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Plastic Finance

How Dutch financial institutions enable shale gas to fuel the plastic soup disaster



Fair Finance Guide

The Dutch Fair Bank- and Insurance Guide,
in cooperation with the Plastic Soup Foundation

16 July 2019

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Samenvatting

In 2017 produceerde de wereld bijna 350 miljoen ton plastic. Bijna 80 procent van het plastic afval sinds 1950 is gestort op vuilnisbelten, of komt in het milieu terecht. Als er niet ingegrepen wordt zal er in 2050 meer plastic in de zeeën te vinden zijn dan vis. De uitstoot gemoeid met de productie van al dit plastic zal dan tot 14 procent bedragen van de CO₂ die we nog mogen uitstoten binnen de grenzen die het klimaat ons stelt. De Verenigde Naties heeft klimaatactie en schone oceanen als aparte doelen in de *Sustainable Development Goals* opgenomen. Ondanks convenanten, allianties en resoluties van bedrijven en overheden neemt de productie van plastics echter niet af, maar toe.

De grote vlucht die schaliegas sinds 2012 heeft genomen houdt hiermee verband. Alleen al in de Verenigde Staten is sinds 2010 zeker 204 miljard dollar geïnvesteerd in uitbreiding van plastic productie op basis van ethaan en andere componenten van schaliegas. In 2018 produceerde de Verenigde Staten gemiddeld 1,7 miljoen vaten ethaan per dag. Daarvan zijn 272.000 vaten bestemd voor export naar onder andere het Verenigd Koninkrijk, Noorwegen en Zweden. De plastic industrie profiteert hiervan en breidt fors uit. De Britse chemiereus INEOS investeert momenteel 3 miljard Euro in twee nieuwe productiefaciliteiten in Antwerpen, de grootste investering in de Europese chemiesector van de afgelopen 20 jaar.

In dit praktijkonderzoek van de Eerlijke Bank- en Verzekeringswijzer in samenwerking met de Plastic Soup Foundation wordt een steekproef van de investeringen van 7 Nederlandse banken en 9 verzekeraars in de productie van schaliegas en plastic onder de loep genomen. Onderzoeksbureau SOMO verzamelde investeringen van banken en verzekeraars in tien grote spelers op het gebied van schaliegas en plastic productie, waaronder Shell, DowDupont en Exxon Mobil.

Schaliegas en plastic

Ethaan is een bijproduct van schaliegas en goedkoper dan het aardolie-derivaat nafta, dat traditioneel als grondstof wordt gebruikt voor de productie van plastic. Van het ethaan wordt ethyleen gemaakt, een basis voor allerlei soorten plastics zoals PET en PE. Schaliegaswinning is ook buiten de Verenigde Staten een groeiende industrie; het Vaca Muerta veld in Argentinië wordt ontwikkeld voor grootschalige schaliegaswinning. Dit heeft een drukkend effect op de prijs van ethaan en zal de productie van plastic naar verwachting verder opstuwten.

De nadelige effecten van schaliegaswinning op het milieu en het klimaat zijn genoegzaam bekend en steeds vaker onderwerp van gesprek bij investeerders. De relatie tussen schaliegas en de productie van plastic is echter onderbelicht en bij veel marktpartijen onbekend. Banken en verzekeraars spelen door hun investeringen in bedrijven als Shell, Exxon Mobil, DowDuPont en Chevron al dan niet bewust een rol in de verdere uitbreiding van de plastic productie.

Resultaten onderzoek

Op basis van gegevens uit de openbare Thomson Reuters Eikon database is gekeken naar vier soorten investeringen door banken en verzekeraars in Nederland: aandelen, obligaties, obligatie bemiddeling en het verstrekken van syndicaatsleningen. Van de tien onderzochte bedrijven zijn er zeven actief in de productie van plastics en negen in de winning van schaliegas. Het merendeel staat in de top tien van schaliegasproducenten wereldwijd en is actief in het Appalachen schaliegasveld in het oosten van de Verenigde Staten. Bij de ontwikkeling van het Vaca Muerta veld in het zuiden van Argentinië zijn vrijwel alle grote olie- en gas bedrijven uit de lijst betrokken. De gegevens uit de Thomson Reuters Eikon database zijn niet uitputtend, de resultaten zijn een indicatie. Bovendien zijn veel meer bedrijven dan de onderzochte

10 actief in schaliegas- en plasticproductie. Naar verwachting liggen de totale investeringen van de banken en verzekeraars in de schaliegas en plastic sector fors hoger dan in dit onderzoek naar boven kwam.

Er werd bijna vier miljard dollar aan investeringen van Nederlandse banken en verzekeraars in aandelen gevonden. Verzekeraars Aegon en Allianz voeren de lijst aan met respectievelijk 1 en 1,5 miljard dollar in aandelen. Olie- en gas bedrijf Shell is met ruim anderhalf miljard dollar in uitgegeven aandelen de belangrijkste ontvanger. Shell produceert zowel schaliegas als plastics.

Tabel 1. Overzicht aandelen van Nederlandse banken en verzekeraars in miljoenen dollars (\$) Peildatum 18-20 februari 2019

	Cabot	Chesapeake	Chevron	Shell	Exxon Mobil	BP	Reliance	Conoco	Repsol	Dow DuPont	Totaal per bank/ verzekeraar	% van totaal
A.S.R.	0,6				26,1				16,0	5,4	48,1	1,2%
Achmea			13,8		31,2			16,0			61,1	1,6%
Aegon	1,1		89,2	472,6	61,3	283,3		13,1	42,6	32,5	995,6	25,4%
Allianz	3,8	15,1	278,4	366,3	292,3	99,1	8,1	184,6	35,2	208,1	1.491,0	38,1%
Menzis				2,4			0,6	1,2	0,4	2,3	6,9	0,2%
NN Group			24,5	311,9	72,0	41,4		140,8	17,1	15,1	622,7	15,9%
Vivat	2,9		62,0	99,0	85,9	48,3	4,1	21,4	31,7	38,4	393,8	10,0%
ABN AMRO			13,0	76,0	3,6	15,7		0,5	22,8	8,5	140,1	3,6%
ING		0,7	26,0		1,4			3,1		51,7	82,8	2,1%
Van Lanschot				43,5	27,5	8,2				1,7	81,0	2,1%
Totaal per bedrijf	8,4	15,8	506,9	1.371,7	601,3	496	12,8	380,7	165,8	363,7	3.923,10	100%
Percentage van totaal	0,2%	0,4%	12,9%	35,0%	15,3%	12,6%	0,3%	9,7%	4,2%	9,3%	100%	

Er is 5,3 miljard dollar aan syndicaatsleningen gevonden, met als grootste afnemers plastic producent DowDuPont en olie, gas en chemie gigant Shell. Van de onderzochte banken en verzekeraars zijn bij ING op afstand de meeste investeringen gevonden, zowel in schaliegas als in plastic producerende bedrijven. Allianz en Rabobank hebben net als ING deelgenomen aan een lening aan plastic producent DowDuPont van in totaal 1,7 miljard dollar.

Tabel 2. Uitstaande leningen (syndicated loans) van Nederlandse banken en verzekeraars, in miljoenen dollars (\$) in de periode 2010 - 2019

	Cabot	Chesapeake	Chevron	Shell	Exxon Mobil	Reliance	Conoco	Dow DuPont	Totale waarde	% van totale waarde
ABN AMRO	343,6	185,0		363,6	269,2				817,9	15,5
Allianz								144,3	144,3	2,7
ING	360,0		200	831,5	533,3	713,6	100	1.228,8	3.967,3	75,2
Rabobank								343,6	343,6	6,5
Totale waarde	360,0	185,0	200	1.195,1	802,6	713,6	100	1.716,7	5.273,0	100,0
% van totale waarde	6,8%	3,5%	3,8%	22,7%	15,2%	22,7%	1,9%	32,6%	100,0%	

De websites van de onderzochte banken en verzekeraars zijn onderworpen aan een beleidsscan. In hoeverre is er sprake van beleid met betrekking tot schaliegas, ethyleen en plastic productie? Bij Rabobank, NIBC, de Volksbank en Triodos zijn bedrijven die geheel of voor een groot deel van hun omzet afhankelijk zijn van schaliegasproductie uitgesloten van investeringen. Bij de overige banken en verzekeraars is geen concreet beleid gevonden over schaliegas. Ethyleen wordt alleen bij de Volksbank expliciet genoemd in de uitsluitingscriteria. Plastic in het algemeen wordt bij geen van de onderzochte banken en verzekeraars genoemd in hun investeringsbeleid, niet als basis voor uitsluiting maar ook niet als basis voor engagement. Veel banken en verzekeraars hebben wel algemene regels voor duurzaam beleggen waardoor sommige investeringen in schaliegas, ethyleen of plastic aan voorwaarden moeten voldoen.

Conclusies en aanbevelingen

Uit dit praktijkonderzoek blijkt dat plastic productie en de relatie tussen plastic en schaliegas een blinde vlek is in het investerings- en financieringsbeleid van banken en verzekeraars. De beste manier om plastic vervuiling te verminderen is door minder plastic te produceren. Tot nog toe zijn inspanningen van de industrie om de vervuiling tegen te gaan echter vooral symbolisch en mosterd na de maaltijd: de productie van (wegwerp)plastic neemt niet af maar toe. Het is van groot belang dat de vermindering van de productie van nieuw plastic in het vizier komt bij investeerders. Banken en verzekeraars worden opgeroepen beleid op te stellen met duidelijke criteria die een rem zetten op de groei van de productie van plastics door bedrijven die door hen worden gefinancierd.

De relatie tussen schaliegas en overproductie van goedkoop (wegwerp)plastic is slechts een van de vele redenen waarom schaliegas niet past in een duurzame investeringsstrategie. De Eerlijke Bankwijzer, Eerlijke Verzekeringswijzer en Plastic Soup Foundation zijn daarom ondubbelzinnig in hun oordeel dat investeringen in schaliegas per direct zouden moeten worden gestaakt. Indien banken of verzekeraars investeren in bedrijven die schaliegas produceren, dienen zij intensieve engagement aan te gaan met deze bedrijven. Op korte termijn moet de productie van schaliegas worden afgebouwd. Indien engagement geen zin heeft of geen resultaat oplevert op korte termijn, dienen investeringsrelaties met schaliegas producerende bedrijven gestopt te worden. Schalie-olie staat bij meerdere banken en verzekeraars al op de uitsluitingslijst. Er is voldoende aanleiding schaliegas hier aan toe te voegen. In de correspondentie met een aantal banken en verzekeraars kwam naar voren dat investeringen in schaliegas steeds onwaarschijnlijker worden, een hoopgevende ontwikkeling, die we helaas nog niet overal zien. De Eerlijke Bankwijzer, Eerlijke Verzekeringswijzer en Plastic Soup Foundation, sporen alle banken en verzekeraars aan op korte termijn helderheid te verschaffen over het investeringsbeleid en schaliegas op de uitsluitingslijst te plaatsen.

Executive Summary

In 2017, the world produced almost 350 million tonnes of plastic. Nearly 80 percent of all plastic waste has been disposed of in landfills, or ended up in the environment. If no action is taken, there will be more plastics in the oceans than fish in 2050. The emissions related to plastics will by that time amount to 14 percent of the total carbon budget that's left. The United Nations adopted climate action and living oceans as Sustainable Development Goals. Despite all kinds of agreements, covenants and resolutions by companies and governments, the production of plastics is not decreasing, but increasing.

The surge in plastics production is connected to the boom in shale gas production. In the United States alone, investments in the expansion of ethane based plastic production and other components of shale gas amounted to 204 billion US dollars since 2010. In 2018, the United States produced an average of 1.7 million barrels a day. Of those, 272,000 are exported to countries like The United Kingdom, Norway and Sweden to benefit a rapidly expanding plastics industry. British petrochemical giant INEOS is investing 3 billion US dollars in two new production facilities in Antwerp, Belgium, the single largest investment in the European chemical industry in the last 20 years.

In this case study by the Fair Bank – and Insurance Guide, together with the Plastic Soup Foundation, a sample of investments by 7 Dutch banks and 9 insurers in shale gas and plastics production is investigated. Research agency SOMO reviewed investments by these banks and insurers in nine top shale gas and plastic producers, like Shell, DowDuPont and Exxon Mobil.

Shale gas and plastic

Ethane is a by-product of shale gas and cheaper than the traditional Naphtha, derived from crude oil refinement. Ethane has become an important feedstock for the petrochemical ethylene, the basis of a variety of plastics like PET and PE. Shale gas is a growing industry outside of the United States as well; the Vaca Muerta Basin in Argentina is currently being developed for large scale shale gas production. Ethane prices will remain low or even drop, which will most likely stimulate plastics production further.

The negative effects of shale gas production on the environment and climate change are well known and becoming more and more a topic of conversation with investors. The connection between shale gas and the production of plastics is far less known and catches little attention. Banks and insurers are largely unaware that their investments in companies like Shell, Exxon Mobil, Chevron and DowDuPont are actually financing a surge in the production of virgin plastics.

Results

Based on data from the public Thomson Reuters Eikon database, four types of investments by Dutch banks and insurers have been investigated: shares, bonds, bond underwriting and syndicated loans. Of the ten researched companies seven are active in the production of plastics and nine in the production of shale gas. The majority is in the top ten global shale gas producers and active in the Appalachian Basin in the east of the US. Almost all big oil and gas companies investigated are involved in the development of the Vaca Muerta Basin in the south of Argentina. The data from the Thomson Reuters Eikon database are not complete, results are merely an indication. It is to be expected that total investments of banks and insurers in shale gas and plastics production are much larger.

Almost 4 billion US dollars of investments in shares by Dutch banks and insurers were found. Insurers Aegon and Allianz lead with 1 and 1.5 billion dollars in shares. Oil and gas multinational Shell, with more than 1.5 billion dollars in shares sold, is the largest recipient. . Shell is active in both the shale gas and the plastics industry.

Table 3. Shares Dutch banks and insurers in billion dollars (\$), 18-20 February 2019

	Cabot	Chesapeake	Chevron	Shell	Exxon Mobil	BP	Reliance	Conoco	Repsol	Dow DuPont	Total per bank/insurer	% of total
A.S.R.	0.6				26.1				16.0	5.4	48.1	1.2%
Achmea			13.8		31.2			16.0			61.1	1.6%
Aegon	1.1		89.2	472.6	61.3	283.3		13.1	42.6	32.5	995.6	25.4%
Allianz	3.8	15.1	278.4	366.3	292.3	99.1	8.1	184.6	35.2	208.1	1,491.0	38.1%
Menzis				2.4			0.6	1.2	0.4	2.3	6.9	0.2%
NN Group			24.5	311.9	72.0	41.4		140.8	17.1	15.1	622.7	15.9%
Vivat	2.9		62.0	99.0	85.9	48.3	4.1	21.4	31.7	38.4	393.8	10.0%
ABN AMRO			13.0	76.0	3.6	15.7		0.5	22.8	8.5	140.1	3.6%
ING		0.7	26.0		1.4			3.1		51.7	82.8	2.1%
Van Lanschot				43.5	27.5	8.2				1.7	81.0	2.1%
Total per company	8.4	15.8	506.9	1,371.7	601.3	496	12.8	380.7	165.8	363.7	3,923.10	100%
Percentage of total	0.2%	0.4%	12.9%	35.0%	15.3%	12.6%	0.3%	9.7%	4.2%	9.3%	100%	

Over 5 billion dollars-worth of syndicated loans was found, with plastics producer DowDuPont and oil, gas and chemical company Shell as the largest beneficiaries. Among investigated banks and insurers, ING is by far the biggest investor in shale gas as well as plastic producing companies. Allianz and Rabobank have, like ING, participated in a loan to plastics producer DowDuPont of in total 1.7 billion US dollars.

Table 4. Syndicated loans by Dutch banks and insurers in million dollars (\$) 2010 - 2019

	Cabot	Chesapeake	Chevron	Shell	ExxonMobil	Reliance	Conoco	Dow DuPont	Total Value	% of total
ABN AMRO		185.0		363.6	269.2				817.9	15.5
Allianz								144.3	144.3	2.7
ING	360.0		200	831.5	533.3	713.6	100	1,228.8	3,967.3	75.2
Rabobank								343.6	343.6	6.5
Total value	360.0	185.0	200	1,195.1	802.6	713.6	100	1,716.7	5,273.0	100.0
% of total value	6.8%	3.5%	3.8%	22.7%	15.2%	22.7%	1.9%	32.6%	100.0%	

The websites of 16 Dutch banks and insurers have been subject to a policy quickscan, to determine whether there is policy regarding investments in shale gas, ethylene or plastics production. Rabobank, NIBC, de Volksbank and Triodos exclude companies that derive all or most of their revenue from shale gas production from investment. No explicit policy on shale gas was found at the websites of the other banks and insurers. Ethylene production is excluded from investment at de Volksbank. Plastic production in general is not mentioned by any of the banks and insurers, not as a basis for exclusion nor as a reason to start an engagement process. Many banks and insurers do, however, have more general sustainable investment policies that could ultimately lead to restrictions in investments in shale gas, ethylene or plastic production.

Conclusions and recommendations

The results of this case study reveal a blind spot by Dutch banks and insurers in sustainability policy when it comes to investing in plastics. The most effective way to reduce plastic pollution is to not create plastics in the first place. Until now, efforts to curb the pollution are predominantly symbolic end-of-pipe measures: production of (single use) plastics is actually increasing instead of decreasing. There is an urgent need for financial institutions to recognise the problems related to plastic production. Criteria contributing to a decrease in virgin plastics production should be adopted by banks and insurers and become an integral part of sustainability policy.

The connection between shale gas and overproduction of cheap (single use) plastics is but one of many reasons why shale gas production should not be part of a sustainable investment strategy. The Fair Bank- and Insurance Guide is therefore crystal clear in its assessment that all investments in shale gas production should be terminated immediately. If banks or insurers invest in companies that also produce shale gas, an engagement process should start with the intention to cease shale gas production short term. If engagement is not useful or satisfactory in the short term, all investment relations with shale gas producing companies should be terminated.

Shale oil is already on the exclusion list of multiple financial institutions, there is ample reason to add shale gas. In correspondence with a number of Dutch banks and insurers it was mentioned that further investments in shale gas are getting more and more unlikely. A hopeful development, that deserves a widespread adoption. The Fair Bank- and Insurance Guide and the Plastic Soup Foundation urge all banks and insurers to provide clarity about their investment policy and exclude shale gas production from investment.

1 Fracking for plastic, an introduction

In the next few years the production of petrochemical products, especially plastics, will greatly increase due to the combination of the growing global economy, rising population and technological development.¹ The world profits from the benefits of plastics every day in multiple ways. But plastic waste does not dissolve in water nor biodegrade in nature and turns out to be disastrous for animals and ecosystems. All the plastic that ever ended up in the environment is still present in some form or another.

1.5% to 4% of global plastic production ends up in the oceans every year.² Due to increased use of plastics, more spills and leakages to the environment will occur, instead of less. Plastics in the environment do one thing; they break down into ever smaller and ultimately invisible fragments that are impossible to remove from the environment again.

According to an article in Science Advance: “As of 2015, approximately 6,300 metric tons of plastic waste had been generated, around 9% of which had been recycled, 12% was incinerated, and 79% was accumulated in landfills or the natural environment. If current production and waste management trends continue, roughly 12,000 metric tons of plastic waste will be in landfills or in the natural environment by 2050”.³ An often quoted prediction is that if the world does not curb the production of plastics “the ocean is expected to contain 1 tonne of plastic for every 3 tonnes of fish by 2025, and by 2050, more plastics than fish (by weight)”.⁴

Marine litter and microplastics are recognized as a growing global environmental problem. Already in 2012 the International Union for Conservation of Nature (IUCN), recognizing that plastic is a petrochemical material that the Earth cannot digest, called on governments: “to implement laws and support initiatives to minimize the use of plastic in their respective countries”.⁵ The urgent need to reduce marine litter is part of United Nations Sustainable Development Goal 14⁶, which calls for conservation of oceans and seas. Preventing and tackling plastic pollution has become a major objective in an increasing number of (inter) governmental action plans and agreements. Plastic pollution, moreover, is not limited to oceans. It is everywhere; in the air we breathe and in the ground we cultivate.

In a ratified resolution resulting from the UNEA-4 conference, concluded in March 2019, member states of the United Nations are called upon to take measures to curtail and limit the ecological consequences of plastic waste. However, there was no agreement on any mandated obligatory reduction of plastics. The USA, especially, chose to defend the interests of petrochemical industries and successfully blocked any ambitious resolution.

Plastics emissions

The effects of plastic pollution in the environment are well documented. The contribution of plastics to global warming is much less well known, but substantial. In 2019 alone, the production and incineration of plastic will add more than 850 million metric tons of greenhouse gases to the atmosphere, a recent study by the Centre for International Environmental Law estimates. CIEL reports: “This equals the pollution from more than 150 coal-fired power plants. With the ongoing expansion of the plastic and petrochemical industry, the climate impacts of plastic will accelerate dramatically. There are over 300 planned new petrochemical facilities in the US alone, primarily for the production of plastics and plastic additives. Two new production facilities by Shell and ExxonMobil will release almost 4 million tonnes of greenhouse gasses every year, the equivalent of 800,000 new cars on the road. By 2050, the production and disposal of plastic could generate 56 gigatons of emissions, as much as 14 percent of the earth’s entire remaining

carbon budget.”⁷ The United Nations recognise the urgent need for climate action in Sustainable Development Goal 13. It is clear that rising plastics emissions undermine the ongoing efforts to curb global emissions.

Shale gas

More than 99% of all plastics are made from fossil fuels. At present around 8 percent of the world’s oil production is used to make plastics. The global plastics sector will account for 20% of total fossil fuel consumption by 2050, in a business-as-usual scenario.⁸ The fossil fuel industry and plastic industry are strongly intertwined. Major oil and gas producers own plastics companies and vice versa. ExxonMobil, Shell, Chevron and BP are all integrated companies which make profit from both fossil fuels and plastic production.⁹ Oil and gas companies are thus the petrol at the pump as well as the plastic of your bottle of spring water.

Investments in the US

ExxonMobil Chemical Company multi-billion investment in Texas will increase its polyethylene capacity by approximately 1.3 million tons per year.¹⁰

The U.S. arm of Thailand’s PTT Global Chemical is planning a 1.5 million tonne/year ethane cracker and four derivative polyethylene plants with a combined capacity of 1.6 million tonnes/year in Shadyside, Ohio.¹¹

China Energy Investment Corporation Limited’s plans to invest 83.7 billion dollar in shale gas development and chemical manufacturing projects in West Virginia.¹²

Ethane is a natural gas liquid. It is a by-product of oil and natural gas exploration. It can also be derived from naphtha, a product of crude oil refining. Nowadays ethane originates mainly from shale gas sources in the United States. Shale gas often contains high amounts of ethane (C₂H₆), while conventional gas wells mainly produce methane (CH₄). Ethane recently became an important feedstock for the petrochemical ethylene. Crackers convert ethane into ethylene. This is processed into an intermediate product in the shape of pellets or resins (< 5 mm), which consist of a variety of plastic products, including the most common ones; polyethylene (PE), polyvinyl chloride (PVC), polystyrene (PS) and polyethylene terephthalate (PET). More than 90% of US ethylene producers crack ethane.¹³ Ethane is, due to shale gas production, cheap and abundant which led to a significant drop in the costs of ethylene production.

The world is facing a new boom in plastic production because of the availability of cheap shale gas, while fracking is at the same time criticized because of its negative environmental and geological implications.

Investments in shale gas

The shale drilling throughout the United States has produced an abundance of ethane since 2014. Ethane is the key feedstock for the US-petrochemical industry to produce compounds for making plastics and pellets. New cracker facilities are being constructed that are only capable of processing ethane, alongside investments in pipelines to transport the feedstocks. Because of the low costs, U.S. ethane has become competitive in foreign markets. The president of the American Chemistry Council stated some years ago: “Thanks to the shale gas production boom, the United States is the most attractive place in the world to invest in chemical and plastics manufacturing”.¹⁴ Worldwide new investments are being made

in cracking installations which produce ethylene and propylene as raw material for plastics. On the one hand the massive expansion of production capacity will lock-in a world of cheaper, more ubiquitous and more disposable plastics for decades to come. On the other hand it will outflank any attempt to reduce consumption of plastic.¹⁵

According to the International Energy Agency “the United States has returned to prominence as a low-cost region for chemical production thanks to the shale gas revolution. Today, the United States is home to around 40% of the global ethane-based petrochemical production capacity.”¹⁶ Shale-advantaged chemical industry investments in the US consist of 334 projects since 2010 worth 204 billion dollar.¹⁷ Of that, 68% is foreign direct investment including Dutch investments. Of all these projects 41% are planned, 31% are completed, 22% are under construction and 6% are delayed or uncertain (September 2018). “71% of chemical investment from shale gas is bulk petrochemicals and plastic resins. Of that, 52% of total investment (around \$105 billion) is petrochemicals and 19% of total investment (around \$37.5 billion) is plastic resins”.¹⁸

Export of ethane from United States

Since 2014, ethane exports have more than quadrupled. Ethane exports from the United States averaged about 272 thousand barrels per day in October 2018. Major destinations are Canada (89,000), India (108,000), Norway (28,000) and UK (34,000 barrels a day).¹⁹

In Europe, ethane is the new raw material for plastic production as it compares favourably with the more expensive naphtha. “Because naphtha prices are tightly correlated with global oil prices and ethane prices are correlated with North American natural gas prices, one can use the ratio of oil-to-natural gas as a proxy for competitiveness. The American Chemistry Council has noted that when the ratio is above 1:7, U.S. petrochemicals are advantageous in global markets. Forecasts suggest that this ratio will remain favorable to U.S. producers for many years to come.”²⁰

INEOS

The fracking boom is fueling new plastic plants in Europe. To transport US gas overseas, the British chemical concern INEOS uses multigas carriers, ships that can carry up to 800,000 tonnes of gas at a time. The first shipment arrived at INEOS’ cracker in Norway in 2016. INEOS is investing 3 billion Euros in Antwerp to build a factory for propane dehydrogenation (PDH) and an ethane cracker. Propylene is, after ethylene, the most important chemical building block of plastics. The PDH factory will convert propane into propylene. This is then turned into polypropylene (PP), which is the raw material needed to make plastic for fields such as the automotive industry. The cracker, in turn, converts ethane into ethylene. This is processed into an intermediate product in the shape of pellets or resins, which are used to make a variety of plastics. The investment is celebrated as the largest investment in the European chemical industry in 20 years. Since INEOS is a privately-owned company, no data could be retrieved about investments by Dutch banks and insurers.

Shale gas investments in Argentina

Northern Patagonia, Argentina, contains one of the largest shale gas reserves in the world. Due to the potential of this field, and bearing in mind Argentina's national energy policies to narrow the country's energy deficit and to reduce gas imports, national and global oil industries are exploring these reserves. In 2012, Shell Argentina launched exploration and exploitation of unconventional oil and gas deposits in the Vaca Muerta basins. In December 2018 the company announced that it would develop full-scale extraction. Shell director Andy Brown: "Vaca Muerta makes up an important part of our global shale portfolio and we see substantial long-term growth potential there".²¹ Not only Shell, but nearly all global oil firms are active in this region. The World Bank and the Inter-American Development Bank, together with commercial banks such as Citibank, ICBC, and Deutsche Bank, have funded massive urban planning projects.

Pellet loss

Pellets or resins are oval-shaped plastic granules about a half centimetre wide that constitute the raw material that is needed to produce plastic objects. These pellets are transported all over the world to plastic factories. Many are spilled, despite two major voluntary industrial schemes to prevent pellet loss (Ocean Clean Sweep and Zero Pellet Loss). An Eunomia-study into the loss of pellets in Great Britain showed that an estimated 105 to 1,054 tonnes – or between 5 and 53 million pellets – are lost every year.²² An estimated 230 million tons of pellets enter the European environment every year. An INEOS factory in Scotland is being held responsible for an enormous pellets pollution on beaches. In May 2018 the BBC reported that 450,000 pellets had been found in 2 hours on a beach only 12 miles from the factory. INEOS' promise of "zero pellet loss" appears to be empty.

To give one other example. The Shoreliner is a device to catch floating debris. One has been operating in the Lekhaven of the Port of Rotterdam for two years. It is cleared out every two months. Apart from other floating plastic waste, approximately 250,000 pellets are counted at every clear-out. This means around 1.5 million of them are caught every year at this spot alone. The pellets collected in the Lekhaven originate at plastics manufacturing plants situated upstream.²³

Industrial initiatives to fight plastic soup

In January 2019, multinationals from around the world jointly founded a new NGO, the Alliance to End Plastic Waste (AEPW). The 27 participating companies, among which are companies like BASF, Dow, Shell Chemical and ExxonMobil, have pledged more than 1 billion dollars to fight plastic pollution. AEPW has four priority areas:

- **Infrastructure.** Developing waste management infrastructure and more recycling;
- **Innovation.** Recycling techniques for better recycling and thereby adding value to plastic waste;
- **Education.** Providing information to governments, businesses and communities to initiate action;
- **Clean Up.** The capture of stray plastic, especially in the Asian rivers.

Moreover, in the fall of 2018 over 250 companies, governments and ngo's signed another initiative, The New Plastics Economy Global Commitment. The participants commit themselves:

- to eliminate problematic or unnecessary plastic packaging;
- to innovate to ensure 100% of plastic packaging can be reused, recycled or composted;
- to produce plastic suitable for the circular economy and keep it out of the environment.

No reduction targets are set in either of these initiatives. These commitments are voluntary and in fact allow for an unlimited growth of single use plastic (SUP). They offer no real solution to put a stop to the plastic soup problem. The Center for International Environmental Law (CIEL) concludes that industry acknowledges the problem by promoting reuse and recycling, while at the same fighting regulation of plastic products.²⁴ Necessary steps according to The Break Free From Plastic movement, not dealt with in these initiatives, are:

- a drastic reduction of all single use packaging;
- investments in products that can be refilled and the facilitation of the necessary logistics;
- the rejection of false solutions that enable the continued use of plastics without limitations.

Greenpeace makes the following recommendations to multinationals to really fight the plastic soup²⁵:

- embrace annual reduction targets of packaging plastic in order to eventually banish it entirely;
- be completely transparent about the total amount of plastic used, not just per item;
- start the elimination of problematic and unnecessary plastics immediately;
- invest in recycling of bottles and trays and innovate in the associated logistics.

Plastic Solutions Investor Alliance

In 2018, on the initiative of the American non-profit As You Sow, an international coalition of investors was launched. “Twenty-five institutional investors from four countries with a combined 1 trillion dollar of assets under management have signed a declaration citing plastic pollution as a clear corporate brand risk and pledging to interact with leading companies to find solutions through new corporate commitments, programs, and policies”.²⁶ The declaration emphasises, amongst others, the following criteria:

- disclose annual plastic packaging use;
- set plastic use reduction goals;
- develop alternatives to plastic for packaging purposes, especially for single use packaging;
- support public policy measures on reducing plastic waste and broadening producer responsibility.

Government action

In 2021 a new EU-Directive will be implemented to target single-use plastic products. Along with abandoned fishing gear, these products constitute the majority of marine litter. The Single Use Plastics Directive includes a ban on straws, cutlery, cotton swabs and balloon holders.²⁷

Another interesting example is India. In 2018, Environment Minister Harsh Vardhan used World Environment Day to announce that India will, by 2022, “eliminate all single use plastics from our beautiful country.”²⁸

2 Methodology

In this research project, SOMO has attempted to identify the financial relationships between ten of the world's largest shale gas and plastics producers and the Dutch banks and insurers included in the Fair Finance Guide.²⁹ Shale gas is an important material in the production process of plastic, and investments in shale gas companies by banks and insurers are therefore likely to aggravate the global plastic crisis. The present research focusses specifically on the largest producers of shale gas and plastics and those that are likely to export plastic or its shale-based production materials to Europe.

The methodology for this research involved categorizing financial relationships between the financial institution and the shale gas and plastics producers into one of four types: shareholdings, bond holdings, bond underwriting, and the provision of syndicated loans. The latter two types of relationship were researched primarily for banks, while the former two have been researched for both banks and insurers.

For shareholdings and bond holdings, data on investments was collected in 2019. For the provision of syndicated loans and bond underwriting, data has been investigated going back ten years, for a period from 2010 up to and including 2019. All data was collected using the Thomson Reuters Eikon database. Although the database generally provides reliable information, data has also been found to be incomplete or even incorrect on occasion.

Shares

Shareholdings in shale gas and plastics groups were defined as holding shares of those groups' global parent entity, also known as a global ultimate owner. By keeping the research scope limited to global ultimate owners, it is possible that Dutch banks' and insurers' investments in partially-listed subsidiaries of these corporate groups or joint ventures between Dutch banks and insurers and shale or plastics groups were missed.

Bonds

In researching bond holdings, bonds issued by subsidiaries of the shale and plastics groups were included. Therefore, the figures provided below regarding bonds held by Dutch banks and insurers are the sum of bonds held in the respective shale or plastics groups' parent entity as well as its subsidiaries.

Bond underwriting

Bond underwriting was investigated by looking at all individual bonds issued by shale and plastic groups and identifying their underwriting agents. However, no bonds were found to have been underwritten by the selected banks.

Syndicated loans

Syndicated loans are loans made to companies provided by a syndicate, or group, of banks. As such, the total value of these syndicated loans cannot be ascribed to one single bank. However, information on the individual contribution per bank is often not publicly available. In cases where such individual contributions were found, they are shown in the data. Where this information was not publicly available, an estimate was made by dividing the total value of the loan by the amount of participants. In doing so, the participants of the syndicate were given a different weight based on the role they played within the syndicate. Following a formula previously used in Fair Finance Guide research³⁰, 40% of the loan's total value was ascribed to the lead arranger(s) of the loan (i.e. the bookrunner) and agents, with 60% being ascribed to the loan's

remaining participants. In rare cases where bookrunners and agents were more numerous in the syndicate than other participating banks, these percentages were inverted.

Company selection

For this research, companies were selected based on several criteria. The primary criterion was a company's involvement in the production of shale gas and the use of shale gas to make plastics. The company selection has been made to include the largest companies active in the shale gas sector, while highlighting two specific shale fields, namely the Vaca Muerta in Argentina and the Appalachian basin in the United States of America (US).

The Vaca Muerta was included because it is expected to be an important source of growth for the shale gas industry, and because European companies are likely to be at the forefront of shale gas production from the field.³¹ The focus on the Appalachian basin is due to its size, being the largest shale gas field in the US³², which produces the vast majority of the world's shale gas.³³ In Appalachia, US\$ 35,8 billion is reportedly being invested in shale gas infrastructure, including pipelines to terminals on the east coast of the US.³⁴ The region is one of the established heartlands of the shale gas boom, and investment in the region is an indicator of involvement in the sector. From a European perspective, shale gas production on the east coast of the US is also relevant because of exports of plastics and ethylene to the EU.

The Appalachian Ethane Hub

The Appalachian region, Pennsylvania, is turned into America's ethane storage and distribution hub.³⁵ In Appalachia 35.8 billion dollars is invested in shale gas infrastructure, including pipelines to terminals on the US East Coast. Shell is building a multibillion-dollar plant. Three units will produce 1.6 million metric tons of polyethylene a year.³⁶ The complex includes four processing units, an ethane cracker and three polyethylene units, two of which will manufacture high-density polyethylene (HDPE) grades of pellets and a third will produce linear low-density polyethylene (LLDPE) pellets.³⁷ Shell's western Pennsylvania facility is currently under construction and will be one of the nation's largest ethane crackers. It will be the first new facility of its type to be built outside the Gulf Coast in two decades. In addition to the cracker, the petrochemical complex will include a unit that will produce 3.5 billion pounds annually of polyethylene, a type of plastic. The Beaver County location was meticulously selected to thrive off of Marcellus and Utica shale gas production.³⁸

Following the selection of companies that play a role in the Vaca Muerta and those in the Appalachian basin, companies were selected from a list of the world's largest shale gas producers.³⁹ From this list, the top five largest shale gas producers were selected based on market capitalization. Market capitalization was determined on 18 February 2019, using the Thomson Reuters Eikon database. The research sample was completed by adding DowDuPont, one of the largest plastics producers in the world⁴⁰ and owner of plastics production facilities in the Netherlands.⁴¹

An exhaustive study of the shale gas sector's links to Dutch banks and investors is outside the scope of this research. Instead, using the aforementioned criteria, a non-exhaustive list of some of the world's foremost companies involved in producing and using shale gas was created. This means that the results of this scoping research do not provide an overview of Dutch banks' and investors' investments in the shale gas

sector in its entirety, but rather provide insight into investments in several of the sector’s most important players. The resultant sample list of companies researched is shown below.

Table 5. Shale and plastics companies included in this study and selection criteria⁴²

Company	Shale gas production	Size by market cap	(Integrated) plastics production
BP	US	#5 global shale gas producer	
Cabot Oil & Gas corp.	Appalachian Basin (US)		
Chesapeake Energy	Appalachian Basin (US)		
Chevron	Appalachian Basin (US)	#2 global shale gas producer	Yes
ConocoPhillips	US	#8 global shale gas producer	Yes
DowDuPont	No		Yes
ExxonMobil	US	#1 global shale gas producer	Yes
Reliance Industries Ltd.	Appalachian Basin (US)	#6 global shale gas producer	Yes
Repsol	Vaca Muerta (ARG)	#9 global shale gas producer	Yes
Royal Dutch Shell	Planned production Vaca Muerta (ARG)	#3 global shale gas producer	Yes

Policy quickscan

In addition to the financial research conducted by SOMO, Milieudéfensie on behalf of the Dutch Fair Finance Guide and Plastic Soup Foundation, performed a quickscan on investment policies of the selected banks and insurers. Also, if an exclusion or engagement list was found, a check was performed on the occurrence of each of the nine selected shale gas and plastic producers. Banks and insurers that did not seem to have relevant policy documents on their website were contacted and asked to provide policy information on investments in shale gas, ethylene or plastic production. Clarifications were requested where necessary. All banks and insurance companies which are included in this study, were explicitly invited to check the way their investment policy is reflected in the draft-results of this study.

3 Results

Three Dutch banks were found to be heavily involved in syndicated loans to shale and plastics groups, with such loans having a total value of US\$ 5.2 billion. Of the Netherlands' three largest banks – ING, ABN AMRO and Rabobank – ING was found to be involved in most loans to shale and plastics companies. Furthermore, insurer Allianz's subsidiary, PIMCO, was found to have provided at least one loan to DowDuPont.

With regard to shareholdings, a total of US\$ 3.9 billion of investments in shares by banks and insurers into shale gas and plastics companies was found. Most major banks and insurance companies invest in the selected companies. Achmea, ASR and Menzis appear to be relatively small investors. For the health insurance companies CZ and VGZ no investments were found. The fact that no financial relation at all could be identified, suggests that the financial databases that were used for this study do not register investments by these cooperative health insurers. Relations probably do exist but cannot be uncovered.

Finally, for bonds relatively little information could be found in public sources. The total value found for the plastics and shale groups' bonds held by Dutch banks and insurers was a mere US\$ 49 million, which appears very low, especially compared to the value of shares held. It seems likely that the data availability constraints create an inaccurate picture of bonds held by Dutch banks and insurers.

The data from the Thomson Reuters Eikon database shows that several of the Netherlands' largest insurers and banks are involved in financing and investing in shale gas and plastics companies, but likely does not show the full extent of these relationships.

Syndicated loans

The selected banks and insurers have contributed approximately US\$ 5.3 billion to syndicated loans held by the shale gas producing companies (Table 4). Regarding (syndicated) loans, we have only found data in public sources for three banks (ABN AMRO, ING and Rabobank) and one insurer (Allianz). ING has contributed most to these syndicated loans in terms of estimated value (75 percent) and has lent money to almost all shale gas producing companies that are included in this study. For ABN Amro a relatively high amount of loans was found as well. For Rabobank only one loan was found, to a chemical company that produces plastics. For Van Lanschot, de Volksbank, Triodos and NIBC, no loans could be found. DowDuPont (32.6 percent) and Shell (22.7 percent) are the largest receivers of these funds, followed by ExxonMobil (15.2 percent) and Reliance (13.5 percent).

Table 6. Overview of syndicated loans of selected banks and insurers in selected shale gas producing companies, in millions of US\$⁴³

	Cabot	Chesa-peke	Chevron	Shell	ExxonMobil	Reliance	Conoco	Dow DuPont	Total Value	% of total
ABN AMRO		185.0		363.6	269.2				817.9	15.5
Allianz								144.3	144.3	2.7
ING	360.0		200	831.5	533.3	713.6	100	1,228.8	3,967.3	75.2
Rabobank								343.6	343.6	6.5
Total value	360.0	185.0	200	1,195.1	802.6	713.6	100	1,716.7	5,273.0	100.0
% of total value	6.8%	3.5%	3.8%	22.7%	15.2%	22.7%	1.9%	32.6%	100.0%	

Source: Thomson Reuters Eikon Database

Shareholdings

The selected banks and insurers have invested approximately US\$ 3.9 billion in the selected shale gas producing companies (Table 2). Allianz (38.1 percent), Aegon (25.4 percent) NN Group (15.9 percent) and VIVAT (10.1 percent) are responsible for the lion's share of these investments. The other banks and insurers together cover about 12 percent of the total investments. Overall, Shell is the most important investee company, accounting for 21.9 percent of the total investment value. Other important investee companies include ExxonMobil (9.6 percent), Chevron (8.1 percent), BP (7.9 percent) and Conoco (6.1 percent).

Table 7. Overview of shareholdings of selected banks and insurers in selected shale gas producing companies, in millions of US\$⁴⁴

	Cabot	Chesa-peke	Chevron	Shell	Exxon Mobil	BP	Reliance	Conoco	Repsol	Dow DuPont	Total per bank/insurer	% of total
A.S.R.	0.6				26.1				16.0	5.4	48.1	1.2%
Achmea			13.8		31.2			16.0			61.1	1.6%
Aegon	1.1		89.2	472.6	61.3	283.3		13.1	42.6	32.5	995.6	25.4%
Allianz	3.8	15.1	278.4	366.3	292.3	99.1	8.1	184.6	35.2	208.1	1,491.0	38.1%
Menzis ⁴⁵				2.4			0.6	1.2	0.4	2.3	6.9	0.2%
NN Group			24.5	311.9	72.0	41.4		140.8	17.1	15.1	622.7	15.9%
Vivat	2.9		62.0	99.0	85.9	48.3	4.1	21.4	31.7	38.4	393.8	10.0%
ABN AMRO			13.0	76.0	3.6	15.7		0.5	22.8	8.5	140.1	3.6%
ING		0.7	26.0		1.4			3.1		51.7	82.8	2.1%
Van Lanschot				43.5	27.5	8.2				1.7	81.0	2.1%
Total per shale gas company	8.4	15.8	506.9	1,371.7	601.3	496	12.8	380.7	165.8	363.7	3,923.10	100%
Percentage of total	0.2%	0.4%	12.9%	35.0%	15.3%	12.6%	0.3%	9.7%	4.2%	9.3%	100%	

Source: Thomson Reuters Eikon Database

Bond holdings

The selected banks and insurers hold at least US\$ 48 million worth of bonds of the shale gas producing companies (Table 3). It is likely that in reality this figure is higher, but the limited data availability concerning bond holdings makes it difficult to provide a more accurate estimate. Public data was only found for two of the selected banks (ABN AMRO and Van Lanschot) and for four of the insurers (Aegon, Allianz, NN Group, VIVAT and Menzis). Allianz (67 percent of total value) and Aegon (23 percent) hold by far the most of these bonds. Their most important investee companies are BP (13 percent), ExxonMobil (7 percent) and DowDuPont (7 percent).

Table 8. Overview of bond holdings of selected banks and insurers in selected shale gas producing companies, in millions of US\$⁴⁶

	Cabot	Chesa- peake	Chevron	Shell	Exxon- Mobil	BP	Reliance	Conoco	Repsol	Dow DuPont	Total Value	% of total
Aegon		1.7	0.8	0.8	2.9	2.4	0.6	0.6		0.9	11.1	22.8%
Allianz	0.8	1.7	4.6	1.4	4.3	8.4	2.8	2.8	0.9	5.9	32.2	66.1%
Menzis ⁴⁷				0.8							0.8	1.6%
NN Group				0.4		1.7	0.2		0.3		2.6	5.3%
Vivat				0.1					0.0		0.1	0.2%
ABN AMRO				0.0		0.0	0.3		0.6		0.9	1.8%
Van Lanschot				0.2					0.8		1.0	2.1%
Total value	0.8	3.4	5.4	3.7	7.3	12.5	3.8	2.2	2.7	6.9	48.7	100%
% total bond holdings	1.6%	7.0%	11.1%	7.6%	15.0%	25.7%	7.8%	4.5%	5.5%	14.2%	100%	

Source: Thomson Reuters Eikon Database

Investment Policies

Of all 16 Dutch banks and insurers included in the Fair Finance Guide, de Volksbank, ING (only for Europe), NIBC, Rabobank and Triodos bank, explicitly exclude companies from financing if any or more than a third of revenue comes from shale gas production. De Volksbank has formulated a plastic policy and excludes ethylene production. Reducing plastics production is not explicitly mentioned in any of the reviewed policy documents.

For none of the insurance companies relevant investment policies were found. Insurer VGZ has been involved in an engagement process with Chevron in 2017, it is not clear if this had anything to do with shale gas or ethylene/plastic production. None of the companies involved in this report were mentioned on exclusion lists by banks and insurers, or in engagement processes.

Table 9. Investment Policies Dutch banks and insurers on shale gas phase out, and restricting plastic or ethylene production

Company	Shalegas phase out	Plastic	Ethylene
ABN AMRO ^{48 49}	Restrictive for Europe	Not mentioned	Not mentioned
Achmea ⁵⁰	Not mentioned	Not mentioned	Not mentioned
Aegon ⁵¹	Not mentioned	Not mentioned	Not mentioned
Allianz ⁵²	Not mentioned	Not mentioned	Not mentioned
A.S.R. ⁵³	Not mentioned	Not mentioned	Not mentioned
CZ ⁵⁴	Not mentioned	Not mentioned	Not mentioned
ING ⁵⁵	Moratorium for Europe	Not mentioned	Not mentioned
Menzis ⁵⁶	Not mentioned	Not mentioned	Not mentioned
Nationale ⁵⁷ Nederlanden	Not mentioned	Not mentioned	Not mentioned
NIBC ⁵⁸	Excluded	Not mentioned	Not mentioned
Rabobank ⁵⁹	Excluded	Not mentioned	Not mentioned
Triodos ⁶⁰	Excluded	Not mentioned	Not mentioned
Van Lanschot	Not mentioned	Not mentioned	Not mentioned
VGZ ⁶¹	Not mentioned	Not mentioned	Not mentioned
VIVAT ⁶²	Not mentioned	Not mentioned	Not mentioned
Volksbank ⁶³	Excluded	Not mentioned	Excluded

Source: corporate websites Dutch banks and insurers

Data and policy review by financial institutions

A draft of the findings by SOMO on investments was shared with the selected banks and insurers included in the Fair Finance Guide. Allianz responded that, having seen the data and methodology and foregoing the difficulty of verifying it, they accepted that the data was likely to be correct. Representing de Volksbank, ASN Bank stated that in line with their policies banning investment in fossil fuels and related products, they did not have financial relationships with any companies involved in the shale or plastics sector. In their response, Rabobank referred to their sustainability policy framework,⁶⁴ following which the bank will not invest in the exploration and production of non conventional minerals like shale gas, nor in the processing of extractive materials from the shale gas industry. This makes Rabobank the first of the big three to exclude shale gas without geographic exceptions, like ING and ABN Amro made. Because of Rabobank's focus on agricultural industries, it is likely that Rabobank's investments in DowDuPont were made into the company's agricultural segment – which has recently split off as a separate company “Corteva” – as opposed to its production of plastics.

Milieudefensie, on behalf of the Dutch Fair bank Guide, Fair Insurance Guide and Plastic Soup Foundation, contacted all banks and insurers mentioned in this report regarding their investment policy on shale gas, ethylene and plastic production. For the report, publicly available investment policies and exclusion lists were taken into account. Allianz provided on request a document on sustainability and investment policy that was initially overlooked in the quickscan. A.S.R. clarified that, even though it says on the website that there are no investments in shale gas and indeed investments in shale are unlikely, there is only exclusion policy on shale oil and not on shale gas production. Triodos clarified that, even though ethylene and plastic production is not explicitly mentioned in their policy, industries that are solely active in ethylene and plastic production do not contribute positively to the world and will therefore not be eligible for financing. Van Lanschot declined to react to our request to inform us about relevant policies. All banks and insurance companies were finally invited to check the way their investment policy is reflected in this study.

4 Conclusions and recommendations

The most effective way to reduce plastic pollution is to not create plastics in the first place. Until now efforts to curb the pollution are predominantly symbolic end-of-pipe measures. For years consumers were blamed for littering and industry made promises on recycling. Now we have entered a new phase in which corporate business, under increasing pressure, is slowly recognizing the problem of plastic pollution. However, all current corporate initiatives allow for further investments in plastic production. There is an urgent need to establish new investment criteria to discourage further plastic production, also as a result of shale gas.

Three Dutch banks were found to be heavily involved in syndicated loans to shale and plastics groups, with such loans having a total value of US\$ 5,2 billion. Of the Netherlands' three largest banks – ING, ABN AMRO and Rabobank – ING was found to have been involved in most loans to shale and plastics companies, followed by ABN Amro. For Rabobank only one loan was found in a plastic producing company – no loans of Rabobank were found in shale gas companies. Furthermore, insurer Allianz's subsidiary PIMCO was found to have provided at least one loan to DowDuPont.

With regard to shareholdings, a total of US\$ 3.9 billion of investments by banks and especially insurers into shale and plastics groups were found. For CZ and VGZ no loans were found. This could be a result of limited data availability. Achmea, ASR and Menzis appear to invest relatively small amounts in the selected companies. Allianz, Aegon, NN group and Vivat invest bigger amounts in the selected companies.

When it comes to the question whether or not investments in shale gas and plastic production are warranted, it seems that especially the plastics industry has managed to stay away from public scrutiny. Five of sixteen banks and insurers investigated, have an exclusion policy on shale gas production (some limited to shale gas production in Europe). Although some banks and insurers state that they are aware of the plastic problem and/or have signed statements to reduce their own plastic use, plastic is not mentioned in the investment policies or exclusion lists by any of the sixteen banks and insurers. Rabobank excludes shale gas and only one loan in a plastic producer was found. This is a stark contrast with peer banks ING and ABN Amro, who only exclude shale gas production in Europe and continue to finance shale gas elsewhere in the world. For de Volksbank (including ASN Bank and SNS) which has an exclusion policy on ethylene production, it is likely that no investments in the plastics industry will take place. Triodos has no explicit policy but states that investments in either ethylene or plastics are highly unlikely given the overall investment policy of the bank. This leaves all but two smaller banks without a fundamental policy to curb the surge of plastic production because of cheap shale gas ethylene.

Fair Finance Guide and Plastic Soup Foundation make the following recommendations:

1. It is highly recommended that banks and insurance companies develop policies regarding plastics production, with clear criteria that put a stop to the expansion of the plastics industry and move towards downscaling the production of virgin plastics and single use plastic products.
2. Banks and insurance companies should be transparent about financing of and investment in plastics production and about engagement processes with companies active in this sector, to maximize pressure on the sector and to enable other financial institutions to follow and combine forces.
3. Banks and insurance companies that are financially related to companies involved in shale gas production should start an engagement process to convince these companies to end shale gas exploration and production. If these efforts bear no result relations should be terminated.

4. The connection between shale gas and plastics is one of many reasons why shale gas should be excluded from investment. The Fair Finance Guide concludes that all future investments in the shale industry should be terminated. Shale oil is already part of many exclusion policies, it would be recommended to add shale gas. The Fair Finance Guide urges all banks and insurance companies to adopt and implement an explicit exclusion policy for shale gas.
5. Banks and insurance companies should be transparent about loans and investments in the energy sector, especially about the financial flows towards unconventional oil and gas and related trade and transport services.

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Colophon

About this report

This report has been commissioned by The Fair Finance Guide (The Fair Bank- and Insurance Guide) which is a coalition of the following organizations: Amnesty International, FNV, Milieudefensie, Oxfam Novib, PAX and World Animal Protection.¹

The aim of the Fair Finance Guide is to encourage corporate social responsibility by Banks and Insurance companies.

Authorship

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¹ Not all coalition members of the Fair Finance Guide (The Fair Bank- and Insurance Guide) work on all themes and/or sectors on which the research of the Fair Finance Guide focuses. Reports on specific themes therefore do not necessarily reflect the opinion of all coalition members of the Fair Finance Guide.

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