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PRESENTATION

Operator

Good morning, ladies and gentlemen, and thank you for standing by. Welcome to today's Umicore Full Year 2018 Conference Call. (Operator Instructions) I must advise you that this conference is being recorded today, on Friday, the 8th of February, 2019.

I would now like to hand the conference over to your speaker today, CEO of Umicore, Marc Grynberg. Please go ahead.

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Thank you. Good morning, everyone, and welcome to the presentation of Umicore's performance for 2018. I will first make some comments on our strategy and give an overview of our major achievements and then hand over to Filip, who will talk you through the 2018 business performance and financials. I will then wrap-up with some overall comments and outlook, before handing the call over to you for any questions that you may have.

Looking at the key figures of 2018, we produced a very strong overall performance with yet another set of record results. Revenues were up by 17% year-on-year and recurring EBIT up by 29% to exceed EUR 0.5 billion, as we indicated a year ago. We produced revenue and earnings growth across all 3 business groups, and our return on capital employed, in a period of intense investments, has increased to 15.4%, above our 15% target.

These results demonstrate that we have made the right strategic choices, and that our investments are not only laying the foundations for long-term growth, they are also creating value today by generating attractive returns. On this basis, and having already reached our initial 2020 targets 2 years ahead of schedule, I am confident that we are on track to deliver on our raised ambitions by 2020 as planned, notwithstanding a less favorable macroeconomic environment in 2019.

With this slide, I want to remind you of the ambitions that we defined in our Horizon 2020 strategy. Back in 2015 I said that, by 2020, we would have a clear leadership in clean mobility materials and Recycling, that we would double the size of our business in terms of earnings while rebalancing the portfolio of activities and that we would turn our pioneering approach to sustainability into a greater competitive edge. I am proud to say that we are 2 years ahead of schedule in achieving our strategic goals, which is both rewarding and motivating for all of us at Umicore.

Our leadership in clean mobility materials and Recycling has been confirmed and market trends have been evermore in our favor. 8 months ago, at our Capital Markets Days, I commented that the faster the decline in light-duty diesel, the better that would be for Umicore. Since then, that trend has accelerated much more than anticipated. At the same time, our technological edge in the light-duty gasoline and battery materials segments has allowed us to win large EV platforms and new business for gasoline engines requiring particulate filters.

We have also secured emerging fuel cell and battery recycling business, so confirming our unique ability to provide the solutions for all of the future drivetrain technologies. Umicore has clearly become the premier materials technology company, enabling the transition to cleaner mobility.

The recurring EBIT of EUR 514 million in 2018 is above the original 2020 target of doubling the 2014 figure. Early last year, when it became clear enough that we could reach this target already in 2018, I also informed you that we had identified an upside potential of some 35% to 45% over and above the original ambition, and I'm confident that we will capture this upside in 2020.

Our portfolio was very clearly rebalanced by the various divestments through to the end of 2017 combined with a focused investment strategy. We sold a number of businesses that did not directly contribute to the strategy of clean mobility materials and Recycling and thus typically had a lower growth profile.

Our closed loop model is gaining traction, which goes to show the added value of our sustainability approach. You cannot have massive electrification and you cannot deal with the needs of the catalyst industry or fuel cells without closing the loop and without recycling all these powertrain elements when they reach end-of-life.

For environmental reasons, and because of the scarcity of the metals that are required for these technologies, our closed loop model is the way to go. Without Recycling, scarcity would be a limiting factor and a significant bottleneck to society's aspirations to cleaner mobility, especially in the field of rechargeable batteries.

I am particularly proud that we are the first and only player in the market to be able to offer our Rechargeable Battery Materials customers certified materials from a clean and ethical supply chain. As an example of our sustainable sourcing, our OECD compliance global procurement framework is covered by third-party assurance. The fact that we're ahead of schedule did not come by sheer luck. While societal and technology trends support the choices we made several years ago, our achievement results from a consistent execution of the strategy.

Consistent execution of investments. For Catalysis, last year, this mainly involved the integration of the recent acquisitions from Haldor Topsoe and full ownership of Umicore ORDEG in Korea. In 2019, the focus will be on the expansion in Europe, China and India, following major business wins.

For Energy & Surface Technologies, we reached milestones ahead of schedule with the completion of the EUR 460 million investment plan in China and Korea, in a market where time is of the essence. In 2018, we also made a start on the EUR 660 million investment plan for cathode materials on greenfield sites in both China and Poland, together with a newProcess Competence Center in Belgium.

For Recycling, the significant step was the completion of major environmental investments in the Hoboken plant, which has immediately shown a significant reduction in emissions. Consistent execution and expansion of the technology innovation roadmap. In 2018, we stepped up our R&D efforts and filed 75 new patent families, up 56% on the previous year, while R&D spend increased by 12%.

Our innovation roadmap spans the next 20 years and includes both product and process technologies, in particular, for Rechargeable Battery Materials and battery recycling. Innovation part includes new cathode and anode materials to increase the performance of battery cells, with a focus on increasing energy density to improve driving ranges, while reducing charging times and optimizing cost per kilowatt hour. Looking further ahead, we are also investigating solid-state batteries.

In Catalysis, the development of innovative materials for fuel cells is also gaining in importance. Consistent execution of the strategy also means the ability to attract new talent in competitive growth markets such as Korea and China as well as in Belgium for our R&D division and for the recycling plant in Hoboken.

Attracting and retaining talented and visionary employees is one of the major challenges which our thriving and technology-advanced industry faces in order to ensure continued innovation. I'm very proud of our people, and consider the success we had in hiring so many skilled people as testimony to our relentless effort to make Umicore an attractive place to work and to promote Umicore as a sustainable employer.

The philosophy around sustainability at Umicore is not only about minimizing our impact on the environment or on the communities surrounding our operations. Our sustainability philosophy is about creating a positive impact on society.

Having already reached our initial 2020 targets ahead of schedule, I'm confident that we are on track to capture in 2020 the upside earnings potential of some 35% to 45% over and above the original ambition levels, notwithstanding a less favorable macroeconomic environment in 2019 impacting the automotive sector in particular.

On this slide, I have detailed some of the factors that will influence performance in 2019. For Catalysis, the macroeconomic situation is clearly a key factor, with the automotive industry showing a slowdown in sales since the second half of 2018, especially in China. New car sales in Europe are impacted, amongst other factors, by the low resale value of the existing diesel fleet. Consumer choices and the pressure to curb emissions will determine how far the engine mix will continue to evolve.

In China, new legislation has been brought forward by a few months in some municipalities. The impact thereof is expected to be limited, though, as the vast majority of car and truck models are not ready for the new standard, due to supply chain bottlenecks. We will expand gasoline particulate filter production capacity during the year to fulfill newly qualified volumes. Obviously, overall sales will depend on the macro environment, and it remains to be seen if and when consumer confidence will improve and bring buyers back to the dealerships in the various regions.

For Energy & Surface Technologies, a significant number of new models of electrified vehicles are due to be launched in 2019 using Umicore materials. Against this backdrop, we will bring new capacity onstream in China in the second half of the year, and this will support revenue growth.

In Cobalt & Specialty Materials, we benefited in the first half of 2018 from strong profitability due to particularly high levels of demand across most businesses and through a benign cobalt pricing environment. We do not expect this to be repeated in 2019, due to a softer macro outlook and a significantly lower cobalt price impacting revenues and margins in cobalt refining, recycling and distribution activities.

In Recycling, we will combine the regular maintenance of the Hoboken smelter with optimization investments, and this will result in an extended shutdown of the plant in the first quarter of the year. Taking account of the impact of this shutdown, we expect processed volumes to be roughly in line with the levels reached in 2018. The supply mix is very much in line with that of last year.

I will now hand over to Filip, who will comment on the financial aspects.

Filip Platteeuw - Umicore S.A. - CFO

Thank you, Marc, and good morning, everyone. The main message on this slide is that we delivered on our ambition to generate record results in 2018, as first voiced at the time of the capital raise in February of last year.

Revenues increased 17%. But, as importantly, earnings grew faster with recurring EBIT and EBITDA up 29% and 23%, respectively, resulting in higher margins. This includes a EUR 13 million year-on-year decrease in earnings contribution from our minority stake in Element Six Abrasives, which we reported under corporate.

Now while all 3 business groups contributed to this growth, Energy & Surface Technologies accounted for most of it, already representing half of the group's recurring EBIT in 2018. These higher operating results translated into a 22% increase in recurring net profit and a 12% increase in recurring earnings per share, which takes into account dilution effect from the new shares issued as part of last year's capital raising.

Consistently with our policy of distributing a stable and growing dividend, we will propose a gross annual dividend for 2018 of EUR 0.75 per share. Finally, return on capital employed rose to 15.4%, as our businesses continue to create substantial shareholder value, even in a period of intensive growth investments.

The next slide illustrates the consistent earnings and margin increase delivered since 2014, which is our reference year for our Horizon 2020 strategy. This happened despite the divestment of 4 business units in recent years. In less than 5 years, recurring EBIT doubled and our earnings distribution became more balanced, with Energy & Surface Technologies, in 2018, overtaking Catalysis to become Umicore's largest business group in terms of earnings, capital employed and headcount.

Compared to the baseline of 2014, returns have increased substantially and now apply to a much larger capital employed base, resulting in significant value creation. As in 2017, we exceeded in 2018 Umicore's 15% return on capital employed target, generating returns for all 3 business groups well in excess of our cost of capital.

Recycling remains a premium return business due to its unique business model and service offering. The increased ROCE for Recycling in 2018 includes the effects of the divestment of Technical Materials European operations.

Return on capital employed for Energy & Surface Technologies was well up, and overtook that of Catalysis, despite the 50% increase in its average capital employed year-on-year. This underlines that our investments are generating returns almost immediately. The return on capital employed for Catalysis includes some anticipated temporary dilution effect owing to recent acquisitions that have yet to deliver their full synergy potential. I propose to review the performance per segment in somewhat more detail, and starting with Catalysis.

In Catalysis, revenues increased by 9%, while recurring EBIT and EBITDA increased by 2% and 6%, respectively. In Automotive Catalysts, growth was driven by the heavy-duty diesel business and a higher demand for gasoline catalysts for passenger cars. In heavy-duty diesel, the acquisition from Haldor Topsoe contributed and broadened Umicore's technological footprint. In the passenger car segment, Umicore's higher gasoline sales more than offset the fast decline in diesel car sales in Europe.

There was a slowdown in the automotive sector in the second half of the year, particularly in China, where consumer confidence seemed to be affected by trade tensions, and in Europe, where the transition to tighter emission legislation caused some certification delays. Against a backdrop of a rising proportion of gasoline in the car mix, Umicore has won the largest share of new gasoline platforms requiring particulate filters in Europe and in China that will come to market in the coming years.

Growth in Precious Metals Chemistry was driven by higher sales of active pharmaceutical ingredients and products used in chemical metal deposition applications as well as by increasing demand for Umicore's fuel cell catalysts. While still modest in size today, the fuel cell market update has become visible, and Umicore is committed to this clean mobility technology. We are well positioned through close collaboration agreements with leading OEMs.

In Energy & Surface Technologies, revenues increased by 44% and recurring EBIT and EBITDA by 82% and 63%, respectively. Step change growth in Rechargeable Battery Materials was based on strong demand for NMC cathode materials for transportation applications and a swift ramp-up of the new capacity in China and Korea. We also had high year-on-year demand for LCO used in high-energy portable electronics and for NMC materials used in energy storage applications.

Earnings benefited from scale effects associated with the newly commissioned capacity. As the next expansion phase consists of sizable greenfield expansions, 2019 will see higher upfront costs and is not expected to see a repeat of such scale effects.

Growth in Cobalt & Specialty Materials in 2018 was driven by strong volumes and a supportive price environment in the first half of the year. Now these tailwinds gradually subsided in the second half, exacerbated by an accelerated decline in the cobalt price, and these tailwinds are not expected to return in 2019.

The activity level in battery recycling increased as more OEMs confirmed their interest in a closed loop approach, resulting in newly secured recycling contracts. Finally, Electro-Optic Materials showed slightly lower revenues, while revenues in Electroplating were stable.

This next slide illustrates that we are on track to deliver our ambitious EUR 1.1 billion CapEx expansion strategy for Rechargeable Battery Materials. The initial expansions in China and Korea, totaling EUR 460 million of CapEx and as announced in April 2016 and in May 2017, followed an accelerated schedule. The ramp-up is largely completed, allowing for the 2018 scale effect that I mentioned before. The next investment wave, announced in February of last year, was initiated and will trigger significant upfront costs in 2019. Construction is underway on the greenfield site in Jiangmen in China, with start of production expected in the second half of 2019.

Engineering work is ongoing for the greenfield site in Nysa in Poland and construction is due to start in the spring, with commissioning expected mid-2020. And we're also in the final engineering phase for the Process Competence Center in Olen, Belgium.

Moving now to Recycling. Excluding the impact from the sale of the European operations of Technical Materials, Recycling revenues increased by 6% and recurring EBIT by 12% on a like-for-like basis. Revenues increased for Precious Metals Refining, thanks to higher processed volumes at Hoboken, despite the fire incident that occurred in September.

Metal prices were, on average, somewhat more supportive, while commercial conditions in some segments continue to be impacted by competitive pressure. The mix remained broadly unchanged year-on-year. Revenues were stable in Jewelry & Industrial Metals, and they were higher for Precious Metals Management. The strong revenues and earnings growth in 2018 results from focused and sustained investments, which are embedded in our Horizon 2020 strategy. These investments continued and increased in 2018.

Capital expenditure amounted to EUR 478 million for the full year, which compares to EUR 198 million in the first 6 months of the year. 2/3 of this amount was taken up by Energy & Surface Technologies, and in particular by the capacity expansions in Korea and China for Rechargeable Battery Materials. For 2019, we expect a further increase in capital expenditures compared to 2018.

The increase in cash net working capital seen in the first 6 months of 2018 continued into the second half, reaching EUR 707 million for the full year. Again, more than 2/3 of this amount, close to EUR 500 million, was for the account of Energy & Surface Technologies, driven by the volume growth in cathode materials and the need to fill the pipeline for newly commissioned production lines. These effects were exacerbated by a substantial year-on-year increase in the average cobalt price. The increase in cash working capital in Recycling in 2018 reflects a temporary increase in inventories caused by the fire incident in Hoboken.

Out of this EUR 707 million of working capital increase, the growth in inventories accounted for EUR 764 million, while the net receivables actually decreased by EUR 57 million, as trade payables outgrew receivables. Needless to say, that initiatives are on the way to optimize working capital, especially in the expanding battery materials value chain.

The waterfall chart on the next slide shows a roughly stable net financial debt year-on-year, ending 2018 with EUR 861 million. This implies that the new capital raised in February of last year funded the net cash flow needs of 2018. The strong growth across the 3 business groups generated a record EUR 800 million of operating cash flow, used to fund the increase in net working capital and part of the CapEx. Free operating cash flows are expected to be substantially better in 2019.

De gekoppelde afbeelding kan niet worden weergegeven. Het bestand is mogelijk verplaatst, heeft een andere naam gekregen of is verwijderd. Controleer of de koppeling verwijst naar het juiste bestand en de juiste locatie.

Cash taxes amounted to EUR 127 million and net interest to EUR 32 million, and Umicore paid close to EUR 200 million of dividends in 2018, of which EUR 175 million to its shareholders and the remaining EUR 20 million to minorities. Net buybacks amounted to EUR 79 million, while the net cash outflow related to acquisitions and divestments amounted to just under EUR 100 million.

One of the highlights of 2018 in terms of our funding structure was the successful capital increase in February, raising 10% new equity. The net financial debt of end 2018 corresponds to very solid credit ratios, maintaining us comfortably within the investment-grade territory. Our net financial debt over recurring EBITDA amounts to 1.2x and our gearing ratio to 24%. 80% of net debt consists of fixed rate, medium- and long-term notes, leaving our substantial committed syndicated bank loans largely undrawn. Umicore's strong balance sheet and operating cash flow leaves ample funding headroom to continue to execute the strategy in 2019 without the need for additional capital.

Finally in 2018, we accounted for nonrecurring items totaling a net charge on EBIT level of EUR 14 million. Restructuring charges accounted also for EUR 14 million and mainly covered the restructuring plan in Brazil that will result in the closure of our industrial activities in Guarulhos, and the transfer to our Americana site. These restructuring charges were partly offset by income from other items, including the gain on the sale of the European operations of Technical Materials.

In 2018, we also recognized EUR 6 million of noncash impairments on permanently tied-up inventories, mostly the result of the declining cobalt price. Since the 31st of December closing date, the cobalt price continued to substantially decrease, which is a headwind for certain refining and recycling operations into 2019.

And with this, I'd like to hand it back over to Marc.

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Thank you, Filip. Before turning to questions, I would like to wrap-up with some concluding remarks from today's presentation. We have reached the ambitions that we have set ourselves as part of the Horizon 2020 strategic plan 2 years ahead of schedule, which goes to show that our strategic choices and recent investments are paying off. The long-term fundamentals of our business are strong and our growth prospects are exciting, notwithstanding current challenges in the macroeconomic environment, which impact the automotive sector in particular.

We remain on track to capture the upside potential of some 35% to 45% to the original Horizon 2020 ambitions, while maintaining the 15% ROCE target at group level. We will make further progress this year in the execution of our growth strategy. However, EBIT growth in 2019 will be tempered by the present subdued demand in the automotive and consumer electronics sectors, combined with increased depreciation charges, R&D efforts and start-up costs as well as the timing of new capacity.

As I have mentioned on many occasions, though, we run the company in a way that allows us to pursue our strategic investments and long-term research programs regardless of short-term fluctuations in the macro environment, while consistently delivering strong returns to shareholders.

While acknowledging that 2019 may be challenging in terms of the macroeconomic environment in the automotive market, I can confirm that we see unprecedented mid- to long-term value growth in automotive catalysts as tighter emission nodes are introduced in several regions, as explained last year during our Capital Markets Day.

With our leading position in new gasoline technologies and our improved position in heavy-duty diesel, we are well positioned to outgrow the market. The electrification trend is clearly on our side too, and I see rapidly growing demand. Our growth portfolio of the highest quality and mostly customized cathode materials, combined with an unrivaled capability to scale-up and a pioneering approach to ensure sustainable supply, put us in pole position to capture a significant share of the EV-related growth.

In Recycling, we continue to grow in our existing segments of industrial byproducts and end-of-life products. At the same time, we have already laid the foundations for significant growth in the longer run, with an innovation roadmap that spans the next 20 years in Rechargeable Battery Materials and the first tangible and promising signs of success for fuel cell technology, not forgetting the value growth in Automotive Catalysts as combustion engines need to become ever cleaner, and of course, the recycling of spent lithium ion batteries, without which electrification cannot be successful in the long term.

On this note, I would now like to open the call to questions.

QUESTIONS AND ANSWERS

Operator

(Operator Instructions) And the first question comes from the line of Charlie Webb at Morgan Stanley.

Charles L. Webb - Morgan Stanley, Research Division - Equity Analyst

Two from my side. Just first, Filip, for you. On the cash flow as we look in, you obviously talk about material improvement in 2019. Perhaps you can understand how much you think you can reduce the working capital outflows in '19, and also how -- what our expectations should be for CapEx, as CapEx obviously, in '18, was just probably below consensus expectations. Is it just that we carry that forward into '19, or is the CapEx will be meaningfully higher? Perhaps you could just help on that one. And then second question just on EST margins and then kind of direction of travel and again, how we should be thinking about that in '19? As you pointed out, cobalt prices obviously have continued to fall in January and the start of the year. We have quite sizable subsidy cuts being proposed or rumored in China. And we're seeing, I guess, increasing ramp-up in competitor capacity in Korea and in China. So maybe just helping us understand both kind of the near-term profile of EST margins as we move into '19, and then almost -- as well, perhaps, also longer term. That would be great.

Filip Platteeuw - Umicore S.A. - CFO

Okay. Charlie, on the first question, and I will take it from, let's say, the helicopter view of free operating cash flow, indeed the expectation of what we're working to is to have a substantial improvement in the free operating cash flow of 2019. First take CapEx. So CapEx in 2018 came out a bit lower than what we initially guided, and that's really a cutoff effect related mostly to E&ST, so that means that indeed you will have part of the flow over into 2019. Secondly, we did move the extended shutdown in Hoboken to 2019 and then, thirdly, we will have the substantial greenfield expansions in China and in Poland, which will really kick in also in terms of CapEx this year, and especially in the second half of the year. So that is what is behind the guidance to have an increase in our CapEx in 2019 compared to 2018. I think as we go along in the year, we'll probably be able to refine that a bit more, but definitely an increase, for the reasons that I mentioned. Working capital, I think it's maybe worthwhile to go back to the substantial increase that we had in 2018. As I tried to explain, if you look at the composition of that increase, it was really in inventories. We had an important increase in receivables and in payables as well. And for us, it's really turnover that is relevant when you look at working capital, and our turnover increased by more than close to EUR 2.5 billion, and obviously metal prices play a key role into that. So working capital increased because of an increase in inventory. First, strong volume growth in Rechargeable Battery Materials. Secondly, the fact that we increased a lot of capacity in these new lines where you need to kind of fill them with base stock. And thirdly then, and this should not be underestimated, a substantial increase in the average price of cobalt, which is a key raw material in E&ST. I mean, the cobalt price on average year-on-year went up by 30-plus percent. So what that means in terms of 2019 is that, I would say on a stable basis, we are working very hard to optimize that working capital that we currently have in our operations. You can imagine, as you start up lines, you increase capacity by such an extent thatoptimization is, unfortunately, not the priority. So we're working a lot to optimize our working capital from that perspective. Secondly, the cobalt price has come down quite substantially, certainly compared to the average of 2018, so that will help us. And thirdly, as we mentioned, the increase in Recycling is really a temporary one related to the fire, so that should work itself out of the working capital in 2019. So that's why, overall, we do expect to make substantial improvements on the working capital, I would say, on a stable basis. And then obviously, we will have the new capacity coming onboard in the second half that will again require some additional working capital.

Charles L. Webb - Morgan Stanley, Research Division - Equity Analyst

Just on the inventory. So obviously, this kind of struck at the end of the year on the balance sheet, so it was a meaningfully lower cobalt price at the end of the year versus, obviously, the start of the year. Even year-on-year at the end of the year. So how does that work, exactly? Because, you've already seen a lot of that metal price movement into the end of the year and obviously, working capital outflows are still pretty significant. So just trying to understand how that changes as we move into next year.

Filip Platteeuw - Umicore S.A. - CFO

That means you do have a delay effect in certain inventories. You work with an average price, so there is some delay effect from the metal price or cobalt price. So that should take some time to filter through the system. And then, obviously, the base stock that we invested in the capacity is not moving with the cobalt price that is base stock, that's what we call the permanently tied-up inventories. And that basically has the price at which you buy it, and since we extended a lot of the capacity in 2018, it means that you, in a way, have a reflection of the average cobalt price of that year.

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Okay. So let me now address your second question about the E&ST margins. And first of all, because you mentioned the massive capacity additions or competitive capacity additions in Korea and China, let me first set the scene correctly there. There is no massive capacity addition in Korea, one. And secondly, in China, there is a capacity addition and Umicore is one of the players that is adding most capacity today. And in Europe, you know the picture that Umicore will be the first player to have cathode material capacity in the region, starting in 2020. Now coming back to that competitive situation, I would also like to remind you, because that's important when we talk about margin and margin evolution, that most of the products that we make and that we sell are highly customized products for very specific platform requirements on which we're qualified or qualifying. And so the fact that others may be adding capacity at the same time we are, although it's not at the same pace, doesn't necessarily mean that this has a significant impact on margins. Then, coming to practical aspects of the margin evolution in 2019. There are a few factors that have to be borne in mind and they were mentioned during the presentation, that one is the fact that the scale effects that we had anticipated have been achieved in 2018, following the ramp-up of brownfield capacity expansions. While now, we are in the process of building greenfield capacity in China and starting a greenfield project in Europe, which means that from a timing point of view, you will indeed have in the course of this year, in particular in the first part of this year, more start-up costs and upfront costs related to these greenfield projects, while the ramp-up in China will start in the second part of the year, and in Europe in the second part of 2020. So this timing effect in terms of when the upfront costs are being incurred and when the ramp-up and the scale effects are being achieved, has to be borne in mind. This being said, I'm very pleased with the level of margins that we achieved in E&ST and again, with the notable exception of the cobalt price impact on the cathode materials side, we are doing well because our projects are highly customized and to meet specific requirements of given platforms.

Charles L. Webb - Morgan Stanley, Research Division - Equity Analyst

Okay. So just to clarify, because of that greenfield effect, we should see some margin dilution versus H2 '18, is that fair?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

We'll comment on more quantified guidance, as usual, comes at the end of April.

Operator

Your next question comes from the line of Mutlu Gundogan at ABN AMRO.

Mutlu Gundogan - ABN AMRO Bank N.V., Research Division - Analyst

The first question is on the Energy & Surface Technologies segment. Can you explain to me why your IFRS revenues were up 83% half year-on-half year, but your own definition of revenues, so excluding metals, was down 2% half year-on-half year? If you just could go through the questions one by one, I think that's probably easiest.

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Mutlu, I suggest that we get back with that off-line separately, because we need to dig out the information. Anyways, in the meantime, your second question?

Mutlu Gundogan - ABN AMRO Bank N.V., Research Division - Analyst

Sure. So I'm trying to understand the ramp-up of the various expansion waves. So I would appreciate if you could provide a little bit of detail. When you actually started with wave 1 and when you finished it? And then also for wave 2, I'd like to know when you started to add capacity and what percentage is completed? Because I thought that you would still have some debottlenecking to do in 2019. But then looking at Slide 23, it seems that you have finished that ahead of schedule. So some details on capacity and where we stand for wave 1 and wave 2, please.

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Okay. So let me indeed clarify that. The first big investment program of EUR 460 million that was announced partly in 2016 and partly in 2017 was indeed completed on an accelerated schedule at the end of 2018. And that means that, one, that the volume ramp-up was effectively achieved in the course of 2018, especially in the second half, and the scale effects were coming at that point in time as well. And that leaves very little room for further additions in the course of the first half of 2019 in terms of volumeswhile we build the new greenfield site.
This is, indeed, earlier than we had announced, in terms of the completion of that first wave, and we had to accelerate the investments because of how the demand for our materials was that was progressing in the course of these investment programs. So this is rather good news. And indeed, this means that in the first half of this year, you will see limited, if any, volume growth in that respect coming from new lines.

Mutlu Gundogan - ABN AMRO Bank N.V., Research Division - Analyst

Yes. The way I understand it initially was that wave 1 was a tripling and then wave 2 was a doubling on top of the tripled capacity. So I was in the understanding that wave 2 that, that was bigger and therefore -- and that started later in 2018. So I understand that you're not adding any nameplate capacity, but the lines you added for wave 2, since they are much bigger and you start to add them maybe in the second half of the year, shouldn't you see growth effect of that moving into 2019?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Just to clarify for the audience, I assume that what you mean by wave 1 and wave 2 is the breakdown of the EUR 460 million?

Mutlu Gundogan - ABN AMRO Bank N.V., Research Division - Analyst

Yes. Yes.

Marc Grynberg - Umicore S.A. - CEO & Executive Director

EUR 160 million launched in '16 and EUR 300 million launched in the first part of 2017. Actually, these 2 waves were merged in the course of the investment program, and indeed had to be executed on an accelerated schedule. Now the difference between the first one and the second one was mainly the inclusion of a greenfield project in Korea that explains that we have to spend more money in the wave that was announced in the first place. But as I mentioned a moment ago, that is a merged program and we will no longer in the future refer to wave 1, 2 and 3, because that's impossible to track along these lines. I mean, in the process, a couple of investments were merged into 1 big program, and I would like to indeed confirm that, that program was completed in the second part of last year on an accelerated schedule. Therefore, you have seen in 2018 both the volumeand the scale effects of that.

Mutlu Gundogan - ABN AMRO Bank N.V., Research Division - Analyst

Okay. Okay, that does indeed change the story. Then on maybe I can -- I don't know if I still can call it wave 3, so the greenfield project that you're starting at the end of this year in China, can you tell us how much capacity of that wave 3 you'll be adding in 2019? How substantial is that?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Typically, you know I do not quantify these additions, because that information is quite sensitive from a competitive point of view. I can say that this is, again, a fairly material capacity addition that will start to come onstream in the second part of this year. (Operator Instructions)

Operator

And your next question comes from the line of Wim Hoste at KBC Securities.

Wim Hoste - KBC Securities NV, Research Division - Senior Financial Analyst

Two questions then from my side, please. On Recycling, Filip mentioned that there was, in some segments, commercial pressure or competitive pressure. I think in the past, it was hinted that you expected it would be temporary. And so first question is, do you think that competitive pressure will be there for the entirety of 2019 as well? And can you may be offer a bit more clarity on what exactly and what segments this concerns about? And second question is, we've seen some precious metal prices -- for example, gold -- doing relatively well recently. Can you maybe update us whether there are any hedges being taken additionally and how your hedge book is looking like for 2019? These are my questions.

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Wim, so let me first address the question about the competitive pressure. I think the good news is that it seems that things have stabilized at this stage. And indeed, I believe that the effects are temporary. Now as I've mentioned on previous occasions, it is difficult for us to make out how long temporary can be. And the fact that there seems to be a stabilization is probably pointing in a good direction, and we'll see in the course of the year, how things develop. And the competitive pressurehasin recent years, been on some of the end-of-life product segments, and moving to some industrial byproducts, and that picture is largely unchanged, I would say. Precious metal prices, the basket is still relatively mixed. The precious metals prices or the metal prices were somewhat supportive in the course of last year in the Recycling business, and with a combination of, I would say, precious metals and specialty metals or secondary metal prices moving, on balance, in the right direction. If I look at the current situation, it's, again, a mixed picture for the time being, with a limited number of precious metals prices behaving really well, like palladium prices increases, rhodium prices staying at a relatively high level. On the other side, you have negative effects from platinum, which continues to be under some pressure, and we continue to see a mixed picture in terms of the secondary metals. All in all, if I look at the current metal prices, and if they stay more or less where they are today, I would say that the basket could prove a slight tailwind for 2019,

Wim Hoste - KBC Securities NV, Research Division - Senior Financial Analyst

Have you -- so have you taken any additional hedges recently?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

I was just going to say, we haven't taken any material hedges compared to what we discussed previously. So we still have some hedges for '19, precious metals and some base metals, but nothing material so far.

Operator

Your next question comes from the line of Gunther Zechmann at Bernstein.

Gunther Zechmann - Sanford C. Bernstein & Co., LLC., Research Division - Research Analyst

On the free cash flow point. Can I just follow up? Marc, I think your comment -- can you just clarify, was that on operating cash flow or free cash flow for 2019? And following up on that, can I just qualitatively ask -- I know you don't guide quantitatively, but do you see free cash to be positive in 2019 already? Or is that more likely to only happen in 2020? I'll start with this one. I've got a follow-up on to that as well.

Filip Platteeuw - Umicore S.A. - CFO

This is Filip here. So the comments were made related to free operating cash flow for 2019. So definitely, a better free operating free cash flow in '19 compared to 2018, that's what we expect. I think it's too early to give specific guidance in terms of where that may end in an absolute number, so we'll try to guide you as the year progresses on that.

Gunther Zechmann - Sanford C. Bernstein & Co., LLC., Research Division - Research Analyst

Right. Okay. So no quantitative guidance at this point, fine. On the EST margin then. Can I ask, it was very strong in H2, can you just break out how much, if any, of that was price? Or is the mix contribution from the cathode active material? And I think it was Marc, you said don't extrapolate the margins when we were talking half a year ago, and they improved. So is that just -- that guidance just been lifted to a higher level? We should not extrapolate mark-to-market from here? Or do you see, other than the greenfield investments, any reason for that to come to pre-H2 levels?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

So the reason I mentioned do not extrapolate is because I'm always very cautious with quarterly or half yearly figures. I mean, our business and our investments are meant for many, many years and you always have some temporary effects for extrapolation. It's always risky from short-term data. The main effect in H2 2018, as I alluded to before, is coming from the scale effects of the ramp-up of the brownfield expansion with quite substantial capacity coming onstream and being ramped up in the second part of last year as part of our expansion program and this generated the margin impact. On the negative side, in second half of 2018, we started to see the reverse effect of what we had in the first half with the cobalt price declining and the cobalt refining, recycling and distribution margins being actually impacted by the reduction in cobalt price.

Gunther Zechmann - Sanford C. Bernstein & Co., LLC., Research Division - Research Analyst

So would you say, in your judgment, is it fair to see the full year number for 2018 then as a through cycle margin for that division?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Well, we're still in the midst of very, very significant investment and expansion programs. And so I would not yet comment on that. Suffice to say that the margins are good and the fundamentals in terms of demand and in terms of differentiation are pretty supportive.

Operator

Your next question comes from the line of Ranulf Orr at Redburn.

Ranulf Orr - Redburn (Europe) Limited, Research Division - Research Analyst

I just have 2 quick number questions and then maybe just a broader question after that. The first is, can you help us understand the magnitude of the additional D&A and OpEx costs for 2019 and the lag impact of the cobalt price on the CMS (sic) [CSM] earnings?

Filip Platteeuw - Umicore S.A. - CFO

Yes. So on D&A, I would guide today at a D&A level for 2019 of something like EUR 240 million, EUR 250 million. So we had EUR 207 million, I believe, in 2018, so obviously an increase, because you have I would say, a timing effect from the past CapEx and the new CapEx coming aboard. So my best guidance today would be EUR 240 million, EUR 250 million for the year. The rest of the operating costs, I think we typically don't give specific guidance. But as Marc and I have both mentioned, we have higher R&D costs. We have higher start-up costs, costs related to the preparation of the greenfield site. So you should expect to see an increase in these, what I would call one-off expansion costs, flowing through the P&L. The cobalt price impact on the P&L, on margins, is really on the CSM business mostly. It's on recycling, refining, distribution activities, where there the margin is related to a certain extent to the cobalt price. And so as we've seen a continued decline in the cobalt price, I would even say accelerated declines in the cobalt price, since the end of 2018, that will impact thethe margins that part of the E&ST business, and that's obviously taken into account in our guidance.

Ranulf Orr - Redburn (Europe) Limited, Research Division - Research Analyst

Great. If possible, I just wanted to ask as well if you can just talk a little bit more broadly about your R&D and innovation program. Clearly, there has been some rapid advancements in the capability of your emerging markets competitors, perhaps faster than people previously anticipated. So where do you see your technology offering going over the next couple of years, and how are you hoping to stay ahead of this?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Well, let me maybe go back to what we explained during the Capital Markets Days and expand on that. Clearly, if we look at the Rechargeable Battery Materials segment, we have a broad offering. And actually, we have the broadest offering of highly customized cathode materials for the electric vehicle applications, and this continues to be a very significant area of focus in terms of research programs for the short, mid- and long term. And actually, as the offering of ourcar and battery customers continues to expand, there is an increased demand for even more customized products, because our customers are also willing to distinguish themselves from a competitive point of view. So this is a clear direction in the market. And one of the very significant competitive advantages of Umicore that we described in the past is the ability not only to develop highly customized products for very specific platform requirements, it is also our unique ability to scale up fast despite the complexity that the diversity of materials brings in terms of production requirements and production capabilities. So our, I would say, research programs continue to be characterized by a synchronized combination of product and process development programs in order to meet these requirements from the customers and these increasing levels of customization of the materials.

We're also continuing to develop our offering of composite anode materials, and we see the first signs of traction for that technology. And as I mentioned, or as I explained in the past, typically, new products in this area are tested on applications other than automotive in the first place. So it may take several years before we see demand from electrified vehicle application. And in the meantime, the progress is promising and the research efforts are ongoing. As you look at our innovation road map, we also continue to look at the next generations of battery materials, and in that respect are very much engaged in research programs and collaboration efforts with other players and research institutes to test solid-state batteries and material requirements for solid-state batteries. So this is definitely an avenue that is being pursued. So this gives us an idea that, as we mentioned during the Capital Markets Day, our research or technology innovation road map spans the next 10 to 20 years and not just the next 10 to 20 months.

Operator

Your next question comes from the line of Peter Olofsen at Kepler Cheuvreux.

Peter Olofsen - Kepler Cheuvreux, Research Division - Analyst

I have 2 questions around the Automotive Catalysts business. On one hand, you have been very successful in winning new business for new gasoline platforms. But on the other hand, there is the ongoing decline in the diesel market share. If we were to assume a stable global car production in 2019, you think you can grow your Automotive Catalysts business in 2019, considering the mix and market share developments? And also, related to this business, with the inclusion of the gasoline particulate filters, is that going to affect the mix and, hence, the margins in this business?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

I think it's too early to provide quantified guidance about the growth in 2019. We're quite pleased with the way things are unfolding and especially our very high success rate in in the latter part of 2018 in winning the new gasoline particulate filter business, in particular, in Europe and in China, which are the largest markets for this new application. And indeed, the mix is changing rapidly. I mean, we have seen diesel continuing to lose ground, especially in the European market in the course of 2018. If my numbers are right, on average, diesel was 38% of the European market for the full year and was down to well below that level in the last quarter of 2018, pointing to some acceleration in the trends that we had identified earlier and commented about. Now clearly, diesel comes at higher revenues and overall margins than other applications, and so in the short run, the mix effect is a headwind to the catalysts industry and definitely to Umicore as well. And that's why I mentioned in the past that you have to look at the engine mix evolution that's providing a support to Umicore in the midterm, because our position in gasoline is stronger than our position in light-duty diesel applications, and that position in gasoline has even been strengthened in the second part of last year following the wins that I referred to. So too early to tell how 2019 will unfold. I mean, there are still quite some uncertainties if you read the news flow from the automotive industry these days, so I think it's too early to tell. But the mix, in my opinion, will continue to evolve in the same direction as it has in the course of 2018.

Peter Olofsen - Kepler Cheuvreux, Research Division - Analyst

Okay. Maybe a quick follow-up on Recycling, where the profitability in the second half was a bit lower. I understand volumes may have been impacted a bit by the fire, but how about electricity costs? It seems that these have increased a bit in Belgium. So could you maybe quantify the headwind you faced there in H2 compared with H1? And how do you see these costs developing in 2019?

Filip Platteeuw - Umicore S.A. - CFO

Yes, Peter. Not to really quantify the impact, but it's clear to say that, indeed, electricity prices in Belgium, for, I would say specific reasons, unfortunately have increased in '18. And so that was one of the headwinds for Hoboken now. I wouldn't want to overplay it as such, because we use other sources of energy than electricity. But certainly, it was one of the headwinds we had in '18. And for 2019, we'll have to see what the electricity market in Belgium does. As you know, for a number of specific reasons, it can be quite volatile. But so definitely in '18, it was a headwind, but not to be overstated. I think the other factors that you mentioned, like the impact of the fire, was one of the more material drivers behind the trend that you describe.

Operator

Your next question comes from the line of Alex Stewart at Barclays.

James Alexander Stewart - Barclays Bank PLC, Research Division - Chemicals Analyst

I've got a very quick question. Can I just confirm that, at the beginning of the call, that you said the market share gains in European gasoline catalysts offset decline in diesel revenues? Is that what you said?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Yes, indeed. In the short term, it's not a perfect offset, I would say, but in the midterm, it is more than an offset, because we have to take into account the timing of the ramp of the new gasoline particulate filter business, which does not necessarily coincide with the speed at which diesel is losing ground. So there may be a slight disconnect in terms of timing, but overall, yes, your understanding is correct.

James Alexander Stewart - Barclays Bank PLC, Research Division - Chemicals Analyst

So you haven't quite offset it yet, but you expect to do so?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Yes.

Operator

Your next question comes from the line of Chetan Udeshi at JPMorgan.

Chetan Udeshi - JP Morgan Chase & Co, Research Division - Research Analyst

Just a couple of questions. Firstly, correct me if I'm wrong, but when you announced a big CapEx program for cathode, the rule of thumb was that the working capital will grow -- if you spend, say, EUR 1.2 billion CapEx, your working capital should grow maybe in similar rate, or maybe you can correct that, because it seems at the moment the working capital actually is growing faster than the CapEx. And so I just wanted to understand how should we see that dynamic going forward. Clearly, some of the impact into second half of last year was more temporary, so maybe will that directionally change, in terms of how fast this ramps up, or should we actually see more stabilization rather than a further increase? That's number one question. Number two is, on this impairment loss for cobalt inventory, I'm assuming that's part of your Cobalt & Specialty Materials business and not a filter in the cathode business. But just in terms of the recognition of that impairment loss in nonrecurring items, because when the prices are rising, that clearly has a tailwind in the recurring EBIT. So when the prices are falling, why is that impairment in nonrecurring?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

We will take the last question first. So the first one was the rule of thumb and the second one was...

Filip Platteeuw - Umicore S.A. - CFO

Yes, with the cobalt. So the cobalt impact, actually, you see not just in Cobalt & Specialty Materials but also in Rechargeable Battery Materials. So they go in both business units. And I would say everything we mentioned in terms of, if I can call it the base stock, related to the capacity expansion is actually in Rechargeable Battery Materials. So it is in E&ST, clearly, and in both things. Now why do we put the impairment in nonrecurring? Because that's what we've always done, because it's only the impairment related to what we call permanently tied up inventory. So it's basically stock which we have which is going to stay there because it's intrinsically related to the operations of the business. It's noncash as well. So it's kind of an accounting rule we've always followed, and that's why we've done it this time as well. The only way to, in a way, to release that stock is to stop producing, if I can call it that way. So that's why it has permanent characteristics and that's why we consider it as nonrecurring and always have done. So it's not something that we've done specifically now.

The rule of thumb in terms of working capital versus CapEx, we would repeat that. So that is still a valid one. The only caveat, and it's a big caveat, is indeed prices of metals and, in this case, specifically cobalt, cobalt being a very important raw material for the cathode materials. And I mean, I would like to invite you to look at the cobalt price graph over the last 2 years, you'll see that we've had a lot of volatility. And so that obviously impacts this rule of thumb. So I would stick with that rule of thumb at what you could call,it's a dangerous word,normalized metal prices, but let's say, more historic metal prices. Certainly, in 2018, we've seen a spike in cobalt prices, and that's why our working capital versus our CapEx and that ratio in 2018 indeed has moved.

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Yes, adding to what Filip has just said, Chetan, I would also invite you to look at how the rule of thumb works over a longer period of time because there may be cutoff effects as well. And I think as I mentioned on another subject, it's always difficult to extrapolate from half year or 1 year results. If you look at how working capital develops over a longer period of time relative to CapEx, I think it's a more reliable way of looking at things.

Chetan Udeshi - JP Morgan Chase & Co, Research Division - Research Analyst

Can you just remind the rule of thumb? Is it working capital growing at somewhere half of the CapEx? Or what is the rule of thumb?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Yes, that's the rule.

Operator

Your next question comes from the line of Nathalie Debruyne at Degroof Petercam.

Nathalie Debruyne - Banque Degroof Petercam S.A., Research Division - Analyst

Actually, most of them have been answered, but if I may, I would like to come back to Catalysis and, particularly, to heavy duty, because you mentioned in the comment in the press release that you see an increased contribution from the heavy-duty diesel catalyst activity. I know that it's not the biggest contributor, of course, but I would like to have a bit of an idea of how material it is becoming today and what's the upside would be with China 6, because there are discussions to actually bring the implementation forward to July 2019, I understand. But you said that, basically, the supply chain is not ready, so the impact will be limited. So I was wondering how that would play out and how material the business is now becoming. And then the second question would be on also a business that is still pretty small, but I'm curious to know about what the potential could be at fuel cells. So what would be the contribution today? I would expect, like, very low, but where can it go with the current capacity that you are building?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Let me start with the heavy-duty diesel questions. And I would say that, today, considering our position relative to competitors in that space, that the contribution is still relatively small compared to that of light-duty applications in the portfolio of Umicore. But it's growing, and it's grown also in the course of '18 as a result of the integration of the activities acquired slightly over a year ago from Haldor Topsoe, and that explains to a large extent the increased contribution of HDD in the course of 2018, plus, in addition to that, some progress for the other product technologies that we produce there.

China 6 will be a big plus in terms of volume and value growth for Umicore, as we had also indicated, and even we had also described the impact of China 6 from a value point of view, during the Capital Markets Day, and so that is confirmed and we are in full preparation to serve that market and to capture a significant share of that upside. And indeed, there are attempts to bring China 6 forward -- for light duty and heavy duty -- to bring that forward to July 2019. Actually, the original declaration was to bring it forward to January 2019, which has proven impossible to achieve in practice. So now the new target is July, which seems still a big stretch, considering the readiness not only of the supply chain but also the readiness of the truck and car OEMs themselves. So that's why what we see today is that the impact of that move is going to be very limited in 2019 and it doesn't change our view of the big potential of China 6 starting in 2020.

Coming to fuel cells. That's a very interesting story. And you know that we have actually spent the better part of the last 20 years developing unique fuel cell catalyst technologies, because we had this belief that fuel cell would, at a certain point in time, be demanded for certain clean mobility applications. We didn't know exactly when. And actually, the good news is that now we see the first signs of that application taking off, with significant efforts in a number of regions, like in Germany, in Korea and China, to develop the infrastructure that will be required in order to distribute the hydrogen, and significant efforts by certain OEMs and by authorities in certain regions in order to promote the fuel cell technology, not only for passenger cars. It's also, quite interestingly, a good drivetrain technology for heavy-duty applications, and we see demand picking up for that. It's still small numbers, because we're talking about prototype fleet coming to the roads now and in the next few years. But it's moving along nicely and should be profitable for Umicore in the very short run, I would say. We announced in December that we'd expand capacity in Korea to serve new platform wins and with the ramp-up in the course of 2020. And that's approximately the time frame in which I see Umicore starting to have a positive contribution from this long-standing development effort. Still small, but I would say very promising and could, in the next several years, scale up nicely for us.

Operator

Your next question comes from the line of Jean-Baptiste Rolland at Bank of America.

Jean-Baptiste Henri Rolland - BofA Merrill Lynch, Research Division - Associate

I just have 2 quick questions for you. With regards to the third wave of capacity additions in Energy & Surface Technologies, I just wanted to know if this is something that you aim to implement on an accelerated schedule as well, as you did for the first 2 waves of capacity additions? Or at least if you -- in terms of the greenfield that you're going to add, you plan to add it at a similar pace as the greenfield of -- that you had in South Korea? And then another quick one on the margin in E&ST. I understand that 2019 is sort of -- remains a question mark, or at least that you are not guiding upward or downward on the margin. But just on the trajectory going forward, what would you say is the margin potential for that business? And I'm wondering if you see -- you believe that you could exceed on a sustainable basis the margins in Recycling.

Marc Grynberg - Umicore S.A. - CEO & Executive Director

So first, in terms of acceleration, the speed at which we're building the greenfield in China and will be building in Poland can hardly be higher. So I don't see room for acceleration. In China the construction is running at full speed, with the start of commissioning around midyear this year, in 2019. And in Poland, to give you an idea, we are in the final phases of the engineering work, with construction due to start in the spring of this year and commissioning due to start in mid-2020. So faster than that is probably unrealistic, in terms of expectation. This is the most accelerated schedule that we could come up with, and there is no room for further acceleration. This is very fast and meets the requirements of the markets, which is, of course, the most important factor. Of course, we need to be ready in time when the platforms of our customers come onstream.

In terms of margins, indeed, it is too early to comment on the margins in the short term for 2019. As far as the longer-term trajectory is concerned, as I mentioned previously, I see strong fundamentals supporting the margins, because of the degree of customization that we bring to the customers and the pace at which demand is progressing. So I'm positive about the margin evolution, but, this being said, it doesn't mean that there is so much room for margin expansion. If we can grow the business at the speed at which we grow the business, while maintaining the margins and the returns, I mean, this would be an amazing source of value creation for Umicore. So I think that would be the kind of achievement that I would be delighted with.

Operator

Your next question comes from the line of Adam Collins at Liberum.

Adam Robert Collins - Liberum Capital Limited, Research Division - Analyst

I had a couple of high-level ones remaining. So first of all, Marc, you talked on the call -- and it's also on the statement -- that you're confident of meeting the 2020 profit expectations that you set last February which, at midpoint, equate to around EUR 700 million of recurring EBIT for continuing operations. Would you be able to say whether you would be confident of that being achieved if current auto market conditions and similar metal prices prevailed? Does it depend on any significant improvement in underlying trading conditions? And then the second question is around the Recycling activity. I think it's fair to say that when you announced the 40% processing capacity addition in 2016, there was an expectation that volume would be filled to some extent by now. You never gave a commitment in terms of future volumes, but most of us expected a degree of volume growth. Here we are in 2019 with no expectation of material volume growth compared to that 2016 level. Could you just talk a little bit about whether there has been some deterioration in your expected underlying market conditions for that business? Or has it all been down to the fact that there've been some operational difficulties which will eventually be resolved?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Let me start with the second question and clarify or confirm, first of all, that the 2018 volumes were materially above 2016. So the ramp-up is making very good progress. And actually, on a full calendar year basis, we expect, indeed, 2019 to be roughly in line with 2018. However, this is taking into account the fact that we will have an extended shutdown in the course of the first part of 2019 because we have decided to combine the regular maintenance work with a wave of investment programs in order to further improve the capabilities of the plan, which means that, on a calendar basis, the availability of the smelter for the full year will be limited because of that extended shutdown, and therefore there is limited room to increase the volumes. However, if we look at the ramp rate, by the end of 2019, on an annualized basis, we will have made a further significant progress compared to 2018. So it takes a bit of time, indeed, and I'm confident that we will continue to make significant progress, and things are running quite well. I've not revised my ambitions in that respect, and the market conditions continue to be supportive of the capacity increase.

Coming to your first question about the underlying trading conditions in relation to the upside potential that we identified over and above the original Horizon 2020 target. I have to say that metal prices, I would say, are more or less in line to slightly supportive, compared to the targets which we defined, at the time we identified that upside potential. And so a continuation of the current metal prices would probably be okay in that respect. In terms of the total demand, I would make a distinction between 2 factors. One is that the trend in terms of mix is supportive, in the sense that we see an acceleration in the decline of diesel. And as you know, we are stronger in gasoline; especially now, with the wins in gasoline particulate filters, this is going to be supportive. Electrification trend continues to be in our favor as well, with new models due to be introduced in the course of '19 and '20 and continuing. Those use Umicore materials and support the view that I expressed about the upside potential. So, in terms of trends and value drivers, clearly, the underlying fundamentals continue to be very supportive. On the volume side, if we have, indeed, a protracted slowdown, we will need to see what the effect could be on the overall car volumes because, while value is important, of course, in achieving the raised ambitions, volumes are not unimportant either, and remains to be seen. And indeed, it would be easier if we had some recovery in auto demand, especially in the very important Chinese markets.

Operator

Your next question comes from the line of Sebastian Bray at Berenberg.

Sebastian Christian Bray - Joh. Berenberg, Gossler & Co. KG, Research Division - Analyst

I would have 2, please. The first is, you're one of the largest cobalt refiners in the world. The collapse in prices seems to have taken the market by surprise. Why is this? Is it purely supply driven? Or is it because cobalt content reduction in batteries is proceeding faster than expected? Or is it because people have just dumped inventory on the market? That's my first question. My second -- and apologies, I think I've asked a variance of this once before -- you had about an outflow of EUR 200 million for dividends over the course of FY '18. And I suspect by the time that you come back to capital markets, if you continue with the current policy, you probably would have paid out an equivalent amount to the capital raise or maybe slightly below. Does the decision to increase the dividend modestly year-on-year have any read across potentially to when the group turns free cash flow positive? And could you perhaps give any guidance on this?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

So let me address the question about the cobalt market, and I will then hand over to Filip for your second question. It's difficult to make out, because we don't have, I mean, statistics about the cobalt market that would indicate where the inventories are across the value chains of the various industries. My take on the cobalt price decline is that there has been substantial supply additions, both from well-established industrial players that have broughtnew capacity onstream and, secondly, there has been a massive inflow of artisanally mined cobalt following the price spike. So that has actually boosted the artisanal activity levels and created an inflow of cheap, unethical and unsustainable units in the market that has been utilized by many players in the value chain. As you know, Umicore has a very strict policy of not touching any of these cobalt sources, not using any of these artisanally mined cobalt units. But these have made it to the market and have basically overwhelmed the market and must have had a significant impact on the price. Now, the other thing that has happened, and that we have seen time and again in minor metals industries, is that when cobalt price increased, the effect was exacerbated by the fact that there were panic moves across the value chain, with players starting to fear protracted shortages and buying more than necessary, which means also that the downturn has, for obvious reasons, been exacerbated by the fact that inventories were too high at the time of the spike and there has been quite a level of drawing down inventories in the second part of the year.

The other effect that is happening is the thrifting of cobalt in some cathode materials for automotive applications, thrifting and replace substitution by nickel, to increase driving range, we've seen some of that in the course of 2018. And there is a trend, as we explained earlier, to increase the energy density by increasing nickel. However, we also see that the trend is not going as fast as some people thought it would, because of safety concerns materializing. There's been quite a number of safety incidents with high nickel compositions across regions, and that has slowed down in recent weeks or months the trends to the very high nickel compositions. So I'm not sure how that is playing out in terms of the cobalt market. I would believe that the supply effect and the inventory effect that I mentioned previously were the prime factors explaining, first of all, the spike of the first half and secondly, the brutal downturn in the second part of the year. And then, Filip, on the dividend, please?

Filip Platteeuw - Umicore S.A. - CFO

Yes. So on the dividend, what we followed was our dividend policy, which is to go for a stable to gradually increasing dividend. And in a year where our net profit increased by 22% and 12% on EPS basis, I think to follow that policy and to increase the dividend is kind of logic. You're right to say that it's a relatively small increase, because we don't target a specific yield or we don't target a specific payout. It's really striking a balance between, on the one hand, committing to a cash return to shareholders even in a period of high investments and, again, the decision to pay a dividend or the amount of increased dividend is really not related to our cash flows. I mean, you've seen that from our balance sheet, a very strong balance sheet. So whether we increase it a bit or not is really not related to the dividend decision. We're following our strategy. We have part of the investor base that appreciates the dividend. We have part of the investor base that maybe, indeed, would prefer that we invest that money in our growth. We try to strike a balance. Again, we are investing a lot in the growth, because we consider that as the best way to create value for our shareholders. But we can do that while at the same time maintaining our dividend policy. So there's not really a direct link between both. Yes, please?

Sebastian Christian Bray - Joh. Berenberg, Gossler & Co. KG, Research Division - Analyst

Just to summarize, there's no chance of this policy being changed in the foreseeable future.

Filip Platteeuw - Umicore S.A. - CFO

I mean, at today's capital structure, which is very solid and gives us a lot of headroom to implement our strategy, that's not on the agenda.

Operator

And the next question comes from the line of Geoff Haire at UBS.

Geoffrey Robert Haire - UBS Investment Bank, Research Division - MD and Equity Research Analyst

My question has already been asked.

Operator

The next question comes from the line of Mathew Hampshire-Waugh at Crédit Suisse.

Mathew Hampshire-Waugh - Crédit Suisse AG, Research Division - VP

It's just a clarification question, actually, on one of the cash lines. So adjustments for noncash transactions is about EUR 350 million. Now historically, that's been around about equal to depreciation. But this year, there's an additional EUR 150 million on top. I'm assuming it's something to do with mark-to-market of metals and timing of cash flows. But could you just explain what the adjustment is and whether or not it becomes a cash outflow in 2019, please?

Filip Platteeuw - Umicore S.A. - CFO

Yes. So I'm afraid I will bore you a bit with a technical answer because your assumption is right, it has to do with mark-to-market. So in a nutshell, –there is about EUR 350 million of noncash items that you see on the cash flow table, so the EUR 207 million is related to our recurring D&A. And then we have a number of noncash items which are not just operational but also things like the impairment charges that are related to the restructuring in Brazil, for example. So you have that in there as well. You have some noncash items related to share-based payment. But the bulk of the difference, indeed, is related to mark-to-market effects. And again, cobalt price is, I would say, the main impact here. To simplify it, we have, as you may know, a transactional hedging principle in the sense that we do not want, in our product businesses, metal price fluctuations to have an effect on our margins. So that means that once we sell something, we also hedge it physically, and in the case of cobalt, it is a physical hedge. And that means that when you have a cutoff point like a closing date, you indeed calculate on your hedges, you calculate what the mark-the-market is. And given the fact that the cobalt price has been very volatile over that period, it means that we have substantial mark-to-market effects, which you basically recognize on the cash flow table to make a difference between the P&L effect, where the P&L effect is basically 0 because you hedged, and the cash flow impact, and that is indeed what you see there. And so that could, indeed, result in the cash out done in 2019, but taking into account that, obviously, by that time, you will have new hedges and the business continues. So it's very difficult to predict what that will do also, obviously, depending on the evolution of the cobalt price. But indeed, it's related to mark-to-market effects on the inventories on cobalt.

Operator

You have a follow-up question from the line of Charlie Webb at Morgan Stanley.

Charles L. Webb - Morgan Stanley, Research Division - Equity Analyst

Just 2 short ones. First, on the Hoboken shutdown, can you remind us how many weeks that usually is? I think in the past, it's been around 4 weeks that you had to take the plant down. Is there anything different this time? Or is that the right kind of ballpark figure to think about? And then just second, just on kind of what's going on in China with the subsidy changes, current like new contracts being won for EV platforms, are you still seeing single sourcing for cathode materials? Or is it now moving more towards the dual-sourcing setup in China? And how is that significant subsidy cuts kind of posed over the next couple of years? 2020 implied that there'd be no subsidies. How is that playing out in discussions for new contracts? That would be helpful.

Marc Grynberg - Umicore S.A. - CEO & Executive Director

So Charlie, first, on the Hoboken shutdown, we do not communicate on the duration of the shutdown. And it's material enough for it to be mentioned and highlighted in our communication today, so material in terms of availability of the smelter and, therefore, the impact on the total volume development for the year. Talking about the developments in China, we'll see what the subsidy regime will be when the decisions are made, and our understanding that these decisions are going to be made after Chinese New Year as the usual timing. So that will be known in probably in a few weeks' time what the impact is on 2019. The indications that we have, or the rumors, I should say, are that there could be a somewhat more significant reduction than initially programmed in the overall rate subsidy for 2019. And indeed, it's going to be phased out by 2020, anyway. But the phasing may be somewhat changed compared to the initial phasing. The biggest change, though, that I see that we could expect is the fact that the rules on energy density are likely going to be relaxed. And that is a direct consequence, if that is confirmed, of the many safety incidents that have occurred with very high energy density materials. So if that's confirmed, the likely impact is that there will be a swing back probably to what we have presented as the sweet spot in terms of chemical compositions with high nickel but not the highest nickel compositions. So that's something that could be expected. In terms of sourcing, there is no general rule in China nor elsewhere in the world in terms of single or dual sourcing. It depends on the capabilities of the various players in each region. And so we don't see major changes compared to what OEMs have been doing so far.

Operator

Our next question comes from the line of Mutlu Gundogan at ABN AMRO.

Mutlu Gundogan - ABN AMRO Bank N.V., Research Division - Analyst

A few more questions. So Marc, last year, you said that you expected to reach 100,000 tons of sales of cathode materials in 2019. Is that still your expectation?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

I'm sorry to interrupt you. I only have time to take one question, one follow-on question.

Mutlu Gundogan - ABN AMRO Bank N.V., Research Division - Analyst

Then, one it is.

Marc Grynberg - Umicore S.A. - CEO & Executive Director

You have to be selective.

Mutlu Gundogan - ABN AMRO Bank N.V., Research Division - Analyst

Yes, sure. So do you still expect to get to 100,000 tons of capacity or sales of cathode materials in 2019?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Yes. I have no reason to change what I said a year ago or more than a year ago in terms of how our business is developing and how the capacity is being added.

Operator

And the next question comes from the line of Ranulf Orr at Redburn.

Ranulf Orr - Redburn (Europe) Limited, Research Division - Research Analyst

Just to help us understand the volume progression in cathode materials in the first half of 2019, can you give us an indication of what the nameplate capacity change was between the end of the first half in 2018 and the end of the second half?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

No. Unfortunately, I cannot help you, Ranulf, with this one because, for competitive reasons, we're not quantifying these capacity additions nor the steps in between the projects. I'm sorry about that.

Ranulf Orr - Redburn (Europe) Limited, Research Division - Research Analyst

Okay. Could I try one you might be able to answer? It's just on how the operating costs in Recycling, ex all the metal price impact, have changed over the last couple of years, sort of on a per ton basis?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

In Recycling?

Ranulf Orr - Redburn (Europe) Limited, Research Division - Research Analyst

Yes.

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Well, as I've mentioned, the metal prices have been a slight tailwind in '18, and probably the metal prices could be a slight tailwind in 2019 as well. And on the cost side, you have pluses and minuses. Of course, the fact that we are scaling up and ramping up new capacity has a positive effect in terms of the processing cost per ton. On the other side, we have a certain cost inflation that we have to deal with. Filip mentioned the energy prices. The other reagents' prices are moving in the same direction, and labor costs are increasing as well as we are in a fairly tight labor market, indeed.

Operator

And the next question comes from Peter Olofsen of Kepler Cheuvreux.

Peter Olofsen - Kepler Cheuvreux, Research Division - Analyst

It's on battery materials, actually, on the metal price exposure. Thus far, this has been a pass-through for you, and I think it was typically the battery maker that was carrying the risk, although some of the Koreans have talked about the OEMs are taking more and more of that risk. But with some of your competitors and potential competitors announcing capacity expansions and going after new business, is there a risk that OEMs and battery makers eventually will want the material suppliers to take on the material price risk?

Marc Grynberg - Umicore S.A. - CEO & Executive Director

I would see that as a totally unrealistic expectation, and at least in the case of Umicore, this is not going to happen, because it is simply not realistic. It doesn't work. The model has to be a pass-through model. And at the end of the day, the consumer, you and I, in other words, have to pay for the products that they buy. It's not the value chain that pays for the products that we buy. So it would be totally illogical to have somebody in the value chain pay for what the customers at the end of the day are not willing to pay. That doesn't work in any business and will not work in that one either.

Operator

Your last question comes from the line of Chetan Udeshi at JPMorgan.

Chetan Udeshi - JP Morgan Chase & Co, Research Division - Research Analyst

Just a quick clarification. When you say 100,000 tons in 2020, is that the run rate for all year, or is that something you plan to achieve during 2020 at some point, not necessarily for the whole year? That will be just a clarification on that.

Marc Grynberg - Umicore S.A. - CEO & Executive Director

So as I mentioned, Chetan, I don't see a reason to change what I said earlier. And so the statements that were made, when was it, a year ago or more than a year ago are still valid. So we're in good shape to make significant progress. Of course, the product mix is changing a bit and may have some influence on total capacity and sales, so we have to give or take a few percentage points, but we are on track.

Operator

And there are no further questions.

Marc Grynberg - Umicore S.A. - CEO & Executive Director

Thank you. So with that, I would like to thank you for participating in the call this morning. And there were a lot of questions, and I'm sure there will be many more follow-on questions that we could not take this morning. And of course, we will address them in the coming hours and days through our Investor Relations teams and we will meet also in the next few days in face-to-face meetings and have a chance to continue to comment on the performance of 2018 and the perspectives for the longer term for Umicore. So with that, I would like to close the call today and thank you and wish you already a nice weekend.

Operator

That does conclude the conference for today. Thank you for participating. You may all disconnect.