Phoslock Environmental Technologies Ltd (ASX:PET)

Listed shares:	*552.0 million ord fp*
10.5¢ options:	*10.2 million, expiring 20 Dec 2019*
Total securities:	*562.2 million*
Share price:	*$1.41 as at 12 July 2019*
Market cap:	*$778m on listed shares, $793m fully diluted*

On the runway to greatness

- The positive announcements are coming thick and fast. On 1 July we were told the Lake Xingyun project had been expanded to include the entire catchment area, and on 10 July the quarterly was released to reveal a cash position of $17.9m, well above my estimate.

- Production of phoslock is constrained for now by the capacity to desalinate factory wastewater. This is being addressed but in the meantime the company is unable to take full advantage of the short term opportunities.

- I have reduced my earnings projections for 2019 by 13% and 2020 by 3% but have increased them by 6-9% in later years. My central valuation has risen to $2.87. These projections are tentative and somewhat speculative partly because the company has not updated its March guidance for 2019 despite the subsequent developments.

- Stepping back a bit and looking at the bigger picture, here is a company that:

  - is financially strong with no debt;
  - is run by a demonstrably competent board and management;
  - is owned 32% by said individuals;
  - has key Chinese board members, managers and shareholders;
  - has a strong connection with the largest water company in China;
  - has a proprietary product which efficiently solves a pressing environmental problem affecting many waterbodies globally, without collateral damage;
  - in other words, has a potentially trillion dollar market all to itself;
  - has a high profit margin and a very high return on equity;
  - could double earnings every year for some years, and beyond that …
  - can continue to grow strongly for decades to come;
  - has a profile of increasingly recurring revenues;
  - ticks all the boxes as an ethical investment.

- I see PET as a blue chip in the making.

Phoslock Environmental Technologies Ltd (PET)

Share price $1.41, current issued shares 552.0 mill, mkt cap $778m

December yrs	17a	18a	19e	20e	21e	22e
Profitability ($m)						
Sales revenue	8.1	18.7	37.0	80.0	150.0	225.0
Cost of sales	3.9	9.2	17.4	37.6	70.5	105.8
Gross profit	4.3	9.5	19.6	42.4	79.5	119.3
Margin	52%	51%	53%	53%	53%	53%
Interest income	0.0	0.0	0.1	0.1	0.2	0.2
Other income	0.4	0.7	0.4	0.4	0.4	0.4
General expenses	4.3	6.6	10.0	15.8	22.7	28.4
EBITDA	0.3	3.6	10.0	27.1	57.3	91.4
Cost finance/opts	2.0	3.5	0.5	0.0	0.0	0.0
Depn/Impairmt	0.0	0.2	0.4	1.0	1.7	2.5
Pretax profit	-1.7	-0.1	9.1	26.1	55.5	88.9
Income tax	0.4	1.0	1.9	5.2	11.1	20.2
Net profit excl. mi	-2.1	-1.2	7.2	20.9	44.4	68.7
EPS (¢)			1.3	3.7	7.9	12.2
EPS (¢) fully diluted			1.4	3.7	7.9	12.2
PE			102.5	38.0	17.8	11.5
Growth in dil EPS			314%	170%	113%	55%
DPS(¢) declared for year			0.0	0.0	4.0	6.1
Cash flow ($m)						
From operating activities						
Sales receipts	5.5	6.6	36.4	58.9	130.4	195.4
Paymts to supplie	-8.6	-16.0	-26.4	-53.4	-94.0	######
Other	-0.3	-0.7	-1.8	-3.4	-8.0	-15.4
Total	-3.4	-10.1	8.2	2.1	28.4	43.7
From investing activities						
Capex	-1.2	-0.6	-3.0	-5.0	-7.0	-7.4
Other	0.0	-0.1	0.0	0.0	0.0	0.0
Total	-1.2	-0.6	-3.0	-5.0	-7.0	-7.4
From funding activities						
Debt	-0.4	-0.3	0.0	0.0	0.0	0.0
Equity	11.7	8.8	3.5	0.0	0.0	0.0
Dividends	0.0	0.0	0.0	0.0	-11.1	-28.3
Total	11.3	8.5	3.5	0.0	-11.1	-28.3
Cash position						
Change from abov	6.7	-2.3	8.7	-2.9	10.3	8.0
Forex movements	0.0	0.1	0.0	0.0	0.0	0.0
Closing	7.4	4.9	13.6	10.7	20.9	29.0
Balance sheet ($m)						
Current assets						
Cash	7.0	4.9	13.6	10.7	20.9	29.0
Receivables	4.3	17.8	18.7	40.2	60.2	90.2
Inventories	1.5	2.4	3.5	7.5	14.1	21.2
Other	0.4	0.4	0.6	0.7	0.7	0.8
Total	13.3	25.5	36.4	59.1	95.9	141.1
Non-current assets						
Plant & equipmer	1.3	1.5	4.0	8.0	13.3	18.1
Other	0.0	0.5	0.9	0.9	0.9	0.9
Total	1.3	2.0	4.9	8.9	14.2	19.0
Current liabilities						
Payables	1.3	2.1	4.2	8.3	14.1	19.0
Debt	0.3	0.0	0.0	0.0	0.0	0.0
Provisions	0.4	0.4	0.9	1.4	13.2	19.7
Income tax	0.4	0.9	1.1	1.1	1.1	1.1
Total	2.3	3.5	6.2	10.8	28.4	39.9
Non-current liabilities						
Debt	0.0	0.0	0.0	0.0	0.0	0.0
Provisions	0.0	0.0	0.1	0.2	0.2	0.3
Total	0.0	0.0	0.1	0.2	0.2	0.3
Equity						
Issued capital	51.1	59.9	63.4	63.4	63.4	63.4
Reserves	0.7	6.0	4.0	4.0	4.0	4.0
Retained earning:	-39.4	-41.9	-34.6	-13.7	8.5	42.9
Shareholder equi	12.4	24.0	32.8	53.7	75.9	110.2

Valuation ($m) as at 31 December 2018			
Discount rate	*5%*	*10%*	*15%*
Operations	3,569	1,500	737
Future equity raisings net of buybacks	3	3	3
Cash 31 Dec 2018	5	5	5
Debt 31 Dec 2018	0	0	0
Total	3,577	1,508	745
$ per share fully diluted	6.36	2.68	1.33
Valuation ($ per share) as at 30 June 2019		2.87	

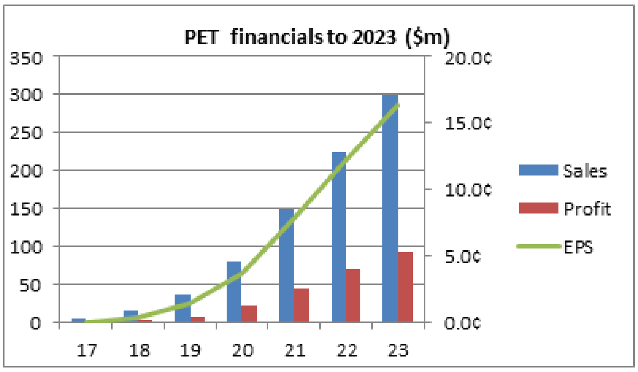
Valuation based on DCF of future cash flows.
NCF prior to dividend payments grows 10% pa beyond 2025.
Per share data based on 562.2 million shares after exercise of options.
Central valn of $2.87 equates to PEs of 216 and 77 on 2019 & 2020 eps.

Increase in valuation over time at a discount rate of 10% pa and revenue growth of 10% pa beyond 2025

As at 31 Dec	*2018*	*2019*	*2020*	*2021*	*2022*
Operations	1,500	1,704	1,946	2,119	2,295
Future net equity raisings	3	0	0	0	0
Cash	5	14	11	21	29
Debt	0	0	0	0	0
Total	1,508	1,717	1,957	2,140	2,324
$ per share fully diluted	2.68	3.05	3.48	3.81	4.13

Valuation ($/share) as at 31 Dec 2018 at a range of discount rates and of growth rates beyond 2025

		Discount rates		
		5%	*10%*	*15%*
Growth rate 5% pa	*5%*	3.68	1.75	0.96
Growth rate 10% pa	*10%*	6.36	2.68	1.33
Growth rate 15% pa	*15%*	11.92	4.50	1.99



Company description

Phoslock is an environmental company specialising in engineering solutions and water treatment products to remediate impaired lakes, rivers, canals and drinking water reservoirs. Although headquartered in Sydney its key focus is in China where its factory and engineering staff are based.

Its main product is Phoslock™, a clay-based product containing lanthanum which inhibits the formation of blue green algae by binding with phosphorus. It is exported from China to around the world. Other products such as zeolites (to reduce nitrogen) and certain bacteria are important in China.

Most revenue is derived in China which offers substantial growth potential given its severe water problems. But sales elsewhere are also growing rapidly. In all markets, an increasing proportion of revenue is recurring.

Quarterly report

PET released its report for the June Quarter on 10 July. The early release this year is a function of management being better resourced – PET now having the benefit of a full time accountant – and also of having more confidence in the company's financial circumstances.

Table 1: Recent quarterly cash flows ($000)

	Jun Q 2018	Sep Q 2018	Dec Q 2018	Mar Q 2019	Jun Q 2019
Cash from operating activities					
Receipts from customers	2,148	3,264	745	10,023	8,624
Product and operating costs	-2,042	-3,787	-3,960	-1,233	-1,955
Staff costs	-782	-797	-809	-1,004	-830
Advertising & marketing	-44	-158	-113	-118	-188
Research & development	-168	-106	-137	-180	-172
Admin and corporate	-514	-837	-584	-638	-726
Leased assets	-61	-74	-54	-244	-123
Interest received	1	2	3	8	16
Interest paid	-	-	-	-	
Income tax paid	-336	-651	-	-561	-44
Government grants	-	-	484	-	114
Total	-1,798	-3,144	-4,425	6,053	4,716
Cash from investing activities					
Intellectual property	-18	-32	-31	-22	-10
Purchase of fixed assets	-240	-82	-44	-16	-17
Total	-258	-114	-75	-38	-27
Cash from financing activities					
Equity capital	-	5,536	3,308	1,412	966
Borrowings	-	-316	-	-	
Capital raising costs	-	-201	-	-8	-8
Total	0	5,019	3,308	1,404	958
Cash position					
Opening balance	6,493	4,370	6,112	4,927	12,413
Net cash flow	-2,056	1,761	-1,192	7,419	5,647
Forex adjustments	-67	-19	7	66	-116
Closing balance	4,370	6,112	4,927	12,413	17,944

Source: Company reports

It was an excellent quarter. One shouldn't worry about the fact that receipts from customers, and cash from operating activities, were both lower than the previous quarter. The latter was boosted by a rapid rundown of receivables built up in the December Quarter.

The key surprise was the high closing cash position of $17.9m. My estimate was $13.5m. I don't do quarterly forecasts but only half yearly and annual. In the June HY (adding the two quarters) receipts from customers were $18.6m andcash from operations was 10.8m. In order to achieve those numbers I had to adjust receivables down and creditors up, plus I raised the gross profit margin from 51% to 55%. The latter is a key assumption and unfortunately I will have to wait for the full HY financials to get a better fix on it.

Business update

The Xingyun catchment project

On 1 July PET announced that it had been awarded by the Yuxi County Government (YCG) a contract for the application of phoslock, to a substantially greater extent than previously anticipated. The scope of work covers not just the 34 km^2 Lake Xingyun itself, which was hitherto what was expected, but the entire catchment area of 371 km^2 including 14 rivers, inflows from the 212 km^2 Lake Fuxian to the north, various canals and dozens of upstream water reservoirs. The aim is to significantly reduce the level of phosphate within the basin.

This development is a consequence of the excellent results being achieved by the trial application of phoslock to Lake Xingyun at the rate of $1m per month, which commenced in May and is continuing. To treat the entire lake at this rate would have taken about five years.

The multi-fold increase in the scope of the project now being planned could result in revenues from the project of not just $1m per month but perhaps of $2.5m to $5m per month or $30m to $60m annually, possibly for a period of many years if not indefinitely. I would caution, however, that is my estimate, not the company's. At this point, they are working with the YCG Catchment team to determine the optimum application strategy. It might be some weeks before an announcement can be made on application rates and/or revenues.

Elsewhere in China

The YCG is just one water jurisdiction of eight within the Yunnan province, all of which have major pollution problems. The area contains nine large lakes in total and no doubt innumerable rivers, reservoirs and other waterbodies. As I stated in my previous report, some of the lakes are much larger than Xingyun. The largest is the 298km^2 Dianchi located adjacent to Kunming. An article written by the Communist Party Secretary of Yunnan Province in 2014 and updated in 2018 highlighted a focus on remediation of the nine lakes (including Dianchi) and cited a budget of Y55b (A$11b) over the five years from 2018. If only 10% of that is for removal of phosphorus it would be huge for PET.

Of course, Yunnan is just one province of many in China. It is a particular focus at present because of its great scenic beauty and its role as a major holiday destination, but most of the other provinces have major pollution problems too.

It is entirely possible that each year for many years to come PET will secure at least one additional project of a similar scale to that awarded by the YCG.

Florida

There has been no further news on Florida as the company waits for or works with the water authorities there to formulate a strategy. But I would reiterate that the potential there is massive because:

- A press release issued by the new governor in January 2019 contained an ambition to remove 200,000lbs (i.e. 200t) of phosphorus annually. That would require the annual consumption of 10,000t phoslock, generating revenue of more than $30m.
- A 12t trial application of phoslock took place in April and was highly successful.

One can only assume large contracts will be awarded by a number of water authorities in Florida in future months.

World Bank

At the AGM held on 3 May Phoslock commented that the World Bank and related environmental agencies were working with the company on a number of drinking water remediation projects in less advanced countries. The cost would typically be prohibitive and/or the governments involved generally have more pressing spending priorities. Thus World Bank funding through interest-free loans and grants would be of great assistance. At the AGM it was stated that the first such project, involving the application of 2-3,000t of phoslock, could occur within 12 months. Some of the projects are in the very large category.

Production

This is to correct an error I made in my previous report. When the existing factory in the city of Changxing was completed in 2017 at a cost of $1.5m it was equipped with a single production line with its capacity thought to be 15,000tpa. The floor space was sufficient for the installation of another two production lines, thus my figure of 45,000tpa for the entire plant (as stated by the company in 2017). But the capacity of each line is now thought to be 12,000tpa because of the need to install additional desalination equipment for treatment of wastewater that had previously been delivered to third parties.

To-date, the existing production line has not been fully utilised, having commenced at the rate of 7,000tpa. In May a decision was made to utilise the full production line and thus lift production to 12,000tpa. To achieve this expansion more desalination equipment is being added at a cost of around $1m, and this work should be completed by the end of August. Presumably the second production line will be added in coming months at a cost of perhaps $3m, and the third in 2020 or 2021 taking capacity to 36,000tpa.

On my numbers sales of phoslock would be about 10,000t in 2019, 20,000t in 2020, 45,000t in 2021, etc. So another factory would be required during 2021 and presumably it would be bigger so as to allow for further expansion over time. There is no shortage of such buildings in Changxing and they are available at very cheap rentals.

A peek at the longer term

The potential market size for phoslock is probably in the trillions of dollars, and there is no competitor that can come close. Of course, much of that market will never become available because of other government priorities, and that which will become available will not all be captured by PET. Nevertheless there is every chance that the stock will become a low-risk, dividend-paying, globally oriented, environmentally-impeccable, bluechip investment with no debt, substantial recurring revenue and good earnings growth for many decades to come. In due course its market cap could be in the tens of billions.

The company is still being run on a shoestring and will need to greatly expand and upgrade its board and management structure to succeed with this dramatic long term transformation. In addition the very capable Robert Schuitema could well retire from his position as managing director in the next couple of years and his replacement would probably have to be recruited from outside the company. There are obvious risks with all these changes and the board has a huge task ahead of it.

Financial projections

Sales revenue

I have revised my sales revenue projections as shown in Figure 1. The projections for 2019 and 2020 have been reduced 5-6% as the production constraint due to wastewater treatment has emerged, but thereafter they have increased 7-8%.

Figure 1: Sales revenue projections and revisions ($m)

	2019	2020	2021	2022	2023	2024
Sales revenue projections						
China	30.0	65.0	120.0	180.0	240.0	300.0
International	7.0	15.0	30.0	45.0	60.0	75.0
Total	37.0	80.0	150.0	225.0	300.0	375.0
Revision	-5%	+0%	+7%	+7%	+8%	+8%
Previous (Jun 2019)						
China	32.0	65.9	115.4	173.0	228.4	285.5
International	7.0	14.0	24.5	36.8	48.5	60.6
Total	39.0	79.9	139.9	209.8	276.9	346.2
Annual sales revenue growth						
China	90%	117%	85%	50%	33%	25%
International	139%	114%	100%	50%	33%	25%
Average	98%	116%	88%	50%	33%	25%
Previous (Jun 2019)						
China	103%	106%	75%	50%	32%	25%
International	139%	100%	75%	50%	32%	25%
Average	109%	105%	75%	50%	32%	25%

Source: My spreadsheet

Note that the company has not yet updated its guidance for 2019. Issued in March 2019 the guidance was for revenues of $27-30m, comprised of China $19-21m and International $7-9m. So we are flying in the dark a bit here.

I now project China revenue at $30m this year and $65m in 2020, derived as follows:

- For 2019 I used $20m as the base, being the midpoint in the guidance range, then added $7m for Lake Xingyun ($1m per month for seven months commencing June) plus a further $3m for the expanded Xingyun project.
- For 2020 I assume the Xingyun catchment project will be at $2.5m per month or $30m (i.e. an increase of $20m), and I allow for a further $15m growth in other areas.

I project International revenue at $7m this year and $15m in 2020, derived as follows:

- For 2019 the figure is unchanged from my previous estimate. I don't allow anything for Florida simply on the basis of the production constraint.
- For 2020 I envisage a very substantial increase to take into account not just Florida but also the first of the World Bank projects kicking in. Given the potential size of the Florida application, this estimate could be conservative.

These figures work out at a 98% increase in 2019 and a 116% increase in 2020. Beyond that I allow for an 88% increase in 2021, a 50% increase in 2022, a 33% increase in 2023, and so on. These might seem ambitious to some readers, but given the vast scale of the worldwide problem PET is solving, and the increasing acceptance of the effectiveness and environmental safety of the phoslock product, it seems to me that this scenario is entirely possible.

Profitability

I felt I should increase the gross profit margin from 51% to 53% for this year and beyond given that it was 56% in the second half of 2018 and (possibly) much the same in the first half of 2019. It will be good to get a better fix on it after the H1 financials.

Beyond the current year (which I put at $10m being H1 $4m, H2 $6m) I continue to allow for growth in general costs to be half the growth rate of revenues. That results in large increases in general costs. I have also raised capital spending and thus depreciation charges.

The result is that:

- my earnings estimates have been reduced by 13% in 2019 and by 3% in 2020, but have increased by 6-9% in 2021 and beyond.
- Earnings increase more than threefold this year and more than double in each of 2020 and 2021.
- The return on equity works out at 22% this year, 39% in 2020 and 59% in 2021.

Figure 2: Earnings projections and revisions

	2019	2020	2021	2022	2023	2024
EBITDA						
Current projection	10.0	27.1	57.3	91.4	126.6	162.5
Previous (Jun 2019)	11.3	27.5	52.9	84.0	114.5	146.6
Revision	-11%	-1%	+8%	+9%	+11%	+11%
Net profit after tax						
Current projection	7.2	20.9	44.5	68.8	91.7	117.9
Previous (Jun 2019)	8.4	21.6	41.8	64.5	84.4	108.2
Revision	-13%	-3%	+6%	+7%	+9%	+9%
Diluted EPS						
Current projection	1.4	3.7	7.9	12.2	16.3	21.0
Previous (Jun 2019)	1.6	3.8	7.4	11.5	15.0	19.2
Revision	-13%	-3%	+6%	+7%	+9%	+9%

Source: My spreadsheet

Cash flow

I have revised upwards my estimates of capital expenditures to $3m this year (previous estimate $1.5m), to $5m in 2020 (previously $1.5m) and to $7m in 2021 (previously $1.7m) thereafter increasing at 5% annually. This follows a closer examination of what could be required to achieve the projected production rates.

My estimates are now that the company will have a closing cash position of $13.6m in 2019, $10.7m in 2020 and $20.9m in 2021, thereafter increasing each year. I continue to allow for dividend payments to commence in 2021, with the timing dictated by the elimination of past losses rather than by cash constraints.

Valuation

My central DCF-based valuation is now put at $2.87 per share, as at 30 June 2019. This is halfway between the valuations of $2.68 (previous estimate $2.35) as at 31 December 2018 and $3.05 (previously $2.68) as at 31 December 2019. More detail is provided on page 2 of this report.

To complete the picture, it can be seen in Figure 3 that PEs and especially PEG ratios are low at the current share price, suggesting that the shares are a bargain (always assuming that my EPS projections are in the ballpark).

Using my long term valuation as a proxy for the share price suggests, to me anyway, that the share price should be closer to that, but certainly over $2.00, again assuming that my projections are OK. But I dare say the market will want more evidence that I am in the ballpark before getting too excited. Positive announcements in coming weeks regarding China and Florida could do the trick.

Figure 3: Valuation metrics based on EPS data

	2019	2020	2021	2022	2023	2024
Earnings growth	314%	170%	113%	55%	33%	29%
PE at $1.41	102.5	38.0	17.8	11.5	8.6	6.7
PEG	1.4	0.6	0.3	0.3	0.3	0.3
PEs based on shares priced at valuation						
at 2018 valn $2.68	195	72	34	22		
at 2019 valn $3.05		82	39	25	19	
at 2020 valn $3.48			44	28	21	17
at 2021 valn $3.81				31	23	18

Source: My spreadsheet

Corporate

More options exercised

The higher share price is motivating employees to exercise their 10.5¢ options and realise some cash. Since 30 June a further 4.75 million have been exercised, leaving 10.2 million remaining to be exercised before their expiry on 20 December 2019. Issue of the new shares made no difference to my numbers because I have long allowed for all of them to be exercised prior to expiry.

ASX indices

PET shares were admitted to the ASX All Ordinaries Index on 18 March. The index comprises the top 500 listed companies based purely on market cap. This achievement allowed more institutional investors to consider investing in the stock.

PET may be admitted to higher-ranked indices in coming months such as the S&P ASX 300 or even the S&P ASX 200. I note that at present the 300th largest stock has a market cap of about $430m, while for the 200th largest it is $930m. But for these higher-ranked indices, minimum liquidity requirements will also have to be met and I am not sure what parameters are used.

Disclosure

I have not received any remuneration from any person for this report.
Associated entities own 6.1 million shares in PET at the time of writing.

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