LIBERTY GLOBAL PLC INVESTOR CALL | Q2 2020

August 4th, 2020

“SAFE HARBOR”

Forward-Looking Statements + Disclaimer

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. In this context, forward-looking statements often address expected future business and financial performance and financial condition, and often contain words such as “expect,” “anticipate,” “intend,” “plan,” “believe,” “seek,” “see,” “will,” “would,” “may,” “target,” and similar expressions and variations or negatives of these words. These forward-looking statements may include, among other things, statements with respect to our strategies, future growth prospects and opportunities, results of operations, uses of cash, and other measures that may impact our financial performance; expectations with respect to our rebased Adjusted EBITDA decline, our rebased OFCF growth and our Adjusted FCF; our share buyback program; expectations with respect to cost reductions; anticipated headwinds in 2020; our medium-term outlook; expectations with respect to the development, launch and benefits of our innovative and advanced products and services, including gigabit speeds, new technology and next generation platform rollouts or launches; the strength of our balance sheet and tenor of our third-party debt; expectations with respect to our operations models; anticipated benefits and synergies and estimated costs of the proposed transaction with Telefonica S.A. (the “Proposed Transaction”) to form a joint venture between the U.K. operations of Virgin Media and O2 (the “Joint Venture”) and/or other transactions that may have closed prior to the date hereof; and the expected timing of completion of the Proposed Transaction; are not historical fact. These forward-looking statements involve certain risks and uncertainties that could cause actual results to differ materially from those expressed or implied by these statements. These risks and uncertainties include events that are outside of our control, such as the continued use by subscribers and potential subscribers of our and our affiliates’ services and their willingness to upgrade to our more advanced offerings; our and our affiliates’ ability to meet challenges from competition, to manage rapid technological change or to maintain or increase rates to subscribers or to pass through increased costs to subscribers; the effects of changes in laws or regulation; the effects of the U.K.'s exit from the E.U.; general economic, legislative, political and regulatory factors, and the impact of weather conditions, natural disasters, or any epidemic, pandemic or disease outbreak (including COVID-19); our and our affiliates’ ability to obtain regulatory approval and satisfy regulatory conditions associated with acquisitions and dispositions, including with respect to the Proposed Transaction; our and affiliates’ ability to successfully acquire and integrate new businesses and realize anticipated efficiencies from acquired businesses; the availability of attractive programming for our and our affiliates’ video services and the costs associated with such programming; our and our affiliates’ ability to achieve forecasted financial and operating targets; the outcome of any pending or threatened litigation, including any potential litigation that may be instituted with respect to the Proposed Transaction or other material transactions; that the Proposed Transaction may not be completed on anticipated terms and timing or completed at all; our and Telefonica S.A.’s respective affiliates’ ability to successfully integrate the combined businesses of the Joint Venture and realize anticipated efficiencies and synergies from the Proposed Transaction; the potential impact of unforeseen liabilities, future capital expenditures, revenues, expenses, economic performance, indebtedness, financial condition on the future prospects and business of the Joint Venture after the consummation of the Proposed Transaction; expected financing and recapitalization transactions undertaken in connection with the Proposed Transaction and risks associated such transactions; any negative effects of the announcement, pendency or consummation of the Proposed Transaction; the ability of our operating companies and affiliates to access cash of their respective subsidiaries; the impact of our operating companies' and affiliates’ future financial performance, or market conditions generally, on the availability, terms and deployment of capital; fluctuations in currency exchange and interest rates; the ability of suppliers, vendors and contractors to timely deliver quality products, equipment, software, services and access; our and our affiliates’ ability to adequately forecast and plan future network requirements including the costs and benefits associated with network expansions; other factors detailed from time to time in our filings with the U.S. Securities and Exchange Commission; and management’s response to any of the aforementioned factors. For additional information on identifying factors that may cause actual results to vary materially from those stated in forward-looking statements, please see our filings with the U.S. Securities and Exchange Commission, including our most recently filed Form 10-Q. These forward-looking statements speak only as of the date of this release. We expressly disclaim any obligation or undertaking to disseminate any updates or revisions to any forward-looking statement contained herein to reflect any change in our expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

Presentation of Continuing, Discontinuing & Held for Sale Operations:

On May 2, 2019, we sold our UPC DTH operations, which provide direct-to-home satellite services in Hungary, the Czech Republic, Romania and Slovakia. On July 31, 2019, we sold our operations in Germany, Hungary, Romania and the Czech Republic. Our operations in Germany, Hungary, Romania and the Czech Republic, along with our former UPC DTH operations are collectively referred to herein as the “Discontinued Operations” and have all been accounted for as discontinued operations for the three and six months ended June 30, 2019, in our June 30,2020 Form 10-Q. On May 7, 2020, we entered into an agreement with, among others, Telefonica S.A. (Telefonica). Pursuant to which, Liberty Global and Telefonica agreed to form a 50:50 joint venture, which will combine Virgin Media’s operations in the U.K. (the U.K. JV Entities) with Telefonica’s mobile business in the U.K. As such, the U.K. JV Entities are accounted for as held for sale in our June 30, 2020 Form 10-Q.

Additional Information Relating to Defined Terms:

Please refer to the Appendix at the end of this presentation, as well as our press release dated August 3, 2020 and our SEC filings, for the definitions of the following terms which may be used herein, including: Rebased Growth, Adjusted EBITDA, Adjusted Free Cash Flow (“FCF”), Operating Free Cash Flow (“OFCF”), Revenue Generating Units (“RGUs”), Average Revenue per Unit (“ARPU”), as well as non-GAAP reconciliations, where applicable.

EXECUTIVE SUMMARY

FINANCIAL RESULTS

APPENDIX

Q2 2020 HIGHLIGHTS

1 Navigating COVID-19

- Employee safety and well-being remains top priority
- Keeping customers connected; strong network performance
- Modest business impact to date; monitoring medium-term outlook

2 Solid underlying Q2 results

- NPS at record highs across majority of footprint
- Best customer and broadband quarterly additions since Q3 ‘17
- Underlying revenue broadly flat; COVID-19 impacts generally low margin
- Robust rebased OFCF growth of 14%

3 U.K. JV with Telefonica on track

- Pre-merger integration planning well underway
- Over $4 billion in financing completed
- Regulatory process initiated

4 Outlook & Capital Allocation

- Reconfirming all 2020 guidance metrics
- Repurchased ~$750m of stock from Feb 24 to Jul 31
- Completed over $10bn of opportunistic refinancing in H1

Q2 2020 (1)

OPERATIONS	ACTUAL	YOY
Customer Net Adds	8k	36k
Fixed Customer Rebased ARPU	$57.35	(1.3%)
Fixed Mobile Convergence	24%	310bps

FINANCIALS	ACTUAL	YOY
Rebased Revenue	$2.72bn	(4.3%)
Rebased Adjusted EBITDA	$1.19bn	(0.4%)
P&E Additions	$588m	$(95m)
Rebased OFCF	$601m	14.2%
Adjusted FCF	$456m	

(1) Please refer to the Appendix for definitions and non-GAAP reconciliations, where applicable.

FMC STRATEGY: WORKING ACROSS EUROPE

FMC CREATES NATIONAL CHAMPIONS[1]

	MARKET SHARE			FMC RATIO
	MOBILE	BB	TV	
BE (TNET)	#3	#1	#1	46%
NL (VFZ)	#2	#1	#1	42%
UK (VM/O2)[2]	#1	#3	#2	24%
UK (On-Net)[2]	#1	#1	#2	

FMC DRIVES GROWTH AND FCF

	REBASED EBITDA GROWTH		CUMULATIVE FCF
	PRIOR TO DEAL	YEAR 3	
BE (2015)	5.6%	7.9%	€ 1.8bn[3]
NL (2016)	-2.7%	4.0%	€ 2.3bn[4]
UK (2020)	-3.5%[5]	TBD	TBD

FMC DELIVERS SIGNIFCANT SYNERGIES

	AT ANNOUNCEMENT		UPDATE
	RUN RATE	NPV	
BE	€ 150m	€ 1.5bn	Synergies exceeded
NL	€ 210m	€ 3.5bn[6]	Expect to exceed
UK	£ 540m	£ 6.2bn	TBD

FMC VALUATIONS ARE HIGHER[7]

	EV/EBITDA	EV/OFCF	FCF YIELD
Tele2	11.0 x	15.6 x	5.6%
Swisscom	8.7 x	17.8 x	5.3%
Sunrise	9.3 x	21.8 x	3.2%
KPN	7.3 x	14.1 x	6.6%
NOS	6.1 x	16.6 x	6.9%
Telenet	7.1 x	11.6 x	10.5%
Average	8.2 x	16.2 x	6.4%

(1) Based on public market information of our competitors in the respective markets
(2) U.K. market share positions shown are on a Virgin Media U.K. + O2 combined basis. U.K. tv market share reflects pay-tv market. FMC% reflects Virgin Media UK only
(3) Represents the amount of FCF Telenet has generated after the acquisition of BASE in February 2016
(4) Represents the amount of FCF the Dutch JV has generated after formation in December 2016. 100% of the results related to our 50% owned non-consolidated Dutch JV
(5) Reflects UK-only rebased adjusted EBITDA for H1 2020. H1 2020 rebase adjustments for UK/Ireland relate to foreign currency impacts primarily in the UK
(6) At least €1bn NPV of revenue synergies
(7) Multiple averages from Goldman Sachs (dated the week of August 3, 2020), Barclays and Redburn (both dated the week of July 27, 2020). All metrics are on 2020 figures

VIRGIN MEDIA: Q2 2020 OPERATING UPDATE

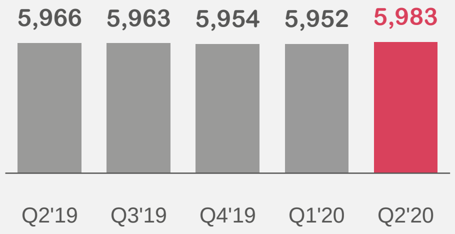
Solid underlying performance; Negative ARPU growth largely due to pause on low-margin sports

HIGHLIGHTS

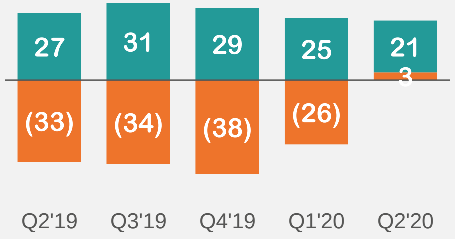
- **Improved NPS drove customer retention**
  - Fixed customer adds +24k
  - Postpaid adds +85k
  - SoHo rebased customer base +9% YoY
  - B2B Wholesale accelerating
- **Q2 ARPU impacted by lower sports revenue:**
  - Sports Pause ~2% headwind to Q2 ARPU
  - EOCN/ABTN landing in line with expectations
  - FMC +2.9% YoY
  - New 18-month bundles to drive loyalty and ARPU
- **Extending speed leadership:**
  - 1Gbps rolled out to Edinburgh and Liverpool; U.K. reach 18%
  - 500Mbps available across U.K
- **Driving efficiency**
  - Increased online sales, digital interactions and self-install

BALANCING PRICE AND VOLUME

Fixed Line Customers (000s)



Net Customer Adds (000s)
Lightning / BAU



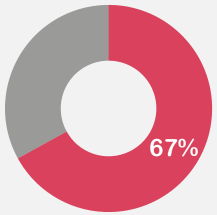
Customer ARPU
Rebased Growth YoY

SPEED LEADERSHIP (3)

Average UK base speed: 160Mbps

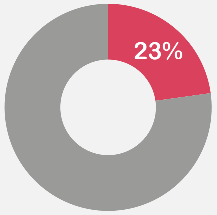
ENTERTAINMENT (3)

U.K. V6 box penetration / total video base



FMC

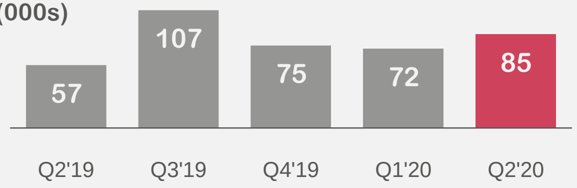
% broadband subscribers that also take a postpaid mobile subscription



GROWING POSTPAID MOBILE

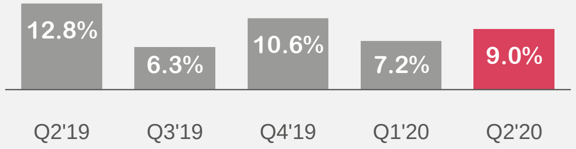
Total Postpaid subscribers: 3.2m

Postpaid Net Adds (Consumer) (000s)



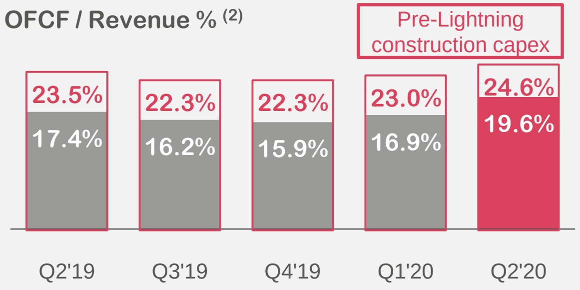
GROWING SOHO

SOHO Revenue (1)
Rebased YoY growth %



OPTIMIZING OFCF MARGINS

OFCF / Revenue % (2)



(1) Total revenue including non-subscription and mobile
(2) Includes Centrally attributed P&E Additions, see Appendix for more details
(3) 1Gbps and EOS rollouts in Ireland are due to commence later in 2020

UPC SWITZERLAND: Q2 2020 OPERATING UPDATE

Turnaround initiatives delivering benefits; market continues to reprice

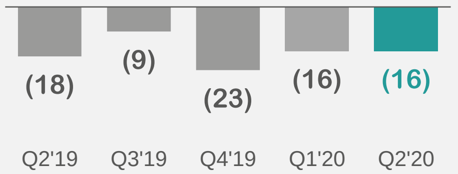
HIGHLIGHTS

- **Building commercial momentum:**
  - Resilient network performance reflected in record NPS
  - June sales above Q2’19 & pre-COVID levels
  - Accelerated BB gains
  - New MySports agreement with Swisscom
- **Turnaround initiatives working:**
  - Improved digital churn
  - FMC % +5% YoY
  - Efficiency programs reducing FTE #s
  - Lower Care transactions
- **Best OFCF result in five quarters despite continued topline pressure:**
  - Competitive market dynamics impact consumer & SOHO ARPU
  - Simplified cost structure benefits Q2 and future quarters
  - Now lapping peak capex for EOS, 1 Gbps and digital initiatives

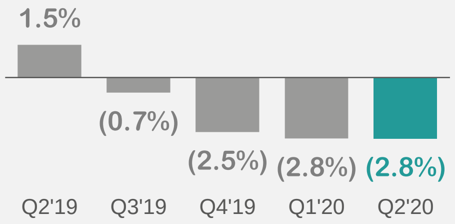
GROWING ARPU WHILE HOLDING CUSTOMERS STABLE

Fixed Line Customers (000s)

Net Fixed Line Customer Adds (000s)



Customer ARPU Rebased Growth YoY

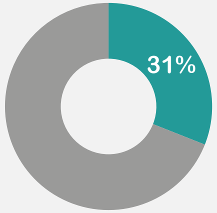


SPEED LEADERSHIP

Average base speed: 330Mbps

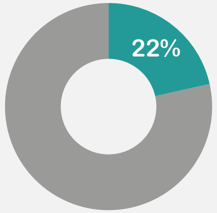
ENTERTAINMENT

EOS box penetration / total video base



FMC

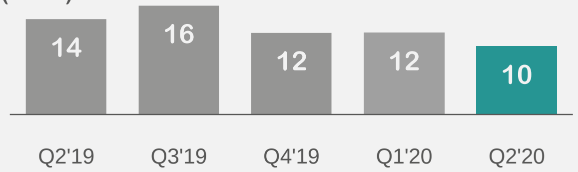
% broadband subscribers that also take a mobile subscription



GROWING POSTPAID MOBILE

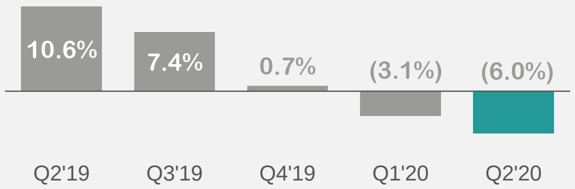
Total Postpaid subscribers: 223k

Postpaid Net Adds (Consumer) (000s)



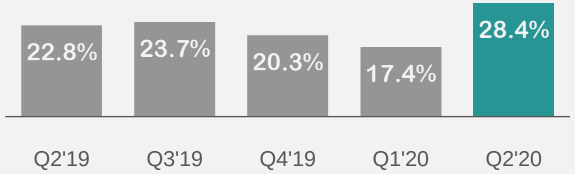
GROWING SOHO

SOHO Revenue [(1)] Rebased YoY Growth %



OPTIMIZING OFCF MARGINS

OFCF / Revenue % [(2)]



(1) Total revenue including non-subscription and mobile
(2) Includes Centrally attributed P&E Additions, see Appendix for more details

TELENET: Q2 2020 OPERATING UPDATE

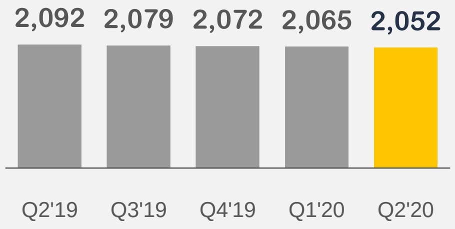
Successfully balancing price and volume

HIGHLIGHTS

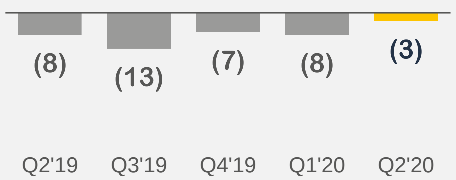
- **Commercial momentum accelerated:**
  - Solid KPIs as customers held nearly stable organically
  - Strong organic BB growth and FMC +3% YoY
  - Robust ARPU growth supported by higher proportion of 4P and higher tier broadband subscribers
  - Lower advertising, handset & interconnect revenue due to COVID-19
- **Strong cash flow growth**
  - Cost and capex phasing and optimization drives OCF and OFCF
- **Outlook positive**
  - Local IFRS FY 2020 [3] outlook and three-year OFCF guidance reaffirmed
  - Entered into discussions with Fluvius about data network of the future

GROWING ARPU WHILE HOLDING CUSTOMERS STABLE

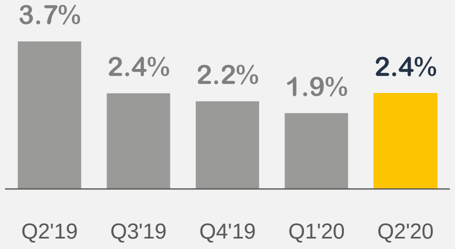
Fixed Line Customers (000s)



Net Fixed Line Customer Adds (000s)



Customer ARPU Rebased Growth YoY

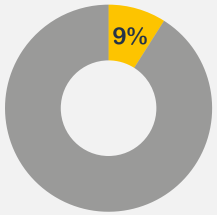


SPEED LEADERSHIP

Average base speed: 206Mbps

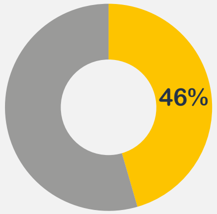
ENTERTAINMENT

EOS box penetration / total video base



FMC

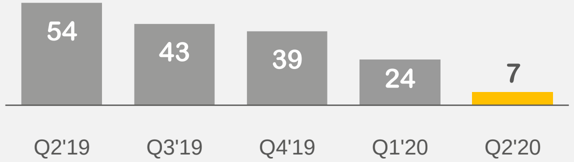
% broadband subscribers that also take a mobile subscription



GROWING POSTPAID MOBILE

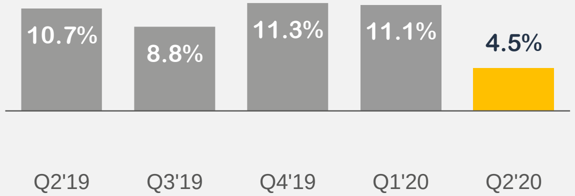
Total Postpaid subscribers: 2.4m

Postpaid Net Adds (Consumer) (000s)



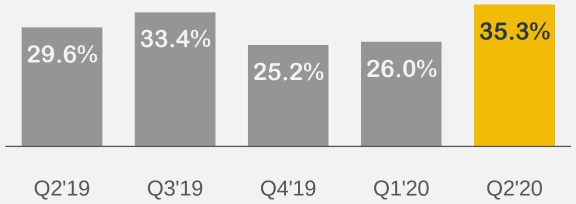
GROWING SOHO

SOHO Revenue [1] Rebased YoY Growth %



OPTIMIZING OFCF MARGINS

OFCF / Revenue % [2]



(1) Total revenue including non-subscription and mobile
(2) Includes Centrally attributed P&E Additions, see Appendix for more details
(3) 2020 IFRS guidance: Rebased revenue -2%, full year 2020 reported revenue expected to be broadly stable; Rebased OFCF +1-2%; Lower end of €415-435m Adjusted FCF range

VODAFONE ZIGGO: Q2 2020 OPERATING UPDATE [(1)]

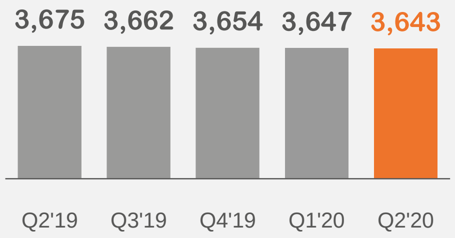
Strong operating momentum continues

HIGHLIGHTS

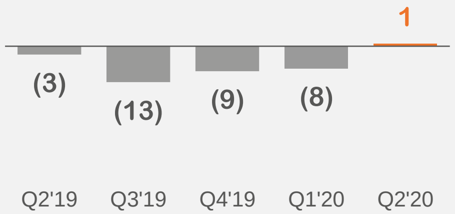
- **Maintaining network superiority**:
  - Resumed 1Gbps roll-out
  - First to offer nationwide 5G
- **Secured additional spectrum:**
  - Total cost of €416m
  - 20-year licenses
  - Funded by shareholder loans
  - Payable in equal instalments July 2020 & 2021
- **Strong operational results**
  - Lower revenue due to COVID-19 impacts; offset by cost control
  - Announced average price rise of ~3.4%; landing in line
  - ~95% of €210m synergy target realized
- **Local JV guidance reconfirmed:**
  - Stable to modest Adjusted EBITDA growth
  - €400-500m of cash available for potential shareholder distributions

GROWING ARPU WHILE HOLDING CUSTOMERS STABLE

Fixed Line Customers (000s)



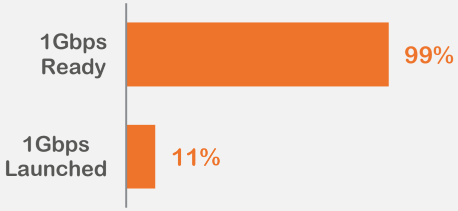
Net Fixed Line Customer Adds (000s)



Customer ARPU Rebased Growth YoY

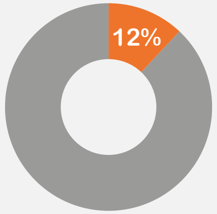
SPEED LEADERSHIP

Average base speed: 186Mbps



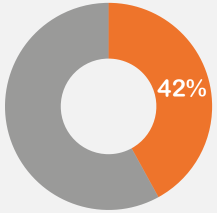
ENTERTAINMENT

Mediabox Next penetration / total video base



FMC

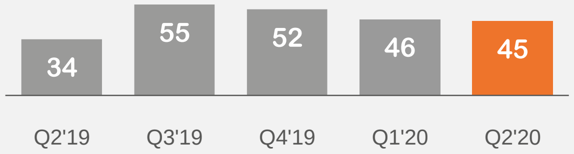
% broadband subscribers that also take a mobile subscription



GROWING POSTPAID MOBILE

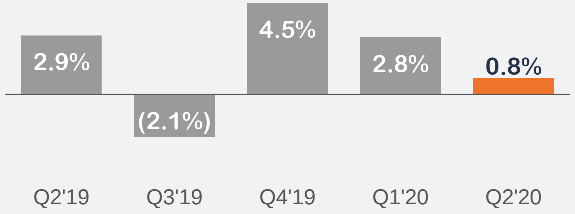
Total Postpaid subscribers: 2.8m

Postpaid Net Adds (Consumer) (000s)



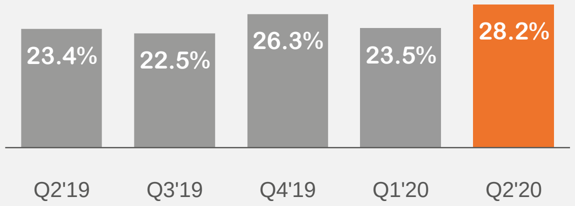
GROWING SOHO

SOHO Revenue [(2)] Rebased YoY Growth %



OPTIMIZING OFCF MARGINS

OFCF / Revenue %



(1) We own a 50% non-controlling interest in the VodafoneZiggo JV in the Netherlands and all results are as disclosed and as reported by the JV. Results are not consolidated by Liberty Global.
(2) Total revenue including non-subscription and mobile

EXECUTIVE SUMMARY

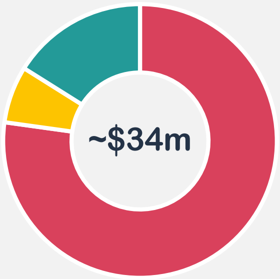
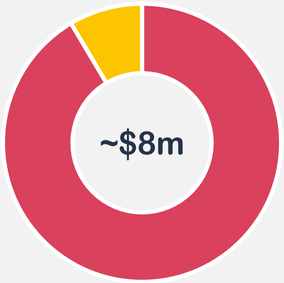
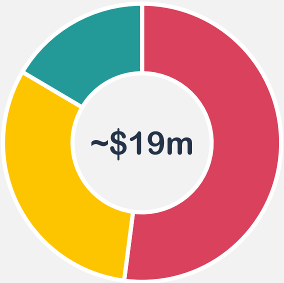
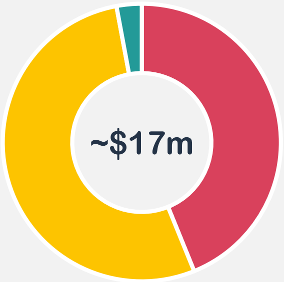
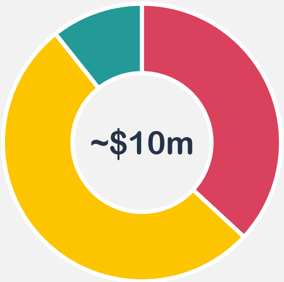
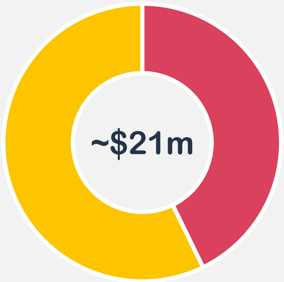
FINANCIAL RESULTS

APPENDIX

Q2 IMPACT OF COVID-19

>$100m COVID impacts to revenue; most of which are low margin

U.K. & Ireland
Belgium
Switzerland

RESIDENTIAL		B2B	MOBILE		OTHER
ESTIMATED COVID REVENUE IMPACTS					
PREMIUM SPORTS	LATE CHARGES/ NON-PAY	FIXED & MOBILE IMPACTS	ROAMING	HANDSETS	BROADCASTER REVENUES
					

Q2 revenue decline of 4.3%; largely attributable to ~$110m of COVID headwinds, representing a 4.0% decline

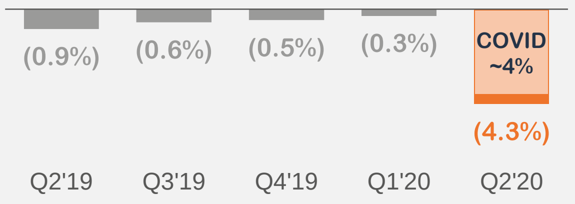
COVID IMPACTS ON ADJUSTED EBITDA					
LOW MARGIN	100% MARGIN	LOW MARGIN	EQUIVALENT OFFSETTING IMPACT IN DIRECT COSTS	LOW MARGIN	OFFSETTING COST PHASING

Minimal impact to Q2 Adjusted EBITDA growth

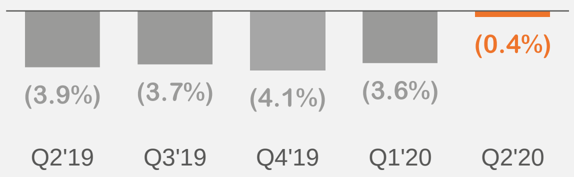
GROUP OVERVIEW

Revenue decline largely attributable to low margin COVID-19 impacts; over $9bn of total liquidity

REVENUE GROWTH (1)

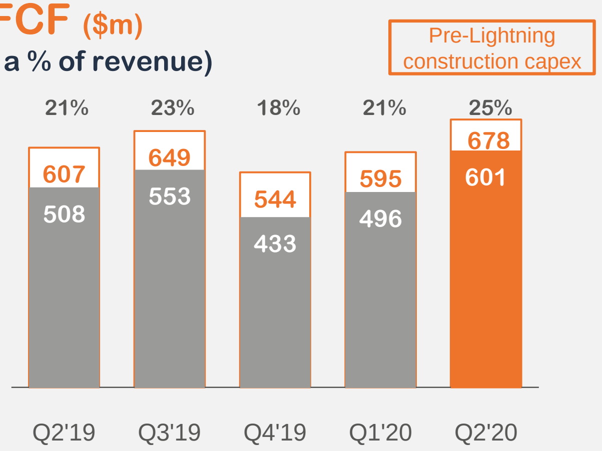


ADJUSTED EBITDA GROWTH (1)

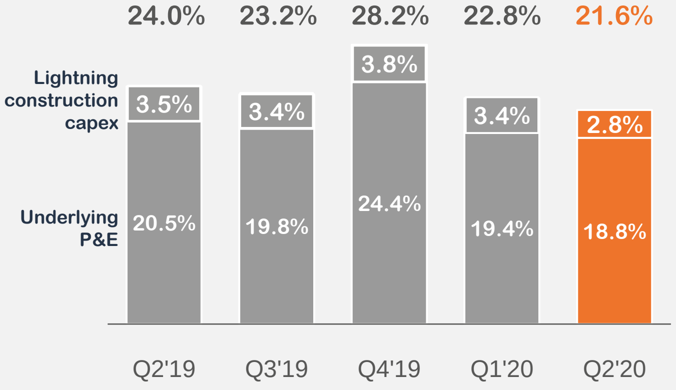


OFCF ($m)

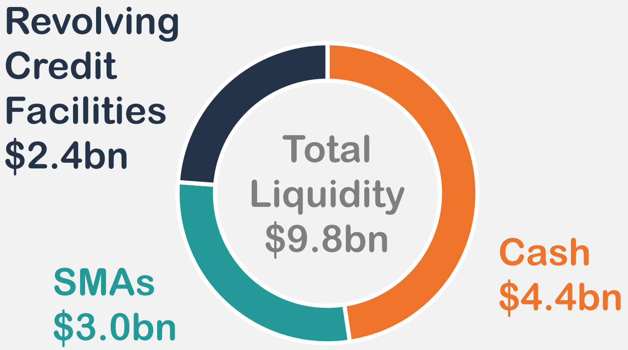
(as a % of revenue)



P&E ADDITIONS (as % of Revenue)

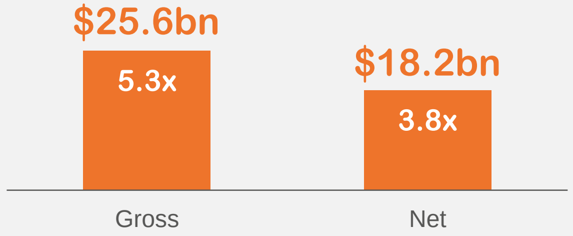


FULL COMPANY LIQUIDITY (2,4)



FULL COMPANY LEVERAGE (3, 4)

(LTM basis)



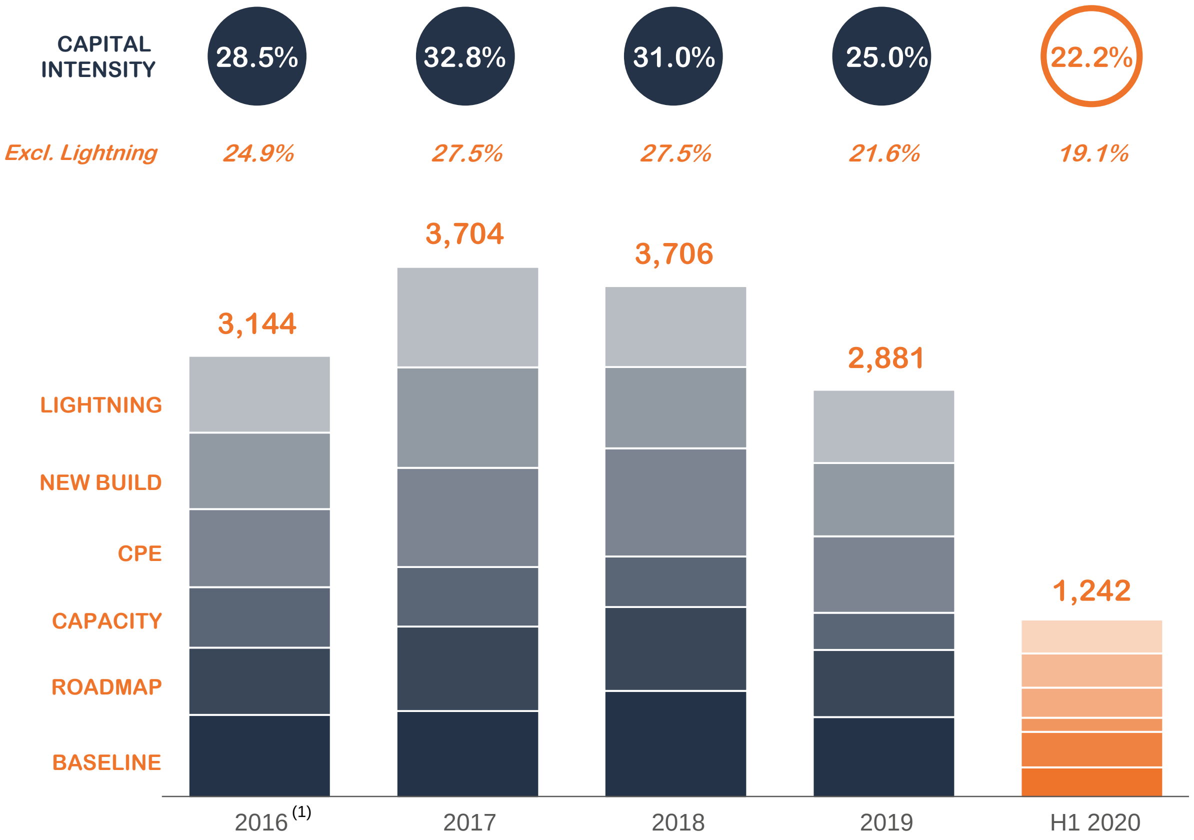
WACD	**4.0%**
Average tenor	**>7 years**

(1) Revenue, and Adjusted EBITDA growth rates presented on a rebased basis after internal recharges. See appendix for definitions and reconciliations of non-GAAP measures, as applicable.
(2) Liquidity refers to our consolidated cash and cash equivalents, investments held under separately managed accounts (SMAs), plus the maximum undrawn commitments under our subsidiaries' borrowing facilities without regard to covenant compliance calculations
(3) Debt balances presented on swapped basis, taking into account derivative positions.
(4) Full Company includes the debt and unused borrowing capacity of the Virgin Media entities classified as held for sale at June 30, 2020. The cash of Virgin Media is not classified as held for sale and will be retained by Liberty Global.

P&E ADDITIONS

Capital spend continues to decline; H1 2020 intensity down to ~19% ex. Lightning

SPEND BY CATEGORY
($m)



H1 SPEND DECLINE	CHANGE VS PRIOR YEAR
NEW BUILD Lightning build volumes down modestly, partly as lockdown measures slow new build activity	-4%
CPE Deployment of next-gen set-top boxes/routers continues, albeit at a lower pace in aggregate	-34%
CAPACITY Savings achieved from UK and BE as large spectrum upgrades completed	-18%
ROADMAP UK/BE mobile and IT are key drivers of increase	+18%
BASELINE Major platform investments behind us, focusing on deployment	-6%

(1) Excluding the Netherlands

H1 DIVISIONAL OVERVIEW

Improving OFCF conversion across most operations except CH investing in turnaround

$m	U.K. & IRELAND		BELGIUM		SWITZERLAND		50-50 DUTCH JV (3,4)	
	H1' 19	H1' 20	H1' 19	H1' 20	H1' 19	H1' 20	H1' 19	H1' 20
REVENUE	$3,305	$3,153	$1,425	$1,401	$631	$616	$2,178	$2,179
Rebased growth		*(2.1%)*		*(2.8%)*		*(5.7%)*		*2.6%*
Adjusted EBITDA (1)	$1,380	$1,310	$688	$686	$316	$285	$981	$1,034
Rebased growth		*(2.5%)*		*2.2%*		*(12.9%)*		*8.1%*
% Revenue	42%	42%	48%	49%	50%	46%	45%	48%
OFCF pre Lightning Construction P&E (2)	$740	$749	$409	$428	$159	$140	$554	$562
% Revenue	22%	24%	29%	31%	25%	23%	25%	26%
Lightning Construction P&E (5)	$183	$176						
OFCF (2)	$557	$573						
% Revenue	17%	18%						

(1) 2019 based on our updated definition of segment Adjusted EBITDA which, effective from Q4 2019, now includes Centrally allocated opex. For information on centrally-held operating cost allocations, see the appendix.
(2) Includes Centrally attributed P&E Additions. For information on our centrally-held P&E attributions, see the appendix included in our Q2 2020 Liberty Global earnings release
(3) Represents 100% of the results related to our 50% owned non-consolidated Dutch JV
(4) Adjusted EBITDA for the Dutch JV as shown in the table above includes $61m and $59m of FSA charges from Liberty Global in H1 2019 and 2020, respectively, with the corresponding amount recognized as revenue within our Central segment.
(5) Lightning construction P&E includes construction P&E only. Excludes Customer Premises Equipment.

ADJUSTED FCF

H1 phasing remains consistent with prior years, full year target on track

$m	Q1 2020	Q2 2020	H1 2020	Comments
ADJUSTED EBITDA	$1,150	$1,189	$2,339	
P&E pre-Lightning P&E	(555)	(511)	(1,066)	
OFCF pre-Lightning P&E	$595	$678	$1,273	
NET INTEREST	(579)	(21)	(600)	• Payments in Q1 and Q3
CASH TAX	5	(62)	(57)	• FY20 expected to be lower than FY19
VODAFONE ZIGGO JV (Dividend & Interest)	11	11	22	• Interest only H1; expect dividend H2
	$32	$606	$638	
WORKING CAPITAL (1)	(250)	(73)	(323)	• Targeting broadly flat again in FY20
ADJUSTED FCF pre-Lightning P&E	($218)	$533	$315	
LIGHTNING P&E(2)	(99)	(77)	(176)	• Construction capex only
ADJUSTED FCF	($317)	$456	$139	

(1) Includes working capital, operational finance (vendor finance) and restructuring
(2) Lightning Construction P&E includes construction P&E only. Excludes Customer Premises Equipment

CONCLUSIONS

- U.K. JV with Telefonica on track
- Navigating through COVID-19, impacts have been manageable
- Achieved record high NPS in Q2 & positive customer additions
- H1 in line; optimistic on H2 but maintaining caution
- Reconfirming all 2020 guidance metrics

FY 2020 (1)	Guidance	Assumptions
Rebased Adjusted EBITDA	Mid-single digit decline	› Countries do not revert to March/April/May lockdown measures › Gradual economic recovery
Rebased OFCF	Mid-single digit growth	
Adjusted FCF (2)	~$1 billion Including Lightning Construction Capex	

(1) Quantitative reconciliations to net earnings/loss from continuing operations (including net earnings/loss growth rates) and cash flow from operating activities for our Adjusted EBITDA and Adjusted FCF guidance cannot be provided without unreasonable efforts as we do not forecast (i) certain non-cash charges including; the components of non-operating income/expense, depreciation and amortization, and impairment, restructuring and other operating items included in net earnings/loss from continuing operations, nor (ii) specific changes in working capital that impact cash flows from operating activities. The items we do not forecast may vary significantly from period to period.

(2) Based on EUR/USD 1.13; GBP/USD 1.33

EXECUTIVE SUMMARY

FINANCIAL RESULTS

APPENDIX

REBASE INFORMATION

Rebase growth percentages, which are non-GAAP measures, are presented as a basis for assessing growth rates on a comparable basis. For purposes of calculating rebased growth rates on a comparable basis for all businesses that we owned during 2020, we have adjusted our historical revenue, Adjusted EBITDA and OFCF for the three and six months ended June 30, 2019 to (i) include the pre-acquisition revenue, Adjusted EBITDA and P&E additions of entities acquired during 2019 in our rebased amounts for the three and six months ended June 30, 2019 to the same extent that the revenue, Adjusted EBITDA and P&E additions of these entities are included in our results for the three and six months ended June 30, 2020, (ii) exclude the revenue, Adjusted EBITDA and P&E additions in our rebased amounts for the three and six months ended June 30, 2019 for entities disposed of during 2020, (iii) include revenue and costs for the temporary elements of transitional and other services provided to the VodafoneZiggo JV, Vodafone, Deutsche Telekom (the buyer of UPC Austria), Liberty Latin America and M7 Group (the buyer of UPC DTH), to reflect amounts related to these services equal to those included in our results for the three and six months ended June 30, 2020 and (iv) reflect the translation of our rebased amounts for the three and six months ended June 30, 2019 at the applicable average foreign currency exchange rates that were used to translate our results for the three and six months ended June 30, 2020. We have reflected the revenue, Adjusted EBITDA and P&E additions of these acquired entities in our 2019 rebased amounts based on what we believe to be the most reliable information that is currently available to us (generally pre-acquisition financial statements), as adjusted for the estimated effects of (a) any significant differences between U.S. GAAP and local generally accepted accounting principles, (b) any significant effects of acquisition accounting adjustments, (c) any significant differences between our accounting policies and those of the acquired entities and (d) other items we deem appropriate. We do not adjust pre-acquisition periods to eliminate nonrecurring items or to give retroactive effect to any changes in estimates that might be implemented during post-acquisition periods. As we did not own or operate the acquired businesses during the pre-acquisition periods, no assurance can be given that we have identified all adjustments necessary to present the revenue, Adjusted EBITDA and OFCF of these entities on a basis that is comparable to the corresponding post-acquisition amounts that are included in our historical results or that the pre-acquisition financial statements we have relied upon do not contain undetected errors. In addition, the rebased growth percentages are not necessarily indicative of the revenue, Adjusted EBITDA and OFCF that would have occurred if these transactions had occurred on the dates assumed for purposes of calculating our rebased amounts or the revenue, Adjusted EBITDA and OFCF that will occur in the future. Investors should view rebased growth as a supplement to, and not a substitute for, U.S. GAAP measures of performance included in our condensed consolidated statements of operations.

The following table provides adjustments made to the 2019 amounts to derive our rebased growth rates:

	Three months ended June 30, 2019			Six months ended June 30, 2019		
	Revenue	Adjusted EBITDA	OFCF	Revenue	Adjusted EBITDA	OFCF
	in millions					
Acquisitions	$ 23.9	$ —	$ —	$ 55.2	$ 0.9	$ 0.9
Dispositions[i]	37.0	34.2	35.0	72.5	67.3	68.1
Foreign Currency	(67.1)	(31.1)	(17.0)	(118.5)	(54.5)	(26.9)
Total increase (decrease)	$ (6.2)	$ 3.1	$ 18.0	$ 9.2	$ 13.7	$ 42.1

(i) Relates primarily to rebase adjustments for agreements to provide transitional and other services to the VodafoneZiggo JV, Vodafone, Liberty Latin America, Deutsche Telekom and M7 Group. These adjustments result in an equal amount of fees in both the 2020 and 2019 periods for those services that are deemed to be temporary in nature.

GLOSSARY

10-Q or 10-K: As used herein, the terms 10-Q and 10-K refer to our most recent quarterly or annual report as filed with the Securities and Exchange Commission on Form 10-Q or Form 10-K, as applicable.

Adjusted EBITDA: Adjusted EBITDA is the primary measure used by our chief operating decision maker to evaluate segment operating performance and is also a key factor that is used by our internal decision makers to (i) determine how to allocate resources to segments and (ii) evaluate the effectiveness of our management for purposes of annual and other incentive compensation plans. As we use the term, Adjusted EBITDA is defined as earnings (loss) from continuing operations before net income tax benefit (expense), other non-operating income or expenses, net share of results of affiliates, net gains (losses) on extinguishment of debt, net realized and unrealized gains (losses) due to changes in fair value of certain investments and debt, net foreign currency gains (losses), net gains (losses) on derivative instruments, net interest expense, depreciation and amortization, share-based compensation, provisions and provision releases related to significant litigation and impairment, restructuring and other operating items. Other operating items include (a) gains and losses on the disposition of long-lived assets, (b) third-party costs directly associated with successful and unsuccessful acquisitions and dispositions, including legal, advisory and due diligence fees, as applicable, and (c) other acquisition-related items, such as gains and losses on the settlement of contingent consideration. Our internal decision makers believe Adjusted EBITDA is a meaningful measure because it represents a transparent view of our recurring operating performance that is unaffected by our capital structure and allows management to (1) readily view operating trends, (2) perform analytical comparisons and benchmarking between segments and (3) identify strategies to improve operating performance in the different countries in which we operate. We believe our consolidated Adjusted EBITDA measure, which is a non-GAAP measure, is useful to investors because it is one of the bases for comparing our performance with the performance of other companies in the same or similar industries, although our measure may not be directly comparable to similar measures used by other public companies. Consolidated Adjusted EBITDA should be viewed as a measure of operating performance that is a supplement to, and not a substitute for U.S. GAAP measures of income included in our condensed consolidated statements of operations.

Adjusted EBITDA margin: Adjusted EBITDA margin is a non-GAAP metric calculated by dividing Adjusted EBITDA by total revenue for the applicable period.

Adjusted Free Cash Flow (FCF): net cash provided by our operating activities, plus (i) cash payments for third-party costs directly associated with successful and unsuccessful acquisitions and dispositions and (ii) expenses financed by an intermediary, less (a) capital expenditures, as reported in our condensed consolidated statements of cash flows, (b) principal payments on amounts financed by vendors and intermediaries and (c) principal payments on finance leases (exclusive of the portions of the network lease in Belgium that we assumed in connection with certain acquisitions), with each item excluding any cash provided or used by our Discontinued Operations, as applicable. We believe that our presentation of Adjusted Free Cash Flow, which is a non-GAAP measure, provides useful information to our investors because this measure can be used to gauge our ability to service debt and fund new investment opportunities. Adjusted Free Cash Flow should not be understood to represent our ability to fund discretionary amounts, as we have various mandatory and contractual obligations, including debt repayments, which are not deducted to arrive at this amount. Investors should view Adjusted Free Cash Flow as a supplement to, and not a substitute for, U.S. GAAP measures of liquidity included in our condensed consolidated statements of cash flows.

ARPU: Average Revenue Per Unit is the average monthly subscription revenue per average cable customer relationship or mobile subscriber, as applicable. ARPU per average fixed-line customer relationship is calculated by dividing the average monthly subscription revenue from residential cable and SOHO services by the average number of fixed-line customer relationships for the period. ARPU per average mobile subscriber is calculated by dividing residential mobile and SOHO revenue for the indicated period by the average number of mobile subscribers for the period. Unless otherwise indicated, ARPU per cable customer relationship or mobile subscriber is not adjusted for currency impacts. ARPU per RGU refers to average monthly revenue per average RGU, which is calculated by dividing the average monthly subscription revenue from residential and SOHO services for the indicated period, by the average number of the applicable RGUs for the period. Unless otherwise noted, ARPU in this release is considered to be ARPU per average cable customer relationship or mobile subscriber, as applicable. Fixed-line customer relationships, mobile subscribers and RGUs of entities acquired during the period are normalized. In addition, for purposes of calculating the percentage change in ARPU on a rebased basis, which is a non-GAAP measure, we adjust the prior-year subscription revenue, fixed-line customer relationships, mobile subscribers and RGUs, as applicable, to reflect acquisitions, dispositions and FX on a comparable basis with the current year, consistent with how we calculate our rebased growth for revenue and Adjusted EBITDA.

ARPU per Mobile Subscriber: Our ARPU per mobile subscriber calculation that excludes interconnect revenue refers to the average monthly mobile subscription revenue per average mobile subscriber and is calculated by dividing the average monthly mobile subscription revenue (excluding handset sales and late fees) for the indicated period, by the average of the opening and closing balances of mobile subscribers in service for the period. Our ARPU per mobile subscriber calculation that includes interconnect revenue increases the numerator in the above-described calculation by the amount of mobile interconnect revenue during the period.

Basic Video Subscriber: a home, residential multiple dwelling unit or commercial unit that receives our video service over our broadband network or through a partner network either via an analog video signal or via a digital video signal without subscribing to any recurring monthly service that requires the use of encryption-enabling technology. Encryption-enabling technology includes smart cards, or other integrated or virtual technologies that we use to provide our enhanced service offerings. We count RGUs on a unique premises basis. In other words, a subscriber with multiple outlets in one premises is counted as one RGU and a subscriber with two homes and a subscription to our video service at each home is counted as two RGUs.

Blended fully-swapped debt borrowing cost: the weighted average interest rate on our aggregate variable- and fixed-rate indebtedness (excluding finance leases and including vendor financing obligations), including the effects of derivative instruments, original issue premiums or discounts and commitment fees, but excluding the impact of financing costs.

GLOSSARY

B2B: Business-to-Business.

Customer Churn: the rate at which customers relinquish their subscriptions. The annual rolling average basis is calculated by dividing the number of disconnects during the preceding 12 months by the average number of customer relationships. For the purpose of computing churn, a disconnect is deemed to have occurred if the customer no longer receives any level of service from us and is required to return our equipment. A partial product downgrade, typically used to encourage customers to pay an outstanding bill and avoid complete service disconnection, is not considered to be disconnected for purposes of our churn calculations. Customers who move within our cable footprint and upgrades and downgrades between services are also excluded from the disconnect figures used in the churn calculation.

Enhanced Video Subscriber: a home, residential multiple dwelling unit or commercial unit that receives our video service over our broadband network or through a partner network via a digital video signal while subscribing to any recurring monthly service that requires the use of encryption-enabling technology. Enhanced Video Subscribers are counted on a unique premises basis. For example, a subscriber with one or more set-top boxes that receives our video service in one premises is generally counted as just one subscriber. An Enhanced Video Subscriber is not counted as a Basic Video Subscriber. As we migrate customers from basic to enhanced video services, we report a decrease in our Basic Video Subscribers equal to the increase in our Enhanced Video Subscribers.

Fixed-Line Customer Relationships: the number of customers who receive at least one of our internet, video or telephony services that we count as RGUs, without regard to which or to how many services they subscribe. Fixed-Line Customer Relationships generally are counted on a unique premises basis. Accordingly, if an individual receives our services in two premises (e.g., a primary home and a vacation home), that individual generally will count as two Fixed-Line Customer Relationships. We exclude mobile-only customers from Fixed-Line Customer Relationships.

Fixed-Mobile Convergence (FMC): Fixed-mobile convergence penetration represents the number of customers who subscribe to both a fixed broadband internet service and postpaid mobile telephony service, divided by the total number of customers who subscribe to our fixed broadband internet service.

Homes Passed: homes, residential multiple dwelling units or commercial units that can be connected to our networks without materially extending the distribution plant. Certain of our Homes Passed counts are based on census data that can change based on either revisions to the data or from new census results.

Internet Subscriber: a home, residential multiple dwelling unit or commercial unit that receives internet services over our networks, or that we service through a partner network. Our Internet Subscribers do not include customers that receive services from dial-up connections.

Leverage and Liquidity: Our debt and net debt ratios, which are non-GAAP metrics, are defined as total debt and net debt, respectively, divided by Adjusted EBITDA for the last twelve months (LTM Adjusted EBITDA). Net debt is defined as total debt less cash and cash equivalents and investments under separately managed accounts. Consistent with how we calculate our leverage ratios under our debt agreements, these ratios are presented on a Full Company basis that includes the debt and Adjusted EBITDA of the U.K. JV entities that are classified as held for sale on our June 30, 2020 condensed consolidated balance sheet. For purposes of these calculations, debt is measured using swapped foreign currency rates, consistent with the covenant calculation requirements of our subsidiary debt agreements, and excludes the loans backed or secured by the shares we hold in ITV plc and Lions Gate Entertainment Corp.

Liquidity refers to cash and cash equivalents and investments held under separately managed accounts plus the maximum undrawn commitments under subsidiary borrowing facilities for the Full Company, without regard to covenant compliance calculations or other conditions precedent to borrowing.

The term "Full Company" includes certain amounts related to the U.K. JV Entities, which are presented as held for sale in our June 30, 2020 condensed consolidated balance sheet. For purposes of presenting certain debt and liquidity metrics consistent with how we calculate our leverage ratios under our debt agreements, we have included the debt and finance lease obligations of the U.K. JV Entities in our Full Company metrics.

Lightning premises: includes homes, residential multiple dwelling units and commercial premises that potentially could subscribe to our residential or SOHO services, which have been connected to our networks as a part of our Project Lightning network extension program in the U.K. and Ireland. Project Lightning infill build relates to construction in areas adjacent to our existing network.

Mobile Subscriber Count: the number of active SIM cards in service rather than services provided. For example, if a mobile subscriber has both a data and voice plan on a smartphone this would equate to one mobile subscriber. Alternatively, a subscriber who has a voice and data plan for a mobile handset and a data plan for a laptop would be counted as two mobile subscribers. Customers who do not pay a recurring monthly fee are excluded from our mobile telephony subscriber counts after periods of inactivity ranging from 30 to 90 days, based on industry standards within the respective country. In a number of countries, our mobile subscribers receive mobile services pursuant to prepaid contracts.

GLOSSARY

MVNO: Mobile Virtual Network Operator.

NPS: Net Promoter Score.

OFCF: As used herein, Operating Free Cash Flow or "OFCF", which is a non-GAAP measure, represents Adjusted EBITDA less property and equipment additions. OFCF is an additional metric that we use to measure the performance of our operations after considering the level of property and equipment additions incurred during the period.

OFCF margin: OFCF margin is a non-GAAP metric calculated by dividing OFCF by total revenue for the applicable period.

Property and equipment additions (P&E additions): includes capital expenditures on an accrual basis, amounts financed under vendor financing or finance lease arrangements and other non-cash additions.

Rental ARPU: subscription ARPU less out-of-bundle telephony usage and pay-per-view

RGU: A Revenue Generating Unit is separately a Basic Video Subscriber, Enhanced Video Subscriber, Internet Subscriber or Telephony Subscriber. A home, residential multiple dwelling unit, or commercial unit may contain one or more RGUs. For example, if a residential customer in our U.K. market subscribed to our enhanced video service, fixed-line telephony service and broadband internet service, the customer would constitute three RGUs. Total RGUs is the sum of Basic Video, Enhanced Video, Internet and Telephony Subscribers. RGUs generally are counted on a unique premises basis such that a given premises does not count as more than one RGU for any given service. On the other hand, if an individual receives one of our services in two premises (e.g., a primary home and a vacation home), that individual will count as two RGUs for that service. Each bundled cable, internet or telephony service is counted as a separate RGU regardless of the nature of any bundling discount or promotion. Non-paying subscribers are counted as subscribers during their free promotional service period. Some of these subscribers may choose to disconnect after their free service period. Services offered without charge on a long-term basis (e.g., VIP subscribers or free service to employees) generally are not counted as RGUs. We do not include subscriptions to mobile services in our externally reported RGU counts. In this regard, our RGU counts exclude our separately reported postpaid and prepaid mobile subscribers.

SIM: Subscriber Identification Module

SOHO: Small or Home Office Subscribers

Telephony Subscriber: a home, residential multiple dwelling unit or commercial unit that receives voice services over our networks, or that we service through a partner network. Telephony Subscribers exclude mobile telephony subscribers.

U.S. GAAP: Accounting principles generally accepted in the United States.

YoY: Year-over-year.

RECONCILIATIONS

REBASE ADJUSTMENTS

Rebase growth percentages, which are non-GAAP measures, are presented as a basis for assessing growth rates on a comparable basis. For further details on adjustments made to arrive at our rebase growth rates for the periods below, refer to our previously issued earnings releases which can be found on our website at www.libertyglobal.com, as well as the *Rebase Information* section included earlier in this presentation.

The following table provides adjustments made to 2018 amounts to derive our rebased growth rates for the three months ended June 30, 2019, September 30, 2019 and December 31, 2019:

	Three months ended June 30, 2018		Three months ended September 30, 2018		Three months ended December 31, 2018	
	Revenue	Adjusted EBITDA	Revenue	Adjusted EBITDA	Revenue	Adjusted EBITDA
	in millions					
Acquisitions	$ 15.2	$ 31.5	$ 24.7	$ 1.8	$ 40.7	$ 9.1
Dispositions	5.7	18.3	36.0	29.6	33.4	27.7
Foreign Currency	(158.8)	(367.3)	(133.7)	(53.2)	(27.4)	(10.8)
Total increase (decrease)	$ (137.9)	$ (317.5)	$ (73.0)	$ (21.8)	$ 46.7	$ 26.0

The following table provides adjustments made to 2019 amounts to derive our rebased growth rates for the three months ended March 31, 2020 and June 30, 2020:

	Three months ended March 31, 2019		Three months ended June 30, 2019		
	Revenue	Adjusted EBITDA	Revenue	Adjusted EBITDA	OCFC
	in millions				
Acquisitions	$ 31.3	$ 0.9	$ 23.9	$ —	$ —
Dispositions	35.5	33.1	37.0	34.2	35.0
Foreign Currency	(50.9)	(23.4)	(67.1)	(31.1)	(17.0)
Total increase (decrease)	$ 15.9	$ 10.6	$ (6.2)	$ 3.1	$ 18.0

RECONCILIATIONS

ADJUSTED EBITDA

The following table provides a reconciliation of our earnings (loss) from continuing operations to Adjusted EBITDA for the indicated periods:

	Three months ended		Six months ended	Three months ended	
	March 31, 2019	June 30, 2019	June 30, 2019	September 30, 2019	December 30, 2019
			in millions		
Earnings (loss) from continuing operations	$ (306.9)	$ (339.6)	$ (646.5)	$ 587.2	$ (1,349.7)
Income tax expense (benefit)	27.8	26.8	54.6	(70.8)	269.2
Other income, net	(6.5)	(32.5)	(39.0)	(36.3)	(39.1)
Share of results of affiliates, net	70.9	69.3	140.2	32.8	25.5
Losses on debt extinguishment, net	0.5	48.3	48.8	48.5	119.4
Realized and unrealized losses (gains) due to changes in fair values of certain investments and debt, net	8.2	138.7	146.9	(56.4)	(162.5)
Foreign currency transactions losses (gains), net	(138.6)	27.0	(111.6)	(54.2)	260.6
Realized and unrealized losses (gains) on derivative instruments, net	82.8	(152.9)	(70.1)	(582.1)	844.2
Interest expense	367.3	363.6	730.9	340.1	314.9
Operating income	105.5	148.7	254.2	208.8	282.5
Impairment, restructuring and other operating items, net	70.9	33.2	104.1	36.0	15.9
Depreciation and amortization	939.6	921.8	1,861.4	892.9	897.9
Share-based compensation expense	67.3	87.0	154.3	74.0	77.5
Adjusted EBITDA	$ 1,183.3	$ 1,190.7	$ 2,374.0	$ 1,211.7	$ 1,273.8

	Three months ended		Six months ended
	March 31, 2020	June 30, 2020	June 30, 2020
		in millions	
Earnings (loss) from continuing operations	$ 1,017.7	$ (503.8)	$ 513.9
Income tax expense (benefit)	80.1	(158.0)	(77.9)
Other income, net	(52.4)	(9.5)	(61.9)
Share of results of affiliates, net	(33.4)	105.4	72.0
Losses on debt extinguishment, net	54.5	165.6	220.1
Realized and unrealized losses (gains) due to changes in fair values of certain investments and debt, net	529.8	(152.3)	377.5
Foreign currency transactions losses (gains), net	(391.7)	478.0	86.3
Realized and unrealized losses (gains) on derivative instruments, net	(1,237.3)	319.7	(917.6)
Interest expense	313.3	281.7	595.0
Operating income	280.6	526.8	807.4
Impairment, restructuring and other operating items, net	31.0	32.2	63.2
Depreciation and amortization	783.5	545.7	1,329.2
Share-based compensation expense	55.2	83.8	139.0
Adjusted EBITDA	$ 1,150.3	$ 1,188.5	$ 2,338.8

RECONCILIATIONS

ADJUSTED FCF

The following table provides a reconciliation of our net cash provided by operating activities to Adjusted Free Cash Flow for the indicated periods:

	Three months ended		Six months ended
	March 31, 2020	June 30, 2020	June 30, 2020
		in millions	
Net cash provided by operating activities	$ 449.8	$ 1,142.1	$ 1,591.9
Cash payments for direct acquisition and disposition costs	0.5	9.9	10.4
Expenses financed by an intermediary[i]	722.8	551.7	1,274.5
Capital expenditures, net	(347.8)	(301.8)	(649.6)
Principal payments on amounts financed by vendors and intermediaries	(1,121.0)	(933.0)	(2,054.0)
Principal payments on certain finance leases	(21.3)	(13.2)	(34.5)
Adjusted FCF	$ (317.0)	$ 455.7	$ 138.7

(i) For purposes of our condensed consolidated statements of cash flows, expenses financed by an intermediary are treated as hypothetical operating cash outflows and hypothetical financing cash inflows when the expenses are incurred. When we pay the financing intermediary, we record financing cash outflows in our condensed consolidated statements of cash flows. For purposes of our Adjusted Free Cash Flow definition, we add back the hypothetical operating cash outflow when these financed expenses are incurred and deduct the financing cash outflows when we pay the financing intermediary.

RECONCILIATIONS

OFCF

A reconciliation of our Adjusted EBITDA to (i) OFCF and (ii) OFCF pre-Lightning P&E additions for our continuing operations is presented in the following table:

	Three months ended				
	June 30, 2019	September 30, 2019	December 31, 2019	March 31, 2020	June 30, 2020
			in millions		
Adjusted EBITDA	$ 1,190.7	$ 1,211.7	$ 1,273.8	$ 1,150.3	$ 1,188.5
P&E additions	(682.7)	(658.7)	(840.5)	(654.4)	(588.0)
OFCF	508.0	553.0	433.3	495.9	600.5
Lightning P&E additions	99.0	96.0	111.0	99.0	77.0
OFCF pre Lightning P&E additions	$ 607.0	$ 649.0	$ 544.3	$ 594.9	$ 677.5

RECONCILIATIONS

CENTRALLY-HELD OPERATING COST ALLOCATIONS

During the fourth quarter of 2019, we changed the presentation of certain operating costs related to our centrally-managed technology and innovation function. These costs, which were previously included in Central and Corporate, are now allocated to our consolidated reportable segments. This change, which we refer to as the “Centrally-held Operating Cost Allocations”, was made as a result of internal changes with respect to the way in which our chief operating decision maker evaluates the Adjusted EBITDA of our operating segments. Segment information for the three and six months ended June 30, 2019 has been revised in our reported U.S. GAAP disclosures to reflect this change. The following table provides a summary of the impact on the Adjusted EBITDA of our consolidated reportable segments and Central and Corporate that resulted from the Centrally-held Operating Cost Allocations.

	Three months ended June 30,		Six months ended June 30,	
	2020	2019	2020	2019
	in millions			
Increase (decrease) to Adjusted EBITDA:				
U.K./Ireland	$ (12.3)	$ (15.7)	$ (24.4)	$ (31.8)
Switzerland	(4.8)	(9.9)	(9.6)	(16.7)
CEE	(2.7)	(3.8)	(5.2)	(7.3)
Central and Corporate	19.8	29.4	39.2	55.8
Total Liberty Global	$ —	$ —	$ —	$ —

RECONCILIATIONS

CENTRALLY-HELD P&E ATTRIBUTIONS / ATTRIBUTED OFCF

Property and equipment additions presented for Central and Corporate include certain capital costs incurred for the benefit of our operating segments. Generally, for purposes of the consolidated financial statements of our borrowing groups, the expense associated with these capital costs is allocated and/or charged to our operating segments as related-party fees and allocations in their respective statements of operations over the period in which the operating segment benefits from the use of the Central and Corporate asset. Related-party fees and allocations are excluded from the reported Adjusted EBITDA metric of these borrowing groups. These amounts are based on (i) our estimate of its share of underlying costs, (ii) our estimate of its share of the underlying costs plus a mark-up or (iii) commercially-negotiated rates. These charges and allocations differ from the attributed OFCF approach, as further described below.

For internal management reporting and capital allocation purposes, we evaluate the OFCF of our operating segments on an "attributed" basis, whereby we estimate and attribute certain capital costs incurred by Central and Corporate to our operating segments as if that operating segment directly incurred its estimated share of the capital costs in the same period the costs were incurred by Central and Corporate. These capital costs represent assets that are jointly used by our operating segments. In the context of evaluating our operating segments, we believe this non-GAAP approach, which we refer to as the "Centrally-held Property and Equipment Attributions", is a meaningful measure as it represents a transparent view of what the estimated capital spend for our operating segments might be if they were to operate as a stand-alone business (excluding, among other considerations, any impact from lost economies of scale) and allows us to more accurately (i) review capital trends by operating segment, (ii) perform benchmarking between operating segments and (iii) drive alignment and accountability between Central and Corporate and our operating segments with respect to our consolidated capital spend. The amounts attributed to each operating segment are estimated based on (a) actual costs incurred by Central and Corporate, without any mark-up, and (b) each respective operating segment's estimated use of the associated assets.

A reconciliation of our Adjusted EBITDA to attributed OFCF, including Centrally-held Property and Equipment Attributions, consistent with our internal management reporting approach, of (i) our operating segments and (ii) consolidated continuing operations is presented in the following table. This presentation is for illustrative purposes only and is intended as a supplement to, and not a substitute for, our U.S. GAAP presentation of the property and equipment additions of our reportable segments.

Three months ended March 31, 2019	U.K. & Ireland	Belgium	Switzerland	CEE	Central & Corporate	Total
			in millions			
Adjusted EBITDA	$ 692.2	$ 339.0	$ 156.3	$ 53.7	$ (57.9)	$ 1,183.3
Property & equipment additions	(395.3)	(141.7)	(58.6)	(21.7)	(81.3)	(698.6)
Centrally-held P&E Attribution	(26.5)	-	(8.8)	(5.3)	40.6	-
Attributed OFCF (including attribution of Centrally-held P&E)	$ 270.4	$ 197.3	$ 88.9	$ 26.7	$ (98.6)	$ 484.7

Three months ended June 30, 2019	U.K. & Ireland	Belgium	Switzerland	CEE	Central & Corporate	Total
			in millions			
Adjusted EBITDA	$ 687.5	$ 349.4	$ 159.8	$ 54.1	$ (60.1)	$ 1,190.7
Property & equipment additions	(371.4)	(133.4)	(77.3)	(19.7)	(80.9)	(682.7)
Centrally-held P&E Attribution	(30.0)	(4.2)	(12.0)	(5.9)	52.1	-
Attributed OFCF (including attribution of Centrally-held P&E)	$ 286.1	$ 211.8	$ 70.5	$ 28.5	$ (88.9)	$ 508.0

Six months ended June 30, 2019	U.K. & Ireland	Belgium	Switzerland	CEE	Central & Corporate	Total
			in millions			
Adjusted EBITDA	$ 1,379.7	$ 688.4	$ 316.1	$ 107.8	$ (118.0)	$ 2,374.0
Property & equipment additions	(766.7)	(275.1)	(135.9)	(41.4)	(162.2)	(1,381.3)
Centrally-held P&E Attribution	(56.5)	(4.2)	(20.8)	(11.2)	92.7	-
Attributed OFCF (including attribution of Centrally-held P&E)	$ 556.5	$ 409.1	$ 159.4	$ 55.2	$ (187.5)	$ 992.7

Three months ended September 30, 2019	U.K. & Ireland	Belgium	Switzerland	CEE	Central & Corporate	Total
			in millions			
Adjusted EBITDA	$ 657.8	$ 358.6	$ 160.2	$ 54.7	$ (19.6)	$ 1,211.7
Property & equipment additions	(361.8)	(116.4)	(71.3)	(24.8)	(84.4)	(658.7)
Centrally-held P&E Attribution	(39.3)	(2.0)	(14.7)	(7.6)	63.6	-
Attributed OFCF (including attribution of Centrally-held P&E)	$ 256.7	$ 240.2	$ 74.2	$ 22.3	$ (40.4)	$ 553.0

Three months ended December 31, 2019	U.K. & Ireland	Belgium	Switzerland	CEE	Central & Corporate	Total
			in millions			
Adjusted EBITDA	$ 763.0	$ 339.1	$ 151.6	$ 52.5	$ (32.4)	$ 1,273.8
Property & equipment additions	(449.5)	(145.7)	(70.7)	(40.8)	(133.8)	(840.5)
Centrally-held P&E Attribution	(40.8)	(5.2)	(16.5)	(8.0)	70.5	-
Attributed OFCF (including attribution of Centrally-held P&E)	$ 272.7	$ 188.2	$ 64.4	$ 3.7	$ (95.7)	$ 433.3

RECONCILIATIONS

CENTRALLY-HELD P&E ATTRIBUTIONS / ATTRIBUTED OFCF (CONT.)

	Three months ended March 31, 2020					
	U.K. & Ireland	Belgium	Switzerland	CEE	Central & Corporate	Total
			in millions			
Adjusted EBITDA	$ 655.4	$ 331.6	$ 134.1	$ 54.3	$ (25.1)	$ 1,150.3
Property & equipment additions	(346.6)	(141.6)	(69.2)	(18.9)	(78.1)	(654.4)
Centrally-held P&E Attribution	(34.9)	(3.1)	(10.1)	(6.9)	55.0	-
Attributed OFCF (including attribution of Centrally-held P&E)	$ 273.9	$ 186.9	$ 54.8	$ 28.5	$ (48.2)	$ 495.9

	Three months ended June 30, 2020					
	U.K. & Ireland	Belgium	Switzerland	CEE	Central & Corporate	Total
			in millions			
Adjusted EBITDA	$ 654.9	$ 354.1	$ 150.9	$ 52.7	$ (24.1)	$ 1,188.5
Property & equipment additions	(322.8)	(110.3)	(54.6)	(20.9)	(79.4)	(588.0)
Centrally-held P&E Attribution	(31.9)	(3.1)	(11.1)	(4.9)	51.0	-
Attributed OFCF (including attribution of Centrally-held P&E)	$ 300.2	$ 240.7	$ 85.2	$ 26.9	$ (52.5)	$ 600.5

	Six months ended June 30, 2020					
	U.K. & Ireland	Belgium	Switzerland	CEE	Central & Corporate	Total
			in millions			
Adjusted EBITDA	$ 1,310.3	$ 685.7	$ 285.0	$ 107.0	$ (49.2)	$ 2,338.8
Property & equipment additions	(669.4)	(251.9)	(123.8)	(39.8)	(157.5)	(1,242.4)
Centrally-held P&E Attribution	(66.8)	(6.2)	(21.2)	(11.8)	106.0	-
Attributed OFCF (including attribution of Centrally-held P&E)	$ 574.1	$ 427.6	$ 140.0	$ 55.4	$ (100.7)	$ 1,096.4

RECONCILIATIONS

SUPPLEMENTAL ADJUSTED ATTRIBUTED FREE CASH FLOW

We define adjusted free cash flow as net cash provided by our operating activities, plus (i) cash payments for third-party costs directly associated with successful and unsuccessful acquisitions and dispositions and (ii) expenses financed by an intermediary, less (a) capital expenditures, as reported in our condensed consolidated statements of cash flows, (b) principal payments on amounts financed by vendors and intermediaries and (c) principal payments on finance leases (exclusive of the portions of the network lease in Belgium that we assumed in connection with certain acquisitions.

The following table provides a reconciliation of our net cash provided by operating activities to Adjusted Free Cash Flow for the indicated period. In addition, in order to provide information regarding our Adjusted Attributed Free Cash Flow, which is used for internal management reporting and capital allocation purposes and is consistent with the way in which our chief operating decision maker evaluates our operating segments, we have provided a reconciliation of our Adjusted Free Cash Flow to our Adjusted Attributed Free Cash Flow, which incorporates adjustments related to (i) interest on an intercompany loan, (ii) the allocation of interest within the UPC Holding borrowing group, (iii) the Centrally-held Operating Cost Allocation and (iv) the Centrally-held Property and Equipment Attribution, each as further described below. We believe that our presentation of Adjusted Free Cash Flow and Adjusted Attributed Free Cash Flow, each of which is a non-GAAP measure, provides useful information to our investors because these measures can be used to (a) gauge our ability to service debt and fund new investment opportunities and (b) in the case of our Adjusted Attributed Free Cash Flow, provide additional pro forma information for our operating segments to show what the adjusted free cash flow of our operating segments might look like were they to operate on a stand alone basis. Adjusted Free Cash Flow and Adjusted Attributed Free Cash Flow should not be understood to represent our ability to fund discretionary amounts, as we have various mandatory and contractual obligations, including debt repayments, which are not deducted to arrive at these amounts. Investors should view Adjusted Free Cash Flow and Adjusted Attributed Free Cash Flow as supplements to, and not substitutes for, U.S. GAAP measures of liquidity included in our condensed consolidated statements of cash flows.

	Six months ended June 30, 2020					
	U.K./ Ireland	Belgium	Switzerland	Continuing CEE	Central and Corporate (a)	Total Liberty Global
	in millions					
Adjusted Free Cash Flow:						
Net cash provided (used) by operating activities	$ 1,061.1	$ 563.1	$ 303.6	$ 106.4	$ (442.3)	$ 1,591.9
Cash payments for direct acquisition and disposition costs	—	1.0	—	—	9.5	10.5
Expenses financed by an intermediary	915.2	202.2	59.7	7.7	89.7	1,274.5
Capital expenditures	(271.5)	(215.0)	(76.9)	(33.6)	(52.6)	(649.6)
Principal payments on amounts financed by vendors and intermediaries	(1,417.2)	(228.8)	(74.9)	(19.9)	(313.3)	(2,054.1)
Principal payments on certain capital leases	(3.2)	(26.9)	(1.7)	(0.4)	(2.3)	(34.5)
Adjusted Free Cash Flow	284.4	295.6	209.8	60.2	(711.3)	138.7
Adjustments to reconcile to Attributed Adjusted Free Cash Flow:						
Interest on an intercompany loan (b)	(164.2)	—	—	—	164.2	—
UPC Holding interest allocation (c)	—	—	(57.4)	(29.3)	86.7	—
Centrally-held Operating Cost Allocation (d)	(24.4)	—	(9.6)	(5.2)	39.2	—
Centrally-held Property and Equipment Attributions (e)	(66.8)	(6.2)	(21.2)	(11.8)	106.0	—
Attributed Adjusted Free Cash Flow	$ 29.0	$ 289.4	$ 121.6	$ 13.9	$ (315.2)	$ 138.7

a. Includes intersegment eliminations.

b. Represents interest on an intercompany loan that we eliminate for purposes of this presentation as intercompany interest income/expense does not impact our leverage calculations in our consolidated results or our subsidiary borrowing groups.

RECONCILIATIONS

SUPPLEMENTAL ADJUSTED ATTRIBUTED FREE CASH FLOW (CONT.)

c. Represents the third-party interest and related derivative payments made by UPC Holding (a parent entity included in Central and Corporate) in relation during the applicable period. This interest is allocated to each of the respective operating entities in the UPC Holding group's continuing operations based on our estimates of the composition of the underlying debt and swap portfolio and applicable interest rates within each country.

d. During the fourth quarter of 2019, we changed the presentation of certain operating costs related to our centrally-managed technology and innovation function. These costs, which were previously included in Central and Corporate, are now allocated to our consolidated reportable segments. This change, which we refer to as the “Centrally-held Operating Cost Allocations”, was made as a result of internal changes with respect to the way in which our chief operating decision maker evaluates the Adjusted EBITDA of our operating segments. For purposes of our Attributed Adjusted Free Cash Flow presentation and consistent with our internal management reporting, we assume the allocations to our operating segments are cash settled in the period they are incurred. As a result, any working capital or other free cash flow benefit or detriment related to the actual timing of payments are reported within Central and Corporate.

e. Central and Corporate incurs certain capital costs for the benefit of our operating segments. Generally, for purposes of the consolidated financial statements of our borrowing groups, the expense associated with these capital costs is allocated and/or charged to our operating segments as related-party fees and allocations in their respective statements of operations over the period in which the operating segment benefits from the use of the Central and Corporate asset. These amounts are based on (i) our estimate of its share of underlying costs, (ii) our estimate of its share of the underlying costs plus a mark-up or (iii) commercially-negotiated rates. These charges and allocations differ from the attributed OFCF approach used for internal management reporting. For internal management reporting and capital allocation purposes, we evaluate the OFCF of our operating segments on an "attributed" basis, whereby we estimate and attribute certain capital costs incurred by Central and Corporate to our operating segments as if that operating segment directly incurred its estimated share of the capital costs in the same period the costs were incurred by Central and Corporate. These capital costs represent assets that are jointly used by our operating segments. The amounts attributed to each operating segment are estimated based on (a) actual costs incurred by Central and Corporate, without any mark-up, and (b) each respective operating segment's estimated use of the associated assets. For purposes of our Attributed Adjusted Free Cash Flow presentation and consistent with our internal management reporting, we assume the attributions to our operating segments are cash settled in the period they are incurred. As a result, any working capital or other free cash flow benefit or detriment related to the actual timing of payments are reported within Central and Corporate.

RECONCILIATIONS

VODAFONEZIGGO JV ADJUSTED FREE CASH FLOW (JV FCF)

JV Adjusted FCF is defined as net cash provided by the operating activities, plus (i) expenses financed by an intermediary and (ii) interest payments on shareholder loans, less (a) capital expenditures, (b) principal payments on amounts financed by vendors and intermediaries and (c) principal payments on finance leases. We believe that the presentation of Adjusted Free Cash Flow provides useful information to our investors because this measure can be used to gauge VodafoneZiggo's ability to service debt, distribute cash to parent entities and fund new investment opportunities. JV FCF, which is a non-GAAP measure, should not be understood to represent VodafoneZiggo's ability to fund discretionary amounts, as it has various mandatory and contractual obligations, including debt repayments, that are not deducted to arrive at this amount. Investors should view free cash flow as a supplement to, and not a substitute for, GAAP measures of liquidity included in VodafoneZiggo's condensed consolidated statements of cash flows within its bond report. For purposes of its standalone reporting obligations, VodafoneZiggo prepares its consolidated financial statements in accordance with accounting principles generally accepted in the U.S. (GAAP).

Adjusted Free Cash Flow is a non-GAAP measure as contemplated by the U.S. Securities and Exchange Commission. A reconciliation of JV FCF for the six months ended June 30, 2020 is provided below.

	Six months ended June 30, 2020	
	in millions	
Net cash provided by operating activities	$	706.7
Expenses financed by an intermediary		329.9
Interest payments on shareholder loans		43.2
Capital expenditures, net		(218.5)
Principal payments on amounts financed by vendors and intermediaries		(602.5)
Principal payments on finance leases		(6.0)
Adjusted FCF	$	252.8

RECONCILIATIONS

SUPPLEMENTAL ADJUSTED FREE CASH FLOW

The following table provides a reconciliation of the cumulative Adjusted Free Cash Flow for Belgium since the date of FMC formation (March 31, 2016 – June 30, 2020)

	Cumulative FCF	
	in millions	
Net cash provided by operating activities	€	3,934.6
Cash payments for direct acquisition and disposition costs		17.1
Expenses financed by an intermediary		821.8
Capital expenditures, net		(1,718.9)
Principal payments on amounts financed by vendors and intermediaries		(1,113.2)
Principal payments on finance leases		(114.6)
Adjusted FCF	€	1,826.8

The following table provides a reconciliation of the cumulative Adjusted Free Cash Flow for the VodafoneZiggo JV since the date of FMC formation (January 1, 2017 – June 30, 2020)

	Cumulative FCF (1)	
	in millions	
Net cash provided by operating activities	€	4,327.9
Expenses financed by an intermediary		2,022.9
Interest payments on shareholder loans		341.8
Capital expenditures, net		(1,227.7)
Principal payments on amounts financed by vendors and intermediaries		(3,109.4)
Principal payments on finance leases		(20.4)
JV Adjusted FCF	€	2,335.1

(1) Represents 100% of the results related the VodafoneZiggo JV. We own a 50% interest in the VodafoneZiggo JV and do not consolidate the results of the VodafoneZiggo JV

H1 ADJUSTED ATTRIBUTED FCF – ALTERNATIVE VIEW

All OpCos remain substantially FCF positive despite COVID-19

$m	U.K. & Ireland	Belgium	Switzerland	Poland / Slovakia	Central [2]	Liberty Global	50-50 Dutch JV [3,4]
ADJUSTED EBITDA [1]	$1,310	$686m	$285m	$107m	($49m)	$2,339	$1,034
P&E pre-lightning P&E [5]	(561)	(258)	(145)	(52)	(50)	(1,066)	(472)
OFCF pre-lightning P&E	$749	$428	$140	$55	($99)	$1,273	$562
NET INTEREST	(421)	(113)	(59)	(29)	22	(600)	(237)
CASH TAX	(5)	(1)	5	(11)	(45)	(57)	-
VODAFONE ZIGGO JV (DIVIDEND & INTEREST)	-	-	-	-	22	22	-
	$323	$314	$86	$15	($98)	$638	$325
WORKING CAPITAL [6]	(118)	(25)	36	(1)	(217)	(323)	(72)
ADJ ATTRIBUTED FCF pre-lightning P&E	$205	$289	$122	$14	($315)	$315	$253
LIGHTNING P&E [7]	(176)					(176)	
ADJ ATTRIBUTED FCF	$29					$139	

(1) Based on our updated definition of segment Adjusted EBITDA which, effective from Q4 2019, now includes Centrally allocated opex. For information on centrally-held operating cost allocations, see the appendix.
(2) Includes intersegment eliminations
(3) Represents 100% of the non-consolidated Dutch JV
(4) Adjusted EBITDA for the Dutch JV as shown in the table above includes $59m of FSA charges from Liberty Global with the corresponding amount recognized as revenue within our Central segment.
(5) Includes Centrally attributed P&E Additions. For information on our centrally-held P&E attributions, see the appendix included in our Q2 2020 Liberty Global earnings release
(6) Includes working capital, operational finance (vendor finance) and restructuring
(7) Lightning Construction P&E includes construction P&E only. Excludes Customer Premises Equipment