies exclude all producers of **civilian firearms & ammunitions** (any revenue exposure), and all distributors and retailers of civilian firearms and ammunitions from a 5% revenue exposure threshold weapons (in line with MSCI SRI Index methodology).

DPAM exclusion of OTHER ARMAMENTS	EXCLUSION THRESHOLDS
For actively-managed sustainable strategies:	**Biological & Chemical weapons**: • **Any direct revenue exposure** leads to exclusion; **Aerospace & defence sector**: • Exclusion of **the whole sector** based on MSCI-GICS typology; **Conventional armaments**: • All companies from a **5%** revenues exposure threshold → exclusion **Civilian firearms & ammunitions**: • All companies from a **5%** revenues exposure threshold → exclusion

DPAM exclusion of OTHER ARMAMENTS	EXCLUSION THRESHOLDS
For index sustainable strategies	**Biological & Chemical weapons**: • **Any direct revenue exposure** leads to exclusion; **Blinding lasers, non-detectable fragments and incendiary weapons**: • **Any direct revenue exposure** leads to exclusion; **Conventional armaments**: **-Producers**: • Producers from a **5%** revenues exposure threshold → exclusion; **-Suppliers:** • Revenue exposure **≥ 15%** → exclusion; **Civilian firearms and ammunitions**: **-Producers**: • **Any direct revenue exposure** leads to exclusion; **-Distributors and retailers:** • Revenue exposure **≥ 5%** → exclusion.

TOBACCO

Tobacco is first and foremost a controversial topic because of the massive adverse effect its consumption has on human health. Tobacco use is the World's third cause of death, and a risk factor in six of the eight leading causes of death, Worldwide. According to the WHO, tobacco kills more than 7 million people each year, both as a result of direct tobacco use and through indirect exposure of non-smokers. More than 1.1 billion persons are smoking, 80% of who are living in low- and middle-income countries. Statistically, tobacco kills up to half of its users[3].

Besides, the premature deaths caused by tobacco consumption are a significant contributor to poverty and social difficulties for the affected families, particularly in low- and middle-income

[3] https://www.who.int/news-room/fact-sheets/detail/tobacco

countries. Tobacco is also a significant drain on national health budgets[4]. Moreover, tobacco farming also impacts negatively the health of workers through the "green tobacco sickness", which is caused by the nicotine that is absorbed through the skin from the handling of wet tobacco leaves. Furthermore, the land used for tobacco cultivation can be used for some specific food farming (notably vegetables, garlic and asparagus[5]), which would help curbing food scarcity.

Overall, there are very few if any societal or environmental benefit to the cultivation of tobacco, while its consumption and its production entail some massive detrimental effects on human health as well as on economic development and the mitigation of poverty. For these reasons, DPAM has taken the decision to exclude tobacco producers, as well as the whole tobacco supply-chain from its actively-managed Sustainable strategies. In practice, DPAM excludes all producers of tobacco from a 5% revenues exposure, and all suppliers, distributors and retailers of tobacco from a 15% revenue exposure. These thresholds apply to actively-managed strategies.

With regard to DPAM's sustainable index strategies, all tobacco producers are excluded (any direct revenues), as well as all companies deriving 5% or more aggregate revenue from the production, distribution, retail and supply of tobacco-related products (in line with MSCI SRI index methodology).

DPAM EXCLUSION ON TOBACCO	EXCLUSION THRESHOLDS:
For actively-managed sustainable strategies	**Producers**: • Revenue exposure **≥ 5%** → exclusion **Suppliers, distributors and retailers:** • Revenue exposure ≥ **15%** → exclusion
For index sustainable strategies	**Producers**: • **Any direct revenue exposure** leads to exclusion **Suppliers, distributors and retailers:** • Revenue exposure **≥ 5%** → exclusion

[4] http://documents.worldbank.org/curated/en/914041468176678949/pdf/multi-page.pdf
[5] http://www.fao.org/docrep/006/y4997e/y4997e03.htm

GAMBLING

Gambling is targeted by regulation in many countries, either fully banning it (e.g. Japan or in Poland), or limiting the availability of gambling games notably to protect vulnerable players, or ensuring that the odds in gaming devices are statistically random. Gambling is considered a controversial activity mostly because of addiction issues, and the associated risk of personal bankruptcy. Gambling addiction is recognised as a mental condition by the World Health Organisation since 1982.

DPAM systematically excludes from its actively-managed sustainable strategies all companies exposed to gambling products and services from a 10% revenue exposure threshold. For companies exposed between 5% and 10% of their revenues, exclusions can be applied following a review of the overall ESG profile of the company (i.e. we also review its positive contributions to sustainability, as well as its negative impacts, and a decision if taken in Responsible Investment Steering Group committee).

Concerning DPAM sustainable index strategies, all companies deriving 15% or more aggregate revenue from gambling-related business activities are excluded. In addition to that, are also excluded all companies deriving 5% or more revenue from ownership of operation of gambling-related business activities, such as casinos (in line with MSCI SRI Index methodology).

DPAM EXCLUSION ON GAMBLING	EXCLUSION THRESHOLDS:
For actively-managed sustainable strategies	**All companies**: • Revenue exposure **≥ 10%** → systematic exclusion • Revenue exposure **≥ 5%** → analysis possibly leading to exclusion
For index sustainable strategies	**All companies**: • Direct revenue exposure from gambling-related activities **≥ 15%** → systematic exclusion • Indirect revenue exposure from ownership of gambling-related businesses (casinos) **≥ 5%** → systematic exclusion

ADULT ENTERTAINMENT / PORNOGRAPHY

The adult entertainment / pornography industry is widely criticized firstly for the suspected adverse effect it has on the society in general (regressive and stereotypical image of genders, dreaded impact on human psychology, etc.). It is also denounced for inherently attempting against human dignity, for its deplorable labour conditions and for contributing to spread communicable diseases. Adult entertainment is considered a sin by most of the main religious groups in the World (Christianity, Islam and Judaism). Considering the religious origins of sustainable and ethical investing, it is not surprising that adult entertainment was excluded by many sustainable strategies since the origin of sustainable finance. Nowadays, adult entertainment exclusion is the 5th most common excluded activity within the European SRI industry, with more than a third of sustainable strategies excluding it[6].

Looking at the companies involved, it appears that the adult entertainment / pornography industry is a privately-owned industry, with a very limited number of publicly-listed producers, if any.

Adult entertainment / pornography is banned by law in many countries in the World (in most of Africa, the Middle-East, East-Asia and Southeast Asia). It is also subject to regulation in India, Australia, Russia, South-Africa and in the UK. In most Western countries, it is not targeted by any sector-specific regulation. In these countries (including Belgium), only to the most extreme forms of pornography, which are considered to be scandalous and as vices, are generally outlawed under Penal Codes.

DPAM is sceptical that this economic sector would be contributing positively to the long-term sustainable development of populations. DPAM also believes that there is a significant risk that the adult entertainment / pornography industry indirectly fails to comply with human rights principles, both because of labour practices (notably the risk of human exploitation) and because of its societal impact on consumers. For these reasons, DPAM has decided to exclude the adult entertainment / pornography sector from its specific Sustainable strategies.

For its actively-managed sustainable strategies, DPAM excludes systematically all companies deriving 10% or more of their consolidated revenues from adult-entertainment / pornography-related activities.

With respect to DPAM's index sustainable strategies, all companies deriving 5% or more revenue from the production of adult entertainment materials are excluded. All companies deriving at least 15% revenue from the production, distribution and retailing of adult entertainment materials are also excluded (in line with MSCI SRI Index methodology).

DPAM EXCLUSION ON ADULT ENTERTAINMENT / PORNOGRAPHY	EXCLUSION THRESHOLDS:
For actively-managed sustainable strategies	**All companies**: • Revenue exposure ≥ **10%** → systematic exclusion • Revenue exposure ≥ **5%** → analysis possibly leading to exclusion
For index sustainable strategies	**Producers**: • Revenue exposure ≥ **5%** → exclusion **Suppliers, distributors and retailers:** • Revenue exposure ≥ **15%** → exclusion

[6] http://www.eurosif.org/wp-content/uploads/2018/11/European-SRI-2018-Study-LR.pdf

ALCOHOL

In many parts of the world, drinking alcoholic beverages is a common feature of social gatherings. Nevertheless, the consumption of alcohol carries a risk of adverse health and social consequences related to its intoxicating, toxic and dependence-producing properties. In addition to the chronic diseases that affect so called-heavy drinkers, alcohol use is also associated with an increased risk of acute health conditions, such as injuries, including from traffic accidents. Also, beyond health consequences, the harmful use of alcohol brings significant social and economic losses to individuals and society at large.

Overall, the damages caused by the excessive consumption of alcohol on individuals, families and the society as a whole, justifies that we question whether we should either:

- divest from alcohol exposed companies;
- and / or require alcohol exposed companies to take actions with a view to prevent the problematic consumption of alcohol.

Following an in-depth analysis of the matter, DPAM draws the following conclusions:

- The negative health and societal impact of Alcohol consumption derives from the **improper consumption** of Alcoholic beverages, both in terms of the quantity consumed (excessive drinking), and in terms of who is consuming it (underage consumers, pregnant women, drinking and driving). Apart from these specific cases, a moderate consumption of alcohol carries a more limited health risk. In other words, the key factor that determines whether someone’s consumption leads to a significant health risk is the consumption pattern. Therefore, a relevant approach is to verify whether alcohol companies are actually encouraging the improper consumption of alcohol, or not.
- The negative health and societal impact of Alcohol consumption cannot be easily traced back to one category of alcoholic beverage, or even to beverages with higher alcoholic content. As a matter of fact, alcoholic beverages with comparably lower alcoholic contents such as beers are typically consumed in larger quantities than beverages with higher alcoholic contents such as liqueurs, resulting in an equally high amount of alcoholic units ingested by the consumer. In other words, excessive drinking is possible and actually occurs through the consumption of beverages with relatively low alcohol-content (such as beer, wine and ciders).

On the basis of these observations, DPAM updated its exclusion approach with a view to:

1. targets the improper consumption of alcohol and aims at identifying the responsibility of companies in it;
2. make no distinction on the basis of the nature of the alcoholic beverage (alcohol content, price range, etc.).

In practice, companies are considered to bear a share of responsibility in the improper consumption of alcohol (i.e. in the occurrence of alcoholism) when their **marketing and commercial practices** effectively encourage the consumption of alcohol either by consumers who should not drink at all (juveniles, pregnant women, drivers), or when their efforts to discourage excessive drinking are deemed insufficient. Therefore, we require all companies involved in the production of alcoholic beverages (from 10% or more of their consolidated revenues), to put in place a **Responsible Policy**. This Responsible Policy must include both explicit commitments as well as some tangible and effective sets of actions and practices, covering each of the four issues below (which are responsible for most of the health impact):

- **underage drinking**
- **drinking by pregnant women**
- **drinking and driving vehicles**
- **the excessive consumption of alcohol** (intoxication).

Further, DPAM will **engage with the companies** involved in alcohol production, so as to gather as much information as possible and give the companies the possibility to express their point of view and provide complementary information. In addition to that, DPAM will review whether these alcohol producers are involved in **controversies related to their marketing and commercial practices**. This approach enables DPAM to differentiate among on the one hand the responsible companies which take concrete and tangible measures to discourage improper drinking (and which are not excluded) and on the other hand the alcohol companies which fail to live-up to their responsibilities (and are excluded from actively managed Sustainable strategies).

Regarding DPAM's sustainable index strategies, all companies deriving 5% or more revenue from the production of alcohol beverages are excluded. All companies deriving 15% or more revenue from the production, distribution, retail and supply of alcohol beverages are also excluded (in line with MSCI SRI Index methodology).

DPAM EXCLUSION ON ALCOHOL	EXCLUSION THRESHOLDS:
For actively-managed sustainable strategies	**Producers**: • Revenue exposure ≥ **10%** without a *Responsible Policy (see above for detailed requirements)* → exclusion **Suppliers, distributors and retailers:** • no exclusion
For index sustainable strategies	**Producers**: • Revenue exposure ≥ **5%** → exclusion **Suppliers, distributors and retailers:** • Revenue exposure ≥ **15%** → exclusion

THERMAL COAL EXTRACTION

In the light of climate change and the Paris Agreement, DPAM acknowledges the incompatibility of continuous thermal coal use with a sustainable future. Generating electricity from coal is particularly carbon intensive, and given that approximately 39% of the global electricity supply is still generated from coal[7], the total negative contribution of coal power plants to global warming is very significant (coal power generation currently accounts for more than 40% of carbon gas emissions Worldwide). As a matter of fact, complying with a 2 degrees scenario (and even more with a 1.5 degrees scenario), which is necessary to keep control over global warming, would require to completely phase-out all coal power generation, worldwide by 2050 the latest. Given the unfavorable evolution of global greenhouse gases emissions over the last years, it is likely that we actually need to completely phase-out coal even earlier[8]. So, as the former head of the International Energy Agency colloquially stated: “Nothing is worst for the climate than burning coal”[9].

In addition to that, coal power generation is also a major cause of atmospheric pollution, as coal power-plants release mercury, lead, sulfur dioxide, nitrogen oxides, particulates, and various other heavy metals.

As a result, investments in thermal coal related assets are the subject of increased societal concern, pertaining to its environmental and health impacts and high mitigation and adaptation costs. Overall, the future of thermal coal is being increasingly jeopardized by future climate policies, technological developments, consumer trends, geopolitics, and the evolution of global energy markets. Consequently, thermal coal assets could likely become prone to stranded asset risk. As such, it is in the interest of investors with a medium- to long-term investment horizon to include the stranded assets factor in their risk assessment. In order to take these risks into account into the investment process and to advocate for a timely energy transition that is aligned with policy targets, DPAM has decided to repulse investments in thermal coal assets for all its sustainable investment funds. Meanwhile, for all actively-managed funds across DPAM, potential investments in thermal coal assets will be subject to a monitoring and evaluation process which assesses the relevant risk factors.

For sustainable strategies, the following thresholds will be applied: companies deriving more than 10% of their revenues from thermal coal extraction, or companies which have expansion plans for thermal coal extraction are not eligible for investment.

For DPAM’s sustainable index strategies, all companies deriving at least 30% of their revenues from the mining of thermal coal are excluded (in line with MSCI SRI Index methodology).

This document also includes a section on power generation, which also covers investment in companies involved in Coal-Power generation. This section can be consulted here.

[7] https://www.iea.org/publications/freepublications/publication/KeyWorld2017.pdf
[8] https://www.nytimes.com/interactive/2018/12/07/climate/world-emissions-paris-goals-not-on-track.html
[9] https://www.reuters.com/article/us-usa-climatechange/nothing-is-worse-for-climate-than-burning-coal-ex-u-s-epa-chief-idUSKCN1MJ19Y

DPAM EXCLUSION ON THERMAL COAL EXTRACTION	EXCLUSION THRESHOLDS:
For actively-managed sustainable strategies	**All companies**: • Revenue exposure from thermal coal extraction **> 10%** → exclusion • With **expansion plans** for thermal coal extraction → exclusion
For index sustainable strategies	**All companies**: • Revenue exposure from thermal coal extraction **≥ 30%** → exclusion

UNCONVENTIONAL OIL & GAS EXTRACTION: SHALE GAS, OIL SANDS, SHALE OIL and ARCTIC DRILLING

Shale gas, oil sands, Shale oil and Arctic drilling are considered controversial activities mostly because of their significant environmental impact. Yet, the exploitation of such unconventional fossil fuels developed very quickly during the 2000' decade, mostly in the USA and in Canada, respectively. The exploitation of these unconventional fossil fuels has had a significant macroeconomic impact at national level in both countries and it is a paradigm shift with regard to these countries energy supply. In order to clarify what are the advantages and disadvantages of unconventional fossil-fuels, DPAM invited In June 2013 a renowned professor of geology from the *Université Libre de Bruxelles*. His presentation gave us the opportunity to better understand the environmental consequences of shale gas.

In the specific case of shale gas, and shale oil, the negative environmental impact mostly originates from the consumption of water used to fracture the rocks ("fracking") and from the use of chemical additives which are injected into the ground. While some environmental risks exist, the RI corner presentation showed that they must be taken into perspective. Although in absolute terms water use may be significant, the sector is steadily improving its water-efficiency. The use of chemical additives remains limited and there are little risks of spill-over effect into aquifers as shale gas is found far below the aquifer level (between 1,200 and 4,000 meters for shale gas compared to 100 to 360 meters for underground water). Moreover, the use of tubing systems allows for a much better control of these risks. In this way, the various environmental risks coming with shale gas and shale oil are being progressively reduced thanks to technological improvements. This underlines the fact that the manner each company is running its operations (i.e. the best-practices, policies and processes) is an important factor to consider when assessing the overall environmental impact of these activities. Accordingly, a pragmatic approach to shale gas and shale oil would then be to distinguish among the better companies and the worse companies, within that sector. In general, it is a fact that poor management of unconventional oil & gas operations can result in a significant environmental impact and it is the duty of responsible investors to divest from these irresponsible players. That is why at DPAM, we both assess companies based on their operational risks, and we engage in dialogue with their management with a view to deepen our knowledge of their practices, process and resulting environmental impact, and to encourage companies' management to embrace the cleanest techniques and practices. This enables us to better estimate the environmental impact of each companies and to distinguish the best players from the more problematic ones.

Yet, the fact remains that the extraction of shale gas, shale oil, and oil sands are energy-intensive activities, which are inherently directed at extracting fossil fuels. As such, shale gas, oil sands and shale oil are increasingly criticized for their direct and indirect contribution to greenhouse gases emissions and ultimately these activities are increasingly considered to be contravening international efforts to mitigate climate change. Overall, the extractions of shale gas, of shale oil, and of oil sands have a higher carbon footprint than conventional oil & gas. Therefore, those unconventional fossil fuels are exposed to a higher carbon risk, as regulation becomes stricter notably within the framework of the mitigation of climate change. As a consequence, the risk of stranded assets is increasingly significant.

With respect to Arctic drilling, the first reason why this activity is considered controversial is the likely negative impact on biodiversity in case of an oil spills. The Arctic environment is harsh on equipment, and the difficult weather conditions increases the risk of oil spills. Then, once an oil spill occurs, the difficult environment and the presence of ice makes it much more difficult from a technical point of view, as well as much more costly, to recover the oil and mitigate the pollution. Moreover, in case the pollution can't be contained, the hostile Arctic conditions make it much harder to clean-up the shores and depollute the ice cap, which worsens the adverse effects of the pollution on the local wildlife. Besides, because of the extreme weather and the short season, all exploration and extraction operations are particularly expensive. Moreover, the exploitation of energy resources in the Arctic regions may simply be incompatible with a +2 degrees or+1.5 degree scenarios. As a consequence, oil & gas assets in the Arctic might also exposed to a higher risk of becoming stranded.

Thus, DPAM has decided that all companies deriving more than 10% of their revenues from unconventional oil & gas extraction (i.e. shale gas, shale oil, oil sands and Arctic drilling) are excluded from all actively-managed sustainable strategies.

DPAM EXCLUSION ON UNCONVENTIONAL OIL & GAS EXTRACTION: Shale gas, Oil sands, Shale oil and Arctic drilling	**EXCLUSION THRESHOLDS:**
For actively-managed sustainable strategies	**All companies**: • Revenue exposure from unconventional oil & gas extraction **> 10%** → exclusion
For index sustainable strategies	-

CONVENTIONAL OIL & GAS EXTRACTION

Conventional oil & gas extraction is a controversial activity due to its negative contribution to climate-change, while at the same time gas is sometimes presented as a complement to renewables for future electricity generation mix. Moreover, the oil & gas sector still plays a significant role in the economy as it is used extensively as raw material input in a large variety of industrial processes.

Nonetheless, in the light of its negative contribution to climate-change, DPAM has decided not to be exposed to conventional oil & gas extraction in its sustainable conviction equity strategies, i.e. DPAM Equities World Sustainable, DPAM Equities Europe Sustainable, DPAM Equities Food Trends Sustainable and DPAM Equities Newgems Sustainable.

With regards to "hard exclusion criteria" applying to its sustainable conviction equity strategies [10], its sustainable multi-asset strategies [11] and its sustainable corporate bonds strategies [12], DPAM has decided to exclude all companies involved in conventional oil & gas extraction unless at least 40% of their actual production volumes comes from natural gas extraction or from renewable energy [13].

In addition, to ensure conventional oil & gas suppliers are on the right transition path, DPAM's portfolio managers, analysts and the Responsible Investment Competence Center (RICC) monitor closely the transition progress of these companies based on the assessment of their business models and strategies. The assessment makes use of indicators such as adequate climate change management, green versus brown revenue split, and the implementation of science-based emissions reduction targets.

Besides active monitoring of these companies, DPAM values the role of constructive engagement. Via collaborative engagement (i.e. Climate Action 100+) and direct engagement with our investee companies, external analysts and data providers, we track the progress of our investee companies towards the required energy transition targets. Conventional oil & gas extraction companies which are not aligned with the 2°C scenario will be subject to thorough ESG analysis possibly supplemented with, direct engagement towards companies' management.

Finally, concerning the sustainability country model, DPAM again favors a pragmatic approach, with a view to identify the countries which are on energy-transition paths, and to divest from the countries which are not positioning themselves to achieve the energy-transition. To do so, DPAM focuses on the speed and scale of renewable energies deployment, as well as on the plans and actual achievements regarding the phasing out of coal, among other indicators.

This document also includes a section on power generation, which also covers investment in companies involved in power-generation from oil & gas. This section can be consulted here.

[10] i.e. DPAM Equities World Sustainable, DPAM Equities Europe Sustainable, DPAM Equities Food Trends Sustainable and DPAM Equities Newgems Sustainable.
[11] i.e. DPAM Sustainable Balanced Low
[12] i.e. DPAM Bonds EUR Quality Sustainable
[13] Alternatively, in case of data unavailability, revenue data or installed capacity can be used.

DPAM EXCLUSION ON CONVENTIONAL OIL & GAS EXTRACTION	EXCLUSION THRESHOLDS:
For actively-managed sustainable strategies	**All companies involved in conventional oil & gas extraction**: • Production volumes natural gas or renewable energy **< 40%** → exclusion • Qualitative climate change assessment • Exceptions: See section ‘Exceptions in the energy and utilities sectors’
For index sustainable strategies	-

ELECTRICITY GENERATION FROM FOSSIL FUELS

As stated above, DPAM fully welcomes and supports the energy transition and calls for the effective mitigation of climate change. To achieve the ambitious target of limiting global warming to +2°C above pre-industrial levels (and preferably to max. +1.5°C), drastic changes are required, in particular concerning the utilities sector. These changes include amongst others the shift of the electricity generation mix towards renewables, the upgrading of the transport & distribution grids, the development of storage solutions to alleviate the intermittent and fluctuating energy supply from renewables, and an overall increased diversification of energy sources, away from fossil fuels. Hence, electric utility companies must align their business models and strategies with this climate-friendly model.

In order to allow companies making the required transition, in line with the Paris Agreement, DPAM prefers not to adopt a binary "hard-exclusion approach", which would mechanically exclude all companies involved in fossil fuel energy production. Rather, DPAM favors the option of assessing whether the transition path of the investee companies aligns with the2°C scenario. To do so, we are using a set of relevant Key Performance Indicators such as: proven emissions reductions, adequate climate change management practices and the implementation of science-based targets.

In its sustainable conviction equity strategies [14], its sustainable multi-asset strategies [15] and its sustainable corporate bonds strategies [16], DPAM has decided to exclude utility companies with exposure to fossil fuel electricity generation if the average carbon intensity of the electricity generation is not in line with the 2°C scenario thresholds. These thresholds, which become stricter every year, are based on the scenario of the International Energy Agency (IEA) as outlined in its 2017 Energy Technology Perspectives report. Figures are offset by 1 year to account for data availability:

	2019	2020	2021	2022	2023	2024	2025
Max. gCO_2/kWh	429	408	393	374	354	335	315

* Source: International Energy Agency (2017). *Energy Technology Perspectives 2017*. Paris: OECD/IEA.

DPAM clearly favors screening power utility companies based on their max carbon emission intensity. Yet, in case carbon emission intensity data are not available, DPAM applies the following exclusion criteria:

- Exclusion of companies deriving more than 10% of their power production from coal;
- Exclusion of companies deriving more than 30% of their power production from oil & gas;
- Exclusion of companies deriving more than 30% of their power production from nuclear sources.

Nonetheless, DPAM favors a pragmatic approach towards these thresholds as it aims to keep the right balance between the need for electricity and the necessity to reduce CO_2 emissions. Since exceptional weather conditions can influence renewable energy production figures, DPAM repulses

[14] i.e. DPAM Equities World Sustainable, DPAM Equities Europe Sustainable, DPAM Equities Food Trends Sustainable and DPAM Equities Newgems Sustainable.
[15] i.e. DPAM Sustainable Balanced Low
[16] i.e. DPAM Bonds EUR Quality Sustainable

to exclude companies solely based on one-year carbon intensity data. For example, during intensive periods of drought, a utilities company's hydropower production can be impacted significantly, requiring an increase in gas-fired power production to meet energy demands. In such cases, DPAM believes it is not pragmatic to hold on to the pre-defined one-year snapshot of the carbon intensity threshold. Rather, we prefer to assess exceptional cases via the use of additional indicators such as a company's business strategy alignment with the Paris Agreement (e.g. based on installed renewable capacity figures or CAPEX in renewables), its carbon intensity track record and the quality of its climate change management.

Besides active monitoring of electric utility companies, DPAM values the role of constructive engagement. Via collaborative engagement (i.e. Climate Action 100+) and direct engagement with our investee companies, external analysts and data providers, we track progress of our investee companies towards the required energy transition targets.

With regard to DPAM's sustainable index strategies, all companies deriving 30% or more of their revenues from thermal coal based power generation are excluded (in line with MSCI SRI Index methodology).

Finally, taking into account that fossil fuels are still largely used in several countries, and given the specific challenges these countries are facing when implementing the energy transition, the sustainability country model focuses on the speed and scale of deployment of renewable energies as well as on the phasing out of coal.

DPAM EXCLUSION ON ELECTRICITY GENERATION FROM FOSSIL FUELS	EXCLUSION THRESHOLDS:
For actively-managed sustainable strategies	**All companies**: • Carbon intensity not aligned with IEA's Energy Technology Perspectives scenario (i.e. below 2°C scenario): → exclusion ↳ In case carbon data is not available: ➢ Companies deriving more than 10% of their power production from coal → exclusion ➢ Companies deriving more than 30% of their power production from oil & gas → exclusion ➢ Companies deriving more than 30% of their power production from nuclear energy → exclusion • Exceptions: See section 'Exceptions in the energy and utilities sectors'
For index sustainable strategies	**All companies**: • Revenue exposure from thermal coal based power generation **≥ 30%** → exclusion

EXCEPTIONS TO THE EXCLUSION RULE ON CONVENTIONAL OIL & GAS EXTRACTION AND ON ELECTRICITY GENERATION: pragmatic, but limited

As mentioned above, in some specific instances, DPAM believes it is preferable to adopt a pragmatic view, and to favor in-depth analysis rather than hard exclusions. The reasoning here is that, in some cases, a smart and agile sustainable investor may not only look at the negatives concerning a company, but should also consider the positives. In other words, we could exceptionally invest in a company which has some positive exposure to a sustainability trend, besides being exposed to a controversial activity. DPAM puts a limit on the use of this exception in its sustainable portfolios. Hence, DPAM's sustainable strategies are allowed to invest a maximum of 5% of their net asset value in:

- Electric utility companies that exceed the IEA's carbon intensity thresholds;
- Electric utility companies constructing additional nuclear-based power production installations;
- Conventional oil & gas extractors with an oil production exceeding 40% of total production [17].

Furthermore, companies can only be eligible for this exception rule if they rank among the top 50% of their peer-group (i.e. a Best-In-Class criterion) based on climate-related indicators such as business strategy alignment with the Paris Agreement (e.g. based on CAPEX in renewables or the setting of a science-based emission reductions target), the quality of climate change management, proven emissions reductions, etc.

DPAM will also monitor closely and engage directly with:

- Electric utility companies which are not aligned with the carbon intensity thresholds (defined above in this document)
- Conventional oil & gas extraction companies which derive less than 40% or 40% of their revenues from natural gas or renewable energy.

DPAM's portfolio managers, fundamental analysts and the Responsible Investment Competence Center (RICC) will monitor closely the progress of these companies toward the energy-transition, by looking at climate-related indicators such as business strategy alignment with the Paris Agreement (e.g. based on CAPEX in renewables or the setting of a science-based emission reductions target), the quality of climate change management, proven emissions reductions, etc.

DPAM doesn't apply the exception rule to electric utility companies constructing additional coal-power plants. Companies involved in the construction of new coal- power generation capacities are excluded from the investable universe of all sustainable strategies [18].

[17] The 5% threshold is a combined figure for all 3 exceptions.

[18] The divestment process applies the same rules as in the case of non-compliances with the sustainability investment process, meaning a divestment period of one quarter is applied (following the quarter in which the breach was identified).

NUCLEAR ENERGY

The role of nuclear energy within the global energy supply is a widely debated topic, both from an economic perspective as well as from an environmental and safety perspective. But one can also challenge its sustainable character. To what extent does nuclear energy fit within our view on sustainable development? Can we consider nuclear energy as "green"? Do the climate-change benefits outweigh safety concerns and the waste issue? And importantly, do we really need nuclear energy in our future energy mix?

Nuclear energy is controversial, but plays an important role in (future) global energy supply

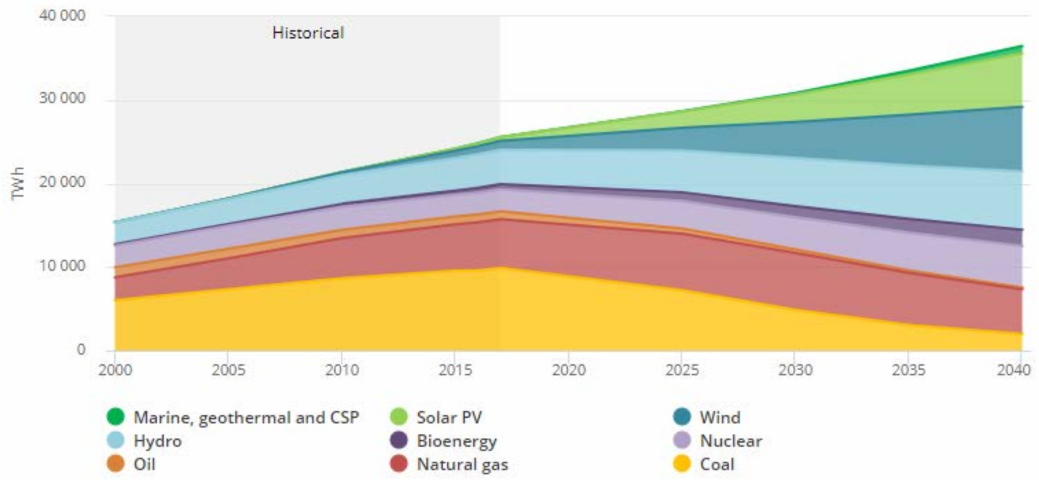
Nuclear energy can be considered controversial mostly due to its safety concerns, its environmental impact (i.e. nuclear waste) and because of their significant economic cost (i.e. initial investment, cost of decommissioning[19] and storage costs). The safety aspects are probably the main opposing factor against the development of Nuclear Power. Incidents affecting Nuclear Power Plants (NPPs) such as in the case of the Chernobyl and Fukushima Daiichi disasters can release large amount of ionizing radiation causing a potentially catastrophic impact on populations' health, over very large areas and for very long periods of time. Taking these risks into consideration, several governments took decisions to phase-out fully (e.g. Austria and Italy) or gradually (e.g. Germany, Switzerland) all Nuclear Reactors on their territory. Divestment from Nuclear Power also gained traction among some asset managers, and in 2018, Nuclear Power was the sixth most commonly excluded activity within the European Sustainable Investment industry[20]. Hence, utility companies with nuclear power assets are often excluded from sustainable investment portfolios. But nuclear power can play an important role in successfully mitigating global warming and preserving ourselves from geopolitical issues related to fossil fuel supplies. A variety of arguments can support this view:

1. From a pure climate change perspective, nuclear energy can be considered an interesting option as it is **one of the least carbon-intensive sources of electricity**. According to the International Energy Agency (IEA), the World's approximately 450 existing nuclear power plants, providing 11% of the global energy supply, prevent the emission of about 1.3 to 2.6 billion tons of carbon dioxide, annually [21]. Decommissioning these plants would significantly increase the required efforts towards a low-carbon economy, not to say making it unachievable. Hence, the Climate Bond Initiative categorizes nuclear power plants as 'automatically compatible with a 2-degree decarbonization trajectory'.
2. According to the IEA's 2015 Technology Roadmap, by 2050, 930 GW of gross nuclear capacity will be globally needed to **meet** the expected **energy needs** and to **achieve** the ambitious carbon emission **reduction targets** as agreed in the aftermath of COP21 (assuming over 80% of generated electricity will need to be low carbon by 2050). This means that the current installed Nuclear Power generation capacity must more than double by 2050. Although the required share of nuclear energy in the future energy mix varies from one scenario to another, each of

[19] Decommissioning of a nuclear power plant is the dismantlement to the point that it no longer requires measures for radiation protection.
[20] Eurosif European SRI study 2018: http://www.eurosif.org/wp-content/uploads/2018/11/European-SRI-2018-Study-LR.pdf
[21] The annually prevented emissions are estimated assuming the replacement of gas- or coal-powered plants, respectively.

the most widely accepted scenarios includes a share of nuclear power (e.g. IEA SDS, IEA WEO 450, IEA New Policies, ETP 2DS, Deep Decarbonization Pathways Project, IRENA REmap)[22].

IEA Sustainable Development Scenario (SDS) - World electricity generation by technology



Source: International Energy Agency, 2018

3. Nuclear power is an **economically rational option** for governments to play in the perspective of the energy transition. In a recently published study by the MIT Energy Initiative, the authors state that the cost of achieving deep decarbonization targets increases significantly when nuclear energy is excluded from the global energy mix. This puts into perspective the significant initial investments that were required to build NPPs [23].

4. Nuclear energy provides a **reliable, stable** base load of energy, which is required for the stability of the electricity grid[24]. Renewables are intermittent, fluctuating energy suppliers (e.g. variation in wind speed and solar exposure) which generally cannot provide base load power supply on a constant basis (and even less the peaks in energy demand). In addition, current grid infrastructures are already encountering difficulties accommodating intermittent renewables. Furthermore, current energy storage solutions are not yet sufficient to tackle this supply issue. For these reasons, nuclear energy as a reliable source of base load energy supply still cannot be ruled out. Opponents to nuclear energy often suggest that gas-powered plants are an alternative since they can function as a backup source to smooth-out the intermittent power generation from renewables[25], and as gas power-plants ramp up more easily (i.e. function as flexible, quickly dispatchable power sources). However, as the name-plate (installed) renewable-power generation capacity is currently relatively low (e.g. 20-40% for wind

[22] WEO : World Energy Outlook;
ETP 2DS : Energy Technology Perspectives 2 degrees scenario;
IRENA Remap: International Renewable Energy Agency Renewable Energy Roadmap.

[23] MIT Energy Initiative (2018). *The Future of Nuclear Energy in a Carbon-Constrained World: an interdisciplinary MIT Study* (report No. 9). Massachusetts: MIT Energy Initiative.

[24] "Electrical energy from the grid is produced and consumed simultaneously and there can be no mismatch if grid stability and frequency is to be maintained within strict tolerances" (Brook et al. (2014)). Otherwise, to allow a supply-demand balance, grid infrastructure needs to upgrade significantly in the short run.

[25] The use of nuclear energy as backup power for intermittent energy sources is (currently) economically not viable.

energy [26]), backup power plants need to be able to provide up to 60-80% of the energy. This means the gas-powered plants would temporarily function as the main supplier of energy and renewables only act as some sort of 'fuel-savers'. In addition, looking at the whole supply-chain of gas power-plants, methane leakages during gas transportation can contribute significantly to global warming, knowing that methane has global warming potential which is 28 times higher than the one of carbon dioxide. From a climate change perspective, the greenhouse gas emissions induced by a large scale reliance on gas power-plants would simply be incompatible with the required target of limiting global warming to 1.5°C above pre-industrial levels. Hence, nuclear power is the only energy source combining an **emissions free** and **reliable (i.e. base load) character**, making it central in the envisioned energy transition (at least as a transitional technology to make the jump within the next 10 to 20 years awaiting technological innovation and increased renewable capacity). We believe **diversification** among energy sources is key to facilitate the transition and secure future low-carbon energy supply, by delivering sufficient base load and back-up, while integrating a high proportion of renewables and renewable energy storage solutions.

5. NPPs have a **limited spatial footprint**. Compared to a wind farms or solar photovoltaic power plants, nuclear power plants occupy significantly less space. Bearing in mind the challenges concerning land use for agricultural or ecological purposes, this arguments favors nuclear over renewables. However, as stated above, diversification in the future energy mix is still key.
6. The most recent Nuclear Power Plants (NPP) deliver a higher level of safety and a higher efficiency, which helps reducing waste generation. But at the moment, the prospects for new NPPs are limited as the **economics** of **renewables** are becoming **increasingly attractive**.

Although the International Renewable Energy Agency does not support nuclear energy programs, the reasoning behind it has nothing to do with the stable supply of energy, but it is rather due to the complexity of the technology, to the safety risks, and to the nuclear wastes issue. However, innovation is on the rise. Technological developments in nuclear energy create significant **opportunities** for our future energy supply. Innovation is growing rapidly with a goal to make NPPs cleaner, safer and more cost efficient. Amongst others, R&D projects are developing alternative waste disposal and recycling methods, inherently safer reactors designed around passive safety systems, reactors with reduced waste generation through pyro-processing, fast reactors that require less uranium and reactors with alternative cost models. On the long term, nuclear fusion should bypass the main downsides of nuclear fission: nuclear waste and the risk of a reactor meltdown. Hence, governmental policies that rule-out nuclear energy are likely to hamper developments in nuclear technology which might consecutively slow down the required decarbonisation of the power generation sector.

[26] The name-plate production capacity of 20-40% for wind energy was calculated over the course of a year for German wind energy by the Union for the Coordination of the Transmission of Electricity (UCTE). (Source: Brook et al. (2014). Why nuclear energy is sustainable and has to be part of the energy mix. *Sustainable Materials and Technologies*, *1-2*, 8-16).

DPAM's point of view

We believe that nuclear power plays a **temporary role** in the electricity mix of utility companies with a view to (1) allow a rapid shift towards a low carbon energy supply and tackle global while meeting our existing and future energy needs and (2) awaiting technological development in the fields of renewables (i.e. energy storage and increased installed capacity to cover base load issues) and nuclear power (i.e. safer, cleaner nuclear energy and nuclear fusion).

Furthermore, we firmly believe that the share of existing, traditional nuclear plants, - which are the foundation of the controversial nature of nuclear energy -, will decrease over time due to a variety of reasons. Firstly, a large proportion of the existing nuclear reactors in Europe are reaching the end of their lifetime. Prolonging the operation of those plants would require extensive safety works and in many cases will not even be allowed by national regulators. Moreover, many of the key nuclear power countries are already decommissioning traditional nuclear power plants or have committed to do so due to financial or safety concerns. Secondly, renewables and cheap gas are heavily challenging the economics of nuclear power in many countries and without innovations, nuclear power could become unprofitable. Lastly, nuclear fusion can become a reality within the next decades, replacing nuclear fission.

Nonetheless, DPAM has decided not to be exposed to nuclear power generation in its sustainable conviction equity strategies i.e. DPAM Equities World Sustainable, DPAM Equities Europe Sustainable, DPAM Equities Food Trends Sustainable and DPAM Equities NewGems Sustainable if the share of nuclear power in the total installed production capacity of the considered company exceeds a 10% threshold [27]. To ensure utility companies that are eligible for the sustainable conviction equity strategies are on the right transition path, DPAM's PMs, analysts and Responsible Investment Competence Center will assess and monitor closely the transition progress of companies with a nuclear power capacity exceeding a 5% threshold (of the total installed production capacity). Additionally, material ESG indicators like the average age of the nuclear fleet will be closely monitored in order to sufficiently mitigate additional risks and hence steer investment decisions. Compliance with national and international laws and conventions in their operating countries are considered self-evident as an ESG investment criteria.

In the sustainable benchmarked strategies, and particularly in corporate bonds and multi-asset strategies, based on the arguments as mentioned above, DPAM has decided not to exclude companies that operate nuclear power plants or sell nuclear energy, nor to exclude those companies that manufacture or sell specific components for the purposes of generating nuclear energy. Hence, through exposure to the utility sector, the portfolios can be exposed to nuclear power. To ensure utility companies are on the right transition path, DPAM's PMs, analysts and Responsible Investment Competence Center monitor the transition progress of these companies closely as well as several material ESG indicators associated with nuclear power plants (e.g. safety-related indicators such the average age of the nuclear fleet, safety policies and programs, safety track record, etc.).

Besides active monitoring of these companies, DPAM values the role of constructive engagement. By means of direct engagement with the investee companies, external analysts and sector experts, we

[27] Note: for companies with a diversified business mix (i.e. power generation and other products and/or services), the share of power generation in the total EBITDA will be considered when assessing the eligibility of the company versus the 10% nuclear capacity threshold.

track progress of our investee companies towards the required energy transition targets and monitor material ESG risks associated with nuclear power plants.

Finally, concerning DPAM's Sustainable strategies invested in sovereign debt: taking into account that nuclear energy is still largely used in several countries, and given the challenges associated to the energy transition and to the phasing-out of nuclear energy, the sustainability country model will continue analyzing countries' energy transition policy and performance based on the speed and on the scale of renewable energies deployment, as well as on the phasing out of coal.

For DPAM's sustainable index strategies, all companies deriving 15% or more aggregate revenue from nuclear power activities are excluded. Are also excluded all companies which are either generating 5% or more of their total electricity from nuclear power in a given year, or which have 5% or more of installed capacity attributed to nuclear sources in a given year (in line with MSCI SRI index methodology).

This document also includes a section on power generation, which also covers investment in companies involved in Nuclear-Power generation. This section can be consulted here.

DPAM EXCLUSION ON NUCLEAR ENERGY	EXCLUSION THRESHOLDS:
For actively-managed sustainable strategies	**Sustainable conviction equity strategies**: • Nuclear power capacity in total power capacity **> 10%** → exclusion **Sustainable corporate bonds and multi-asset strategies:** • No exclusion, but monitoring
For index sustainable strategies	**All companies**: • Revenue exposure from Nuclear Energy **≥ 15%** → exclusion • Share of Nuclear Power in total electricity generation for the year **≥ 5%** → exclusion • Share of Nuclear Power in total electricity generation CAPACITY for the year **≥ 5%** → exclusion

SUMMARY TABLE OF THE EXCLUSION APPLYING TO SUSTAINABLE STRATEGIES

EXCLUSIONS APPLYING TO SUSTAINABLE STRATEGIES:	EXCLUSION THRESHOLDS
Anti-personnel landmines (APL), cluster munitions (AM), and depleted uranium munitions & armours (DPU)	Exclusion from actively-managed sustainable strategies and from index sustainable strategies of all companies involved in Anti-personnel landmines (APL), cluster munitions (AM), and depleted uranium munitions & armours (DPU): • **Any direct revenue exposure** leads to exclusion
Nuclear Weapons	Exclusion from actively-managed sustainable strategies and from index sustainable strategies of: -Directly-Involved companies: • Revenue exposure **≥ 5%** → exclusion -Indirectly-Involved companies • Equity stake or credit stake **≥ 10%** → exclusion
Other armaments	Exclusion from actively-managed sustainable strategies and from index sustainable strategies of all companies involved in **Biological weapons or Chemical weapons**: • **Any direct revenue exposure** leads to exclusion Exclusion from actively-managed sustainable strategies of **the Defence & aerospace sector**: • Based on MSCI-GICS typology Exclusion from actively-managed sustainable strategies of **Conventional Armaments**: • All companies from a **5%** revenues exposure threshold → exclusion Exclusion from actively-managed sustainable strategies of **Civilian firearms & ammunitions**: • All companies from a **5%** revenues exposure threshold → exclusion Exclusion from index sustainable strategies of all companies involved in **blinding lasers, non-detectable fragments and incendiary weapons**: • **Any direct revenue exposure** leads to exclusion Exclusion from index sustainable strategies of all companies involved in **Conventional armaments**: • Producers from a **5%** revenues exposure threshold → exclusion; • Suppliers from a **15%** revenues exposure threshold → exclusion; Exclusion from index sustainable strategies of all companies involved in **Civilian firearms & ammunitions**: • Producers: **any direct revenue exposure** → exclusion; • Distributors & retailers: From **5%** revenues exposure threshold → exclusion.

EXCLUSIONS APPLYING TO SUSTAINABLE STRATEGIES:	EXCLUSION THRESHOLDS
Tobacco	Exclusion from actively-managed sustainable strategies of: -Producers: • Revenue exposure **≥ 5%** → exclusion -Suppliers, distributors and retailers: • Revenue exposure **≥ 15%** → exclusion Exclusion from index sustainable strategies of: -Producers: • **Any direct revenue exposure** leads to exclusion -Suppliers, distributors and retailers: • Revenue exposure **≥ 5%** → exclusion
Gambling	Exclusion from actively-managed sustainable strategies of all companies: • Revenue exposure **≥ 10%** → systematic exclusion • Revenue exposure **≥ 5%** → analysis possibly leading to exclusion Exclusion from index sustainable strategies of all companies: • Direct revenue exposure from gambling-related activities **≥ 15%** → systematic exclusion • Indirect revenue exposure from ownership of gambling-related businesses **≥ 5%** → systematic exclusion
Adult entertainment / Pornography	Exclusion from actively-managed sustainable strategies of all companies: • Revenue exposure **≥ 10%** → systematic exclusion • Revenue exposure **≥ 5%** → analysis possibly leading to exclusion Exclusion from index sustainable strategies of: -Producers: • Revenue exposure **≥ 5%** → exclusion -Suppliers, distributors and retailers: • Revenue exposure **≥ 15%** → exclusion

EXCLUSIONS APPLYING TO SUSTAINABLE STRATEGIES:	EXCLUSION THRESHOLDS
Alcohol	Exclusion from actively-managed sustainable strategies of: -Producers: • Revenue exposure **≥ 10%** without a *Responsible Policy* (see above for detailed requirements)→ exclusion -Suppliers, distributors and retailers: • no exclusion Exclusion from index sustainable strategies of: -Producers: • Revenue exposure **≥ 5%** → exclusion -Suppliers, distributors and retailers: • Revenue exposure **≥ 15%** → exclusion
Thermal Coal Extraction	Exclusion from actively-managed sustainable strategies of: -All companies: • Revenue exposure from thermal coal extraction **> 10%** → exclusion • With **expansion plans** for thermal coal extraction → exclusion Exclusion from index sustainable strategies of: -All companies: • Revenue exposure from thermal coal extraction **≥ 30%** → exclusion
Unconventional oil & gas extraction: Shale gas, Shale oil, Oil sands and Arctic drilling	Exclusion from actively-managed sustainable strategies of: -All companies: • Revenue exposure from unconventional oil & gas extraction **> 10%** → exclusion Exclusion from index sustainable strategies of: -
Conventional oil & gas extraction	Exclusion from actively-managed sustainable strategies of: -All companies involved in conventional oil & gas extraction: • Production volumes natural gas or renewable energy **< 40%** → exclusion • Qualitative climate change assessment • Exceptions: See section 'Exceptions in the energy and utilities sectors' Exclusion from index sustainable strategies of: -

<table>
<tr><th>EXCLUSIONS APPLYING TO <u>SUSTAINABLE</u> STRATEGIES:</th><th>EXCLUSION THRESHOLDS</th></tr>
<tr><td>Electricity generation from fossil fuels</td><td>Exclusion from <u>actively-managed sustainable strategies</u> of:
-All companies involved in conventional oil & gas extraction:
Carbon intensity not aligned with IEA's Energy Technology Perspectives scenario (i.e. below 2°C scenario):
→ exclusion
In case carbon data is not available:
Companies deriving more than 10% of their power production from coal → exclusion
Companies deriving more than 30% of their power production from oil & gas → exclusion
Companies deriving more than 30% of their power production from nuclear energy → exclusion
Exceptions: See section 'Exceptions in the energy and utilities sectors'
Exclusion from <u>index sustainable strategies</u> of:
- All companies:
Revenue exposure from thermal coal based power generation ≥ 30%
→ exclusion</td></tr>
<tr><td>Nuclear Energy</td><td>Exclusion from <u>Sustainable conviction equity strategies</u> of:
-All companies:
Nuclear power capacity in total power capacity > 10% → exclusion
Exclusion from <u>Sustainable corporate bonds and multi-asset strategies</u> of:
-All companies:
No exclusion, but monitoring
Exclusion from <u>index sustainable strategies</u> of:
- All companies:
Revenue exposure from Nuclear Energy ≥ 15% → exclusion
Share of Nuclear Power in total electricity generation for the year ≥ 5%
→ exclusion
Share of Nuclear Power in total electricity generation CAPACITY for the year ≥ 5% → exclusion</td></tr>
</table>

OTHER CONTROVERSIAL ACTIVITIES AND SUSTAINABILITY ISSUES

DPAM considers it is part of its Fiduciary Duty, to monitor and analyse several contentious sectors and business activities, as well as several controversial corporate practices. Therefore the centre of expertise of DPAM in the domain of sustainable finance (the Responsible Investment Competence Centre) continuously monitors development in the area of sustainable finance, and regularly update the position of DPAM on these contentious topics. In this section, we outline the position of DPAM on several sectors and sustainability topic. At this stage, DPAM generally does not apply any hard-exclusion on these activities and topic for its actively-managed strategies. Yet, its Responsible Investment Competence Centre closely monitors them.

GMOS / BIOTECHNOLOGIES

For our responsible investment strategies, the ethical issues surrounding genetic engineering are also considered. The complexity of the so-called bio-technologies, coupled with the potentially large environmental and healthcare risks, make it difficult to appropriately assess the risks associated with genetic manipulations. This led to public anxiety and suspicion over the subject. The distrust of the public, which is certainly stronger in Europe compared to the United States, is also due to the environmental risks posed by monocultures, as well as by the threats to biodiversity.

However, in the light of the potential impact on food safety and the right to food (accessibility, availability, and suitability), biotechnologies are worth investigating and GMO crops may have a role to play. Reportedly, some of the latest biotechnologies would offer enhancements which reduce their impact on biodiversity. Moreover, given the lack of conclusive evidence on human health risks, it is hard to clearly determine whether biotech will benefit human health and environmental protection, or whether, conversely, biotech will result in further environmental destructions and have an adverse impact on human health. It might not be possible to conclude on a "one answer fits all biotech" approach, at least for now. Therefore, it is DPAM's view that we should not exclude all biotech at this stage, but rather apply a case by case analysis of their risks and benefits.

In order to shed some light on this debate, we invited a professor of bio-engineering and bio-economics from the KU Leuven University to our Responsible Investment corner. He explained to us the scientific and ethical arguments of genetic engineering. He highlighted the potential scientific advantages of using biotechnologies in agriculture. However, he also warned about the impact of these technologies when used improperly, and he questioned the commercial practices of some players (notably towards farmers).

As the French "*Association Ethique et Investissement*" concluded during its seminar on the ethical requirements of investing in agro-industry, this is a global and important issue as agronomic and industrial innovation is a key factor in feeding a growing World population. Given these demographic and environmental challenges, it is important to ensure a sustainable and high-yielding agricultural production. In order to match these challenges, it will be necessary to foster cooperation between the various stakeholders (producers, processors, distributors and consumers). Therefore, responsible investors must review the commercial and product marketing practices of the companies they are considering to invest into. The key factors to analyse are the type of GMOs, the precautionary measures taken, the transparency on the technologies used and the labelling and traceability of the products.

In line with these guidelines, DPAM chooses to analyse the companies involved on a case by case basis, instead of divesting all bio-technologies from its actively managed responsible strategies. Our analytical grids take into account companies' policy with regard to the use of GMOs in the food and beverage sector. The quality of the policy applied is analysed from four angles:

1. Acknowledgement of the existence of a debate and discussions about the negative environmental and health effects of GMOs in food ingredients.
2. The explanation provided regarding the added value generated by using GMOs.
3. Risk control for the use of GMOs in products and services.
4. Respecting consumer rights in the framework of the transparent labelling of products containing GMOs.

Moreover, in our analysis of the chemicals, pharmaceutical, cosmetics and household goods sectors, the policy regarding genetic engineering is also taken into consideration. We analyse corporate policies based on the use of genetic engineering, the associated risks, and the systems that are in place to prevent and manage these risks. Policies and efforts relating to nanotechnologies are also taken into consideration.

The sustainable and responsible screening also takes into account any controversies in which a company has been embroiled over the recent years. These are analysed based on their frequency and gravity as well as on the way the company addressed them.

On the basis of these analysis criteria, any company from the eligible universes may be excluded of all actively managed responsible investment strategies (see the engagement program).

For DPAM's sustainable index strategies, all companies deriving at least 5% of their revenues from GMOs-related activities (either for agricultural use or for human consumption) are excluded (in line with MSCI SRI Index methodology).

PAPER PULP

Paper pulp presents various environmental and social risks, both in terms of the raw material itself and as regards processing.

The main environmental challenges involve deforestation and, directly relating to this, pollution, the protection of biodiversity, and the contribution to climate change. Processing paper pulp triggers the emission of dioxins. It generates water pollution and requires accurate wastewater treatment.

On a social level, logging activities may present a risk to local communities. In some emerging countries, conflicts over the access to forested area may result in human rights violations. Moreover, the processing of paper pulp may have an adverse impact on workers' safety (occupational safety challenges).

As the use of paper is not likely to disappear any time soon, despite the digitization of the economy, we favour a pragmatic approach fostering the adoption of corporate best practices and standards.

Several norms, certifications and sector-based initiatives already exist. For instance, the NGO *Forest Stewardship Council* (FSC) promotes the responsible management of forests across the globe. The *Pan European Forest Council* certification also mentions a number of criteria to be adopted for sustainable forest management.

In practice, rather than applying a hard exclusion, DPAM chose to integrate ESG criteria in the analysis of the sector by fundamental analysts. The selected ESG criteria notably include the certification of forests, the carbon intensity of operations, and the percentage of raw materials which have received FSC certification. On the social level, our ESG matrix focuses on criteria such as respect for human rights and the exposure to controversies linked to local communities. Finally, workers' health and safety also have an important weighting in the overall ESG score of pulp & paper companies.

INVESTING IN AGRICULTURAL FOOD COMMODITIES

Given the sharp rise in primary foodstuffs prices, many NGOs have pointed at investment funds trading in agricultural commodities. Following various reports denouncing food speculation and the dramatic impact on poorer populations, various investment companies have decided to close down their investment funds, which tend to be index-based and invested in derivatives on agricultural commodities.

Although DPAM does not invest in any such derivatives markets, it does take into account this issue and accepts its social and environmental responsibilities.

Without downplaying the influence speculative funds may exert on the volatility of food commodities and related price hikes, other factors may also contribute to this state of affairs.

Indeed, demographics and changing eating habits are key factors explaining rising prices. As a matter of fact, certain emerging markets account for an important part of the global population, but at the same time they only account for a small part of the arable land and drinking water supplies. This is clearly an unsustainable situation and the sustainability challenges relating to agricultural commodities are huge. This is why DPAM has opted to invest in companies providing solutions to these problems.

Forward contracts or futures were originally used to protect food producers from the risks relating to price swings, which are typical of agricultural commodities. These days, such derivatives can be used for other purposes and thereby have an adverse impact, leading to increased volatility and rising prices. Two major risks are associated with speculation on food: on the one hand, rising prices occur to the detriment of poorer populations who struggle feeding themselves, while on the other hand profit maximisation leads to land grabs.

DPAM ensures that it does not participate in this speculation on food. DPAM does not invest in derivatives on agricultural commodities, whether through our investment funds or through our own equity.

Moreover, within the framework of our ESG/sustainable research, we are implementing sustainable stock-picking criteria relating to the sustainability of agriculture and of fish farming in the food and beverage sector. We also closely monitor companies' programmes and targets with respect to sustainable agriculture and fishing.

At last, our strategy dedicated to the agricultural theme is actively managed and focuses exclusively on companies that are active in the sector. No investments are made in forward contracts. The companies invested in, primarily have a business to business activity aimed at enhancing the efficiency of food production in order to address future demographic challenges.

Three main drivers will continue to influence prices of agricultural commodities going forward:

1. Demographics
2. The major shift in eating habits, leading to more protein-rich diets
3. Increased knowledge of the effects of carbon dioxide emissions, leading to increased demand for renewable energy and alternatives, including in the chemicals sector

When emerging markets start to shift towards industrial cattle raising, there is a significant impact on the agro-food chain as there is a move from cattle feed made of household waste towards flour and other cereal products. Demand for wheat and other cereals can then only rise through increased imports of these products. In order to address these challenges, investments in technological innovations that continually boost productivity are needed.

Moreover, consumers are paying more attention to the presence in their food of artificial ingredients (preservatives and other additives). The demand for natural and healthy substitution products also addresses current and future food issues. This demonstrates that investments in the agricultural sector are not incompatible with sustainability principles and with social and environmental responsibility.

Another issue that is directly related to agricultural investments is palm oil.

Palm oil production is associated with a variety of environmental, social and governance (ESG) issues. These are, namely, deforestation and related topics such as respect for the ecosystem, biodiversity and the rights of local communities, greenhouse gas emissions, the use of pesticides, working conditions and respect for the rights of indigenous peoples.

However, palm oil constitutes an important source of revenue for producer countries (including Malaysia and Indonesia, but also other emerging countries) and provides a livelihood to a significant part of their population.

Moreover, palm oil is also a source of nutrition for populations. It also has various other uses: food products, cleaning, pharmaceuticals, biodiesel, etc.

Finally, although palm oil is often criticised in the media, palm trees remain the most productive source of oil. In order to produce the same amount of oil, other potential sources would need far more land.

Once again, our approach aims to be pragmatic. In other words, it takes into account the many positive contributions palm oil has made and favours best practices rather than a total exclusion of the activity in order to reduce its adverse effects. In that regard several sector-based initiatives can be mentioned, in particular the Roundtable for Sustainable Palm Oil - RSPO, the objective of which is to promote the production and use of palm oil that is sustainable for the planet and people and that favours general welfare.

Initiatives of the RSPO are considered insufficient by some NGOs, including Greenpeace, in the face of deforestation for instance. However, various palm oil producers go beyond the requirements of the RSPO and advocate stronger policies for forest conservation. That is the case for Golden Agri-Resources, New Britain Palm Oil, Sipef and Agropalma, which are committed to non-deforestation.

Although the RSPO may be regarded as too slow on the uptake, it remains the most important sector-based initiative having sufficient critical mass to bring together producers, consumers and traders. Founded in 2004 by producers, traders and several NGOs, its principles and certification criteria are reviewed every five years.

Several companies in the portfolio are regularly and internationally recognised in the domain and contribute significantly to the fight against climate change and malnutrition.

DEATH PENALTY

In the context of its investments in responsible government bonds, DPAM has selected the death penalty as a negative screening criterion. This penalises those states whose legislation doesn't effectively prohibit the death penalty. In effect, DPAM requires that the death penalty be effectively banned. DPAM will still penalise a country in case it doesn't ban the death penalty but doesn't apply it in practice (e.g. Israel). For instance, Japan has not abolished the practice of the death penalty from its constitution and it still carries out several executions every year. The USA also continues to carry out the death penalty in certain states. As a consequence, both countries are penalised in our country scoring model.

INTERNATIONAL SANCTIONS

As an historical pioneer in Sustainable Sovereign debt investing (first strategy launched in 2008), DPAM has developed a long term expertise in analyzing and screening countries sustainability profile. It is DPAM's view that a Sustainable fund should not be invested in a country which violates basic principles or is subjected to international sanctions. This is illustrated by DPAM's threefold commitment to:

1) defend fundamental rights,
2) ensure we are not accomplice of controversial behaviors,
3) promote best practices and efforts.

In effect, countries' compliance with international conventions, norms and standards are a key dimension of DPAM's country sustainability model, and are extensively used as screening criteria. Thus, when analyzing countries' adhesion to *Transparency and Democratic values* (which is at the heart of the country sustainability model), we use the *Freedom House's Freedom in the World Index* and the *Economist Intelligence Unit Democracy Index* to ensure that non-democratic countries are excluded from investment portfolios. In the same way, DPAM's country sustainability model integrates ESG criteria pertaining to Human rights (1), Labor rights (2), various Environmental issues (3), some Governance topics as well as Corruption matters (4). Thus, these four pillars fully cover the U.N. Global Compact principles. DPAM's country sustainability model also includes ESG criteria pertaining to population's level of well-being (looking into education, health, inequalities, etc.), as well as countries climate change policy and achievements (through greenhouse gases emissions, electricity mix, energy intensity, etc.).

DPAM updates its analysis and the corresponding investment portfolios twice a year. In addition to that, DPAM continuously monitors the developments and news affecting countries' sustainability profile. DPAM's Fixed-Income-Sustainability Board (FISAB) regularly adapts the analysis criteria and scoring weights within the country sustainability model, in a way to make it as relevant as possible given the ever changing sustainability issues countries are exposed to.

UNITED NATIONS GLOBAL COMPACT

Launched in 2004, the United Nations Global Compact principles have quickly established themselves as the framework of reference for Sustainability normative screenings. Hence, in 2018; 42% of the European Sustainable strategies applying a normative screening were based on the ten principles of the United Nations Global Compact[28]. DPAM fully endorses the ten principles, as evidenced by the fact that all DPAM's Sustainable funds are applying a U.N. Global Compact-based normative filter. Therefore, DPAM excludes from its sustainable funds all companies which are not compliant with the U.N. Global Compact.

Moreover, DPAM continuously monitors and analyses ESG controversies for the companies it is invested in. The ESG controversy screening covers the same issues as the ten U.N. Global Compact principles (i.e. Human Rights, Labor Rights, Environmental issues, as well as Governance and corruption), the main difference being that the ESG controversy screening applies even stricter requirements on companies and leads to additional exclusions.

HUMAN RIGHTS & LABOUR RIGHTS

Human rights and labour rights criteria are part and parcel of the responsible investment filter which is applied on all DPAM's responsible investment strategies.

This filter enables the exclusion from the eligible investment universe of all companies which are not fully compliant with these criteria. DPAM promotes the Fundamental labour rights: the rights relating to the prevention of child labour, the mitigation of discrimination and forced labour, the freedom of association and the right to collective bargaining, the right to a healthy and safe workplace and the labour rights pertaining to remuneration and working time. This list directly originates in the general principles mentioned in the fundamental conventions of the International Labour Organisation and the directives of the OECD.

Companies which are repeatedly involved in Human rights or Labour rights violations, and / or which are involved to severe violations of Human rights or Labour rights, will be excluded from all actively managed Sustainable strategies, by mean of DPAM' ESG controversy screening.

In the context of our investments in government bonds, our view is that normative filters are not the most appropriate manner to assess a country's Sustainability profile, as it can be very easy for a country to sign a convention without actually upholding it. Therefore we favour alternative indicators which measure more effectively the respect of essential rights within each country. These

[28] Eurosif SRI study 2018 : http://www.eurosif.org/wp-content/uploads/2018/11/European-SRI-2018-Study-LR.pdf

international conventions criteria are only used to assess the level of commitment to sustainable development of the countries analysed.

ENVIRONMENTAL DAMAGES

Adopting a precautionary approach towards environmental issues and taking responsibility for preserving the environment are also included in DPAM's responsible investment assessment process as criteria of analysis.

With regards to the Sustainability analysis of countries, we review states' level of environmental performance on the basis of various criteria pertaining to the preservation of natural resources, their environmental strategies, their actual environmental impacts, and the ratification of several international agreements.

With regard to corporations, their commitments to respect and preserve the environment are also assessed and they are taken into account in the calculation of their global sustainability score. Environmental criteria are defined for each sector so as to review whether companies are addressing the environmental challenges that are relevant to their sector of activity.

CORRUPTION

The prevalence of Corruption and the measures taken to mitigate it are taken into consideration in the Sustainability analysis of states as well as of companies.

The corruption index of the NGO Transparency International is part of the selection criteria used when selecting OECD country and emerging market government bonds.

With regard to corporations, the measures taken to prevent corruption are taken into consideration for all sectors. Companies which are repeatedly exposed to corruption cases, and / or which are exposed to severe instances of corruption & bribery, will be excluded from all actively managed Sustainable strategies, by mean of DPAM' ESG controversy screening.

TAX EVASION

Transparency with regard to tax matters is a major challenge to companies. The parameter relating to 'tax transparency' in our analytical grids allows us to identify the companies which are involved in excessive tax optimisation and/or which are active in countries that may be considered as tax havens. However, there is currently no country on the OECD's list that refuses to exchange tax information. Indeed, the three remaining jurisdictions that refused to do so, namely Andorra, Liechtenstein and Monaco, have committed to apply the principles of transparency and to exchange tax information with foreign tax authorities, as requested by the OECD.

However, the actual exchange of tax information is not optimal yet. That is why the OECD has created the "Global Forum on Transparency and Exchange of Information for Tax Purposes blacklist". A jurisdiction on the blacklist is exposed to potential tax sanctions, imposing higher taxes on the inflows and outflows on their territory. That is why tax transparency is so important for companies and why DPAM's ESG scoring model allocates a specific weighting to this piece of information, so that the potential exposure to this risk can be analysed.

If the activity is transparent and complies with the tax regulation, no legal measures can be taken against companies optimising their tax structure. As a matter of fact, opting for an offshore structure may also be explained by a suboptimal legal framework within a specific country, to avoid double taxation or to address political instability.

However, we need to pay attention to extreme tax optimisation, which poses a growing risk to operational legitimacy for citizens and states. Indeed, excessive tax optimisation leads to:

- Unfair competition between multinationals and small and mid-sized companies, which face substantially higher tax rates (tax fairness).

- This undermines the income potential of states, which jeopardises their ability to finance sustainability policies.

- Downward pressure on wages, as a result of asset transfers between subsidiaries and a relocation of companies' registered offices.

Overall, we encourage regulatory initiatives such as the OECD's plan to fight against tax base erosion and profit shifting (BEPS) on an international level, and which advocates reporting by country.

CORPORATE GOVERNANCE

DPAM has adopted a voting policy which is based on four key principles:

- protection of shareholders;
- sound corporate governance;
- transparency and integrity of information and;
- social and environmental responsibility.

DPAM thus also takes into consideration the quality of the governance of the European companies in which it invests. Governance criteria pertaining to the quality of the board of directors, equality and transparent remuneration, respect for (minority) shareholders and internal checks and balances are key factors in selecting the investable securities.

In the context of global equity investments, companies facing severe allegations in terms of their corporate governance are excluded from the investment universe.

Numerous studies, in particular those of the World Bank, have demonstrated that for government bonds a positive correlation exists between the quality of the governing bodies of a state and low sovereign default rates.

The quality of governing bodies is assessed in the context of the specific SRI strategies for government bonds.

ANIMAL RIGHTS

Several sectors may be forced to deal with the animal rights issue. In particular this concerns the pharmaceutical, cosmetics, household products and luxury (fur) sectors.

For our strategy of investing in sustainable European equities, the responsible investment filter takes into account companies' animal testing policies in the following sectors: pharmaceuticals, textile, chemicals, foodstuffs, cosmetics and household products and the retail sector. As such, a company's policy is assessed with regard to animal testing. Where applicable, the assessment takes into account the quality of this policy, and whether it aims at reducing, redefining and replacing animal testing.

Companies' policy on the wellbeing of animals is also taken into consideration for relevant sectors, such as agro-food and textile.

DPAM’s BLACKLIST

This Controversial Activities policy outlines DPAM’s exclusion practices based on companies’ business activities, product lines of business and / or sector of operation. Even though it falls outside the formal scope of this controversial activities policy, we would also like to clarify here that DPAM also monitors companies’ controversial behaviour when analysing companies’ eligibility for its sustainable strategies.

DPAM has set itself a threefold commitment, as a general guideline for its responsible and sustainable investments:

1. Defend the **fundamental rights** pertaining to the respect for human rights, labour, anti-corruption and environmental protection;
2. Assess the seriousness of **controversies** that issuers may face; to divest or avoid financing companies that are seriously and / or repeatedly involved in controversies, notably when they may affect corporate reputation, long term growth and investments; and,
3. Promote **best practices** and encourage on-going efforts towards sustainability.

This threefold commitment is applied throughout all DPAM’s Sustainable strategies, through the following three screenings:

- Compliance with the ten principles of the United Nations Global Compact – sustainable strategies do not invest in companies that do not comply with them.
- Assessment of the controversy: in addition to excluding the companies involved in the usual controversial activities (see above, e.g. tobacco), our sustainable strategies do not invest in the most controversial companies (controversy level 5 (scale from 1 to 5 being the worst) and possibly controversy level 4 in case of a negative assessment by our Responsible Investment Steering Group).
- Quantitative assessment of the ESG score of companies: the strategies do not invest in companies with a low ESG score within their sector of activity.

Companies that are **non-compliant with U.N. Global Compact** or face a **severe ESG controversy** are added on DPAM’s blacklist and excluded from all Sustainable investment portfolios. The blacklist applies to <u>all sustainable strategies</u> (i.e. equity, corporate bonds and multi-asset).

EXCLUSION LIST FROM THE NORWEGIAN GOVERNMENT PENSION FUND GLOBAL

In keeping with our policy regarding controversial activities and approaches, we pay attention to the blacklist of the Norwegian Government Pension Fund Global, which was established through a Council on Ethics, to address the ethical norms of the Norwegian people. This major European sovereign fund puts in major resources and means to identify the controversies in which the more than 8,000 invested companies may be involved in, and to assess their legitimacy. Based on the seriousness and the scope of the violation, and in particular the tangible improvements a company is able to make, the Council on Ethics will judge whether a company violating the norms will be excluded.

The policy adopted by the Pension Fund regarding the exclusion of companies which have allegedly violated international norms is often mentioned as an example.

DPAM appreciates the transparency of the disclosure of the exclusion list of the Norwegian Government Pension Fund Global. As a matter of fact, the decision by the Ministry of Finance is detailed and publicly available, and the technical report drawn up by the Ethical Advisory Board justifying the grounds for exclusion can also be consulted publicly. However, DPAM benefits from the unbiased information of three experts in the field of controversial weapons or regarding controversies. Following the recent developments of several companies mentioned on the blacklist and the outcome of the engaged dialogue with the Norwegian Minister of Finance on the specific profiles, DPAM has decided not to apply the list of the Norwegian Government Pension Fund Global, but to take it into account in keeping with other independent information sources.

GLOSSARY

APL	Anti-Personnel Landmines
BEPS	Base Erosion and Profit Shifting: tax avoidance strategies that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax locations.
CAPEX	Capital Expenditure
CM	Cluster Munitions
DPAM	Degroof Petercam Asset Management
DPU	Depleted Uranium munitions and armours
ESG	Environment Social and Governance
FISAB	Fixed-Income-Sustainability Board
FSC	Forest Stewardship Council
GMO	Genetically Modified Organism
IEA	International Energy Agency
IEA ETP 2DS	International Energy Agency Energy Technology Perspectives 2 degrees Celsius Scenario: the 2 degrees Celsius scenario (main climate scenario), shows a pathway to limit the rise of global temperature to 2ºC, and finds the global power sector could reach net-zero CO2 emissions by 2060.
IEA SDS	International Energy Agency Sustainable Development Scenario
IEA WEO 450	International Energy Agency World Energy Outlook scenario: based on 450 parts per million of CO2 equivalent, which equates to a 50% chance of meeting the goal of limiting the long-term increase in average global temperature to 2 °C compared with pre-industrial levels.
IRENA REmap	International Renewable Energy Agency Renewable Energy Roadmap
MIT	Massachusetts Institute of Technology
MSCI-GICS	MSCI Global Industry Classification Standard
NGO	Non-Governmental Organisation
NPP	Nuclear Power Plant
OECD	Organisation for Economic Co-operation and Development
PM	Portfolio Manager
RICC	Responsible Investment Competence Centre
RISG	Responsible Investment Steering Group
RSPO	Roundtable for Sustainable Palm Oil
R&D	Research & Development
SRI	Sustainable & Responsible Investing / Sustainable & Responsible Investment
UNGC	United Nations Global Compact
WHO	World Health Organization

DISCLAIMER

The information contained in this document and attachments (hereafter “the documents”) is provided for information purposes only.

These documents do not constitute investment advice, nor do they form part of an offer or solicitation for shares, bonds or mutual funds. They are also not an invitation to buy or sell the products or instruments referred to herein.

Applications to invest in any fund referred to in this document can only validly be made on the basis of the key investor information document (KIID), the prospectus and the latest available annual or semi-annual reports. These documents can be obtained free of charge from Degroof Petercam Asset Management S.A., the financial service provider and on the website of the sub-fund at funds.degroofpetercam.com.

Financial considerations and estimates reflect the situation at the time the documents were prepared and can therefore be amended at any time without prior notice. Specifically, past performance is not necessarily indicative of future performance and there is no guarantee it will be repeated.

Degroof Petercam Asset Management (DPAM), with registered office at Rue Guimard 18, 1040 Brussels, and which is the author of the present document, has made its best efforts in the preparation of this document and acts in the best interests of its clients, without however carrying any obligation to achieve any result or performance whatsoever. The information provided is from sources which DPAM considers reliable. However, it cannot be guaranteed that it is complete and accurate.

These documents may not be copied, partially or in full, and may not be transmitted to others without DPAM’s prior written consent. These documents may not be distributed to private investors and are solely intended for institutional investors.

Contact

sustainable@degroofpetercam.com ▪ www.dpamfunds.com