Sanix / 4651

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Research Coverage Report by Shared Research Inc.

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How to read a Shared Research report: This report begins with the trends and outlook section, which discusses the company's most recent earnings. First-time readers should start at the business section later in the report.

Key financial data

Income statement (JPYmn)	FY03/10 Cons.	FY03/11 Cons.	FY03/12 Cons.	FY03/13 Cons.	FY03/14 Cons.	FY03/15 Cons.	FY03/16 Cons.	FY03/17 Cons.	FY03/18 Cons.	FY03/18 Cons.	FY03/20 Est.
Sales	**24,539**	**28,980**	**31,454**	**43,366**	**84,212**	**95,629**	**61,916**	**50,955**	**49,993**	**50,719**	**50,900**
YoY	-2.8%	18.1%	8.5%	37.9%	94.2%	13.6%	-35.3%	-17.7%	-1.9%	1.5%	0.4%
Gross profit	**9,918**	**10,276**	**10,442**	**13,370**	**21,421**	**18,907**	**13,783**	**14,142**	**14,044**	**14,830**	
YoY	-6.1%	3.6%	1.6%	28.0%	60.2%	-11.7%	-27.1%	2.6%	-0.7%	5.6%	
GPM	40.4%	35.5%	33.2%	30.8%	25.4%	19.8%	22.3%	27.8%	28.1%	29.2%	
Operating profit	**390**	**502**	**410**	**1,870**	**4,508**	**-3,142**	**-2,229**	**1,036**	**1,246**	**1,224**	**1,910**
YoY	-	28.6%	-18.3%	356.4%	141.0%	-	-	-	20.3%	-1.8%	56.0%
OPM	1.6%	1.7%	1.3%	4.3%	5.4%	-	-	2.0%	2.5%	2.4%	3.8%
Recurring profit	**225**	**430**	**348**	**1,789**	**4,310**	**-3,439**	**-1,949**	**907**	**1,019**	**1,182**	**1,810**
YoY	-	91.2%	-19.1%	414.1%	140.9%	-	-	-	12.3%	16.0%	53.1%
RPM	0.9%	1.5%	1.1%	4.1%	5.1%	-	-	1.8%	2.0%	2.3%	3.6%
Net income	**-3,676**	**50**	**14**	**1,575**	**2,965**	**-4,966**	**-4,602**	**416**	**1,180**	**240**	**1,370**
YoY	-	-	-71.8%	-	88.2%	-	-	-	183.7%	-79.7%	470.8%
Net margin	-15.0%	0.2%	0.0%	3.6%	3.5%	-	-	0.8%	2.4%	0.5%	2.7%
Per share data											
Shares issued (year-end; '000)	48,919	48,919	48,919	48,919	48,919	48,919	48,919	48,919	48,919	48,919	
EPS	-77.1	1.0	0.3	33.0	62.1	-104.0	-96.3	8.7	24.7	5.0	28.7
EPS (fully diluted)	-	-	-	-	-	-	-	-	-	-	
Dividend per share	-	-	-	-	-	-	-	-	-	-	-
Book value per share	147.2	148.2	149.0	184.6	247.2	152.7	54.3	58.9	84.5	87.1	
Balance sheet (JPYmn)											
Cash and cash equivalents	1,255	1,138	1,366	3,559	9,237	7,026	3,038	5,578	5,482	5,238	
Total current assets	**5,153**	**5,890**	**6,964**	**14,652**	**38,649**	**31,569**	**16,930**	**17,522**	**15,759**	**16,613**	
Tangible fixed assets	11,828	11,763	11,724	12,326	14,181	15,099	12,417	12,278	11,926	12,057	
Investments and other assets	1,991	1,843	1,802	1,533	1,914	1,906	1,458	1,518	2,037	2,074	
Intangible fixed assets	1,023	910	796	685	573	545	440	325	214	262	
Total assets	**19,996**	**20,407**	**21,286**	**29,196**	**55,317**	**49,120**	**31,248**	**31,645**	**29,938**	**31,009**	
Accounts payable	1,159	868	1,386	5,460	20,115	18,537	7,227	6,365	5,079	4,188	
Short-term debt	5,654	3,186	3,085	4,186	5,948	7,416	11,014	13,504	11,825	12,440	
Total current liabilities	**9,342**	**6,961**	**8,381**	**14,873**	**36,582**	**35,560**	**24,642**	**25,586**	**23,003**	**23,529**	
Long-term debt	1,726	4,319	3,630	2,870	3,725	3,055	1,077	484	325	210	
Total fixed liabilities	**3,599**	**6,343**	**5,770**	**5,486**	**6,907**	**6,229**	**3,976**	**3,212**	**2,857**	**3,285**	
Total liabilities	**12,941**	**13,304**	**14,151**	**20,359**	**43,489**	**41,789**	**28,618**	**28,799**	**25,861**	**26,815**	
Total net assets	**7,055**	**7,103**	**7,135**	**8,837**	**11,828**	**7,331**	**2,629**	**2,845**	**4,076**	**4,193**	
Total interest bearing debt	7,380	7,505	6,714	7,056	9,674	10,471	12,091	13,988	12,150	12,650	
Cash flow statement (JPYmn)											
Cash flows from operating activities	563	55	1,260	2,185	4,934	-1,794	-5,403	1,668	2,184	-25	
Cash flows from investing activities	-2,304	-214	-151	-222	-3,271	-1,181	1,062	-409	171	-947	
Cash flows from financing activities	1,946	43	-882	230	2,433	647	1,288	1,437	-2,156	392	
Financial ratios											
ROA (RP-based)	1.1%	2.1%	1.7%	7.1%	10.2%	-	-	2.9%	3.3%	3.9%	
ROE	-	0.7%	0.2%	19.8%	28.8%	-	-	15.4%	34.4%	5.9%	
Equity ratio	35.1%	34.7%	33.4%	30.2%	21.3%	14.9%	8.3%	8.9%	13.5%	13.4%	

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods
Net income refers to income attributable to parent company shareholders

Recent updates

Highlights

On **August 8, 2019**, Sanix Incorporated announced earnings results for Q1 FY03/20; see the results section for details.

On **June 12, 2019**, Shared Research updated the report following interviews with the company.

On **May 14, 2019**, the company announced earnings results for full-year FY03/19; see the results section for details.

On the **same day**, the company announced a new medium-term management plan.

Sanix formulated a new medium-term management plan covering the three-year period from FY03/20 to FY03/22. In five businesses—Solar Engineering (SE), Home Sanitation (HS), Establishment Sanitation (ES), Environmental Resources Development (ERD, focusing on industrial waste recycling), and the new electricity and energy-related business—Sanix aims to identify customer-focused markets that will help it create a business foundation with which it can generate steady, stable earnings.

Figures for medium-term management plan (FY03/20–FY03/22)

(JPYmn)	FY03/17 Act.	FY03/18 Act.	FY03/19 Act.	FY03/20 Est.	FY03/21 MTP	FY03/22 MTP
Sales	50,955	49,993	50,719	50,900	53,660	59,410
YoY	-17.7%	-1.9%	1.5%	-17.8%	5.4%	10.7%
Gross profit	14,142	14,044	14,830	17,210	18,020	19,500
GPM	27.8%	28.1%	29.2%	33.8%	33.6%	32.8%
SG&A expenses	13,106	12,798	13,606	15,300	16,080	17,140
SG&A ratio	25.7%	25.6%	26.8%	30.1%	30.0%	28.9%
Operating profit	1,036	1,246	1,224	1,910	1,940	2,360
YoY	-	20.3%	-1.8%	56.0%	1.6%	21.6%
OPM	2.0%	2.5%	2.4%	3.8%	3.6%	4.0%
Recurring profit	907	1,019	1,182	1,810	1,840	2,260
YoY	-	12.3%	16.0%	53.1%	1.7%	22.8%
OPM	1.8%	2.0%	2.3%	3.6%	3.4%	3.8%
Net income	416	1,180	240	1,370	1,330	1,710
YoY	-	183.7%	-79.7%	470.8%	-2.9%	28.6%
Net margin	0.8%	2.4%	0.5%	2.7%	2.5%	2.9%

Source: Shared Research based on company data

For previous releases and developments, please refer to the News and topics section.

Trends and outlook

Quarterly trends and results

Cumulative	FY03/19				FY03/20				FY03/20		FY03/20	
(JPYmn)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	% of 1H	1H Est.	% of FY	FY Est.
Sales	11,733	24,447	37,037	50,719	11,603				47.4%	24,464	22.8%	50,900
YoY	-3.0%	1.2%	1.3%	1.5%	-1.1%					0.1%		0.4%
Gross profit	3,540	7,503	11,197	14,830	4,263				49.8%	8,559	24.8%	17,210
YoY	-4.9%	12.2%	7.5%	5.6%	20.4%					14.1%		16.0%
GPM	30.2%	30.7%	30.2%	29.2%	36.7%					35.0%		33.8%
SG&A expenses	3,436	6,815	10,219	13,605	3,640							
YoY	3.3%	4.1%	5.9%	6.3%	5.9%							
SG&A ratio	29.3%	27.9%	27.6%	26.8%	31.4%							
Operating profit	103	688	978	1,224	623				63.1%	988	32.6%	1,910
YoY	-74.0%	398.6%	26.5%	-1.8%	504.9%					43.6%		56.0%
OPM	0.9%	5.4%	7.8%	8.9%	5.4%					4.0%		3.8%
Recurring profit	154	689	938	1,182	600				64.2%	935	33.1%	1,810
YoY	-47.3%	-	68.1%	16.0%	289.6%					35.7%		53.1%
RPM	1.3%	5.4%	7.5%	8.6%	5.2%					3.8%		3.6%
Net income	111	194	193	240	436				58.5%	745	31.8%	1,370
YoY	-46.9%	-	-43.4%	-79.7%	292.8%					284.0%		470.8%
Net margin	0.9%	1.5%	1.5%	1.8%	3.8%					3.0%		2.7%

Quarterly	FY03/19				FY03/20			
(JPYmn)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sales	11,733	12,714	12,590	13,682	11,603			
YoY	-3.0%	5.4%	1.5%	1.9%	-1.1%			
Gross profit	3,540	3,963	3,694	3,633	4,263			
YoY	-4.9%	33.7%	-1.1%	0.2%	20.4%			
GPM	30.2%	31.2%	29.3%	26.6%	36.7%			
SG&A expenses	3,436	3,379	3,404	3,386	3,640			
YoY	3.3%	4.9%	9.8%	7.4%	5.9%			
SG&A ratio	29.3%	26.6%	27.0%	24.7%	31.4%			
Operating profit	103	585	290	246	623			
YoY	-74.0%	-	-54.3%	-48.0%	504.9%			
OPM	0.9%	4.6%	2.3%	1.8%	5.4%			
Recurring profit	154	535	249	244	600			
YoY	-47.3%	-	-57.6%	-47.1%	289.6%			
RPM	1.3%	4.2%	2.0%	1.8%	5.2%			
Net income	111	83	-1	47	436			
YoY	-46.9%	-	-	-94.4%	292.8%			
Net margin	0.9%	0.7%	-	0.3%	3.8%			

Source: Shared Research based on company data
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Net income refers to net income attributable to parent company shareholders

Quarterly segment earnings

Segment sales and profit (cumulative)	FY03/19				FY03/20			
(JPYmn)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sales	**11,733**	**24,447**	**37,037**	**50,719**	**11,603**			
YoY	-3.0%	1.2%	1.3%	1.5%	-1.1%			
Solar Engineering	2,779	5,947	9,664	14,427	2,355			
YoY	-38.2%	-31.8%	-24.8%	-19.3%	-15.3%			
Environmental Resources Development (old)	5,826	12,099	17,913	23,612	5,811			
YoY	17.5%	19.2%	12.6%	8.5%	-0.3%			
Environmental Resources Development (new)	3,091	6,294	9,723	13,001	3,469			
YoY	-	-	-	-	12.2%			
Energy	2,735	5,803	8,187	10,608	2,342			
YoY	-	-	-	-	-14.4%			
Home Sanitation	2,711	5,495	8,074	10,752	2,948			
YoY	16.4%	19.2%	19.3%	20.5%	8.7%			
Establishment Sanitation	415	905	1,385	1,926	487			
YoY	33.9%	32.1%	32.5%	33.4%	17.3%			
Operating profit	**103**	**688**	**978**	**1,224**	**623**			
YoY	-74.0%	398.6%	26.5%	-1.8%	504.9%			
Solar Engineering	-88	55	513	1,204	20			
YoY	-	-94.1%	-61.9%	-27.8%	-			
Environmental Resources Development (old)	439	962	1,088	836	826			
YoY	29.9%	-	116.7%	-14.0%	88.2%			
Environmental Resources Development (new)	346	-	-	-	867			
YoY	-	-	-	-	150.6%			
Energy	93	-	-	-	-41			
YoY	-	-	-	-	-			
Home Sanitation	580	1,238	1,704	2,231	655			
YoY	44.3%	65.3%	54.5%	51.7%	12.9%			
Establishment Sanitation	52	128	196	287	40			
YoY	30.0%	30.6%	50.8%	60.3%	-23.1%			
Adjustments	-880	-1,696	-2,524	-3,335	-919			

Segment sales and profit (quarterly)	FY03/19				FY03/20			
(JPYmn)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sales	**11,733**	**12,714**	**12,590**	**13,682**	**11,603**			
YoY	-3.0%	5.4%	1.5%	1.9%	-1.1%			
Solar Engineering	2,779	3,168	3,717	4,763	2,355			
YoY	-38.2%	-24.9%	-10.0%	-5.2%	-15.3%			
Environmental Resources Development (old)	5,826	6,273	5,814	5,699	5,811			
YoY	17.5%	20.8%	0.8%	-2.4%	-0.3%			
Environmental Resources Development (new)	3,091	3,203	3,429	3,278	3,469			
YoY	-	-	-	-	12.2%			
Energy	2,735	3,068	2,384	2,421	2,342			
YoY	-	-	-	-	-14.4%			
Home Sanitation	2,711	2,784	2,579	2,678	2,948			
YoY	16.4%	22.0%	19.7%	24.2%	8.7%			
Establishment Sanitation	415	490	480	541	487			
YoY	33.9%	30.7%	33.3%	35.6%	17.3%			
Operating profit	**103**	**585**	**290**	**246**	**623**			
YoY	-74.0%	-	-54.3%	-48.0%	504.9%			
Solar Engineering	-88	143	458	691	20			
YoY	-	-71.1%	11.7%	115.3%	-			
Environmental Resources Development (old)	439	523	126	-252	826			
YoY	29.9%	-	-77.5%	-	88.2%			
Environmental Resources Development (new)	346	-	-	-	867			
YoY	-	-	-	-	150.6%			
Energy	93	-	-	-	-41			
YoY	-	-	-	-	-			
Home Sanitation	580	658	466	527	655			
YoY	44.3%	89.6%	31.6%	43.2%	12.9%			
Establishment Sanitation	52	76	68	91	40			
YoY	30.0%	31.0%	112.5%	85.7%	-23.1%			
Adjustments	-880	-816	-828	-811	-919			

Source: Shared Research based on company data
Note: Figures may differ from company materials due to differences in rounding methods
Note: From Q1 FY03/20, Sanix separated the new electric power generation business and the energy business development department (established in April 2019) from the Environmental Resource Development segment and created an independent segment, the Energy segment.

SE segment earnings

Cumulative	FY03/19				FY03/20			
(JPYmn)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sales	2,779	5,947	9,664	14,427	2,355			
YoY	-38.2%	-31.8%	-24.8%	-19.3%	-15.3%			
Direct sales	2,602	5,564	9,142	13,661	2,262			
YoY	-37.3%	-30.4%	-22.9%	-17.9%	-13.1%			
Wholesales	114	288	400	578	61			
YoY	-57.1%	-50.0%	-51.0%	-43.7%	-46.5%			
Other	62	94	121	188	31			
Cost of sales	2,018	4,174	6,557	9,740	1,541			
Cost ratio	72.6%	70.2%	67.8%	67.5%	65.4%			
Materials	1,246	2,581	4,016	5,978	861			
% of sales	44.8%	43.4%	41.6%	41.4%	36.6%			
Labor	269	523	772	1,018	170			
% of sales	9.7%	8.8%	8.0%	7.1%	7.2%			
Gross profit	761	1,772	3,106	4,687	814			
YoY	-49.3%	-40.5%	-27.7%	-15.7%	7.0%			
GPM	27.4%	29.8%	32.1%	32.5%	34.6%			
SG&A expenses	849	1,717	2,593	3,482	793			
YoY	-19.8%	-15.8%	-12.0%	-10.6%	-6.6%			
SG&A ratio	30.6%	28.9%	26.8%	24.1%	33.7%			
Personnel expenses	415	846	1,275	1,724	440			
Operating profit	-88	55	513	1,204	20			
YoY	-	-94.1%	-61.9%	-27.8%	-			
OPM	-	0.9%	5.3%	8.3%	0.8%			

Quarterly	FY03/19				FY03/20			
(JPYmn)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sales	2,779	3,168	3,717	4,763	2,355			
YoY	-38.2%	-24.9%	-10.0%	-5.2%	-15.3%			
Direct sales	2,602	2,962	3,578	4,519	2,262			
YoY	-37.3%	-23.0%	-7.4%	-5.6%	-13.1%			
Wholesales	114	174	112	178	61			
YoY	-57.1%	-43.9%	-53.3%	-15.2%	-46.5%			
Other	62	32	27	67	31			
Cost of sales	2,018	2,156	2,383	3,183	1,541			
Cost ratio	72.6%	68.1%	64.1%	66.8%	65.4%			
Materials	1,246	1,335	1,435	1,962	861			
% of sales	44.8%	42.1%	38.6%	41.2%	36.6%			
Labor	269	254	249	246	170			
% of sales	9.7%	8.0%	6.7%	5.2%	7.2%			
Gross profit	761	1,011	1,334	1,581	814			
YoY	-49.3%	-31.6%	1.4%	24.7%	7.0%			
GPM	27.4%	31.9%	35.9%	33.2%	34.6%			
SG&A expenses	849	868	876	889	793			
YoY	-19.8%	-11.5%	-3.4%	-6.0%	-6.6%			
SG&A ratio	30.6%	27.4%	23.6%	18.7%	33.7%			
Personnel expenses	415	431	429	449	440			
Operating profit	-88	143	458	691	20			
YoY	-	-71.1%	11.7%	115.3%	-			
OPM	-	4.5%	12.3%	14.5%	0.8%			

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods

Sales, volume, and unit price for solar power system

Cumulative	FY03/19				FY03/20			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sales (JPYmn)	2,602	5,564	9,142	13,661	2,262			
YoY	-37.3%	-30.4%	-22.9%	-17.9%	-13.1%			
PV system sales volume (kW)	14,099	31,761	52,681	80,614	13,650			
YoY	-37.0%	-25.3%	-19.4%	-12.3%	-3.2%			
PV system price (JPY'000/kW)	185	175	174	169	166			
YoY	-0.3%	-6.8%	-4.4%	-6.5%	-10.2%			
Quarterly	**FY03/19**				**FY03/20**			
	Q1	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
Sales (JPYmn)	2,602	2,962	3,578	4,519	2,262			
YoY	-37.3%	-23.0%	-7.4%	-5.6%	-13.1%			
PV system sales volume (kW)	14,099	17,662	20,920	27,933	13,650			
YoY	-37.0%	-12.2%	-8.3%	5.2%	-3.2%			
PV system price (JPY'000/kW)	185	168	171	162	166			
YoY	-0.3%	-12.3%	0.9%	-10.3%	-10.2%			

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods.
Unit price is calculated as sales divided by volume.

Environmental Resources Development (ERD) segment earnings

Cumulative (JPYmn)	FY03/19 Q1	Q2	Q3	Q4	FY03/20 Q1	Q2	Q3	Q4
Sales	3,091	6,294	9,723	13,001	3,469			
YoY	-	-	-	-	12.2%			
Waste plastic processing	2,052	4,105	6,451	8,615	2,367			
YoY	11.8%	11.8%	12.9%	14.0%	15.4%			
Power generation	817				868			
YoY	-				6.2%			
Other	222				234			
YoY	-				5.4%			
Gross profit	788				1,329			
GPM	25.5%				38.3%			
SG&A expenses	441				461			
SG&A ratio	14.3%				13.3%			
Operating profit	346				867			
YoY	-				150.6%			
Quarterly (JPYmn)	**FY03/19 Q1**	**Q2**	**Q3**	**Q4**	**FY03/20 Q1**	**Q2**	**Q3**	**Q4**
Sales	3,091	3,203	3,429	3,278	3,469			
YoY	-	-	-	-	12.2%			
Waste plastic processing	2,052	2,053	2,346	2,164	2,367			
YoY	11.8%	11.8%	15.0%	17.4%	15.4%			
Power generation	817				868			
YoY	-				6.2%			
Other	222				234			
YoY	-				5.4%			
Gross profit	788				1,329			
GPM	25.5%				38.3%			
SG&A expenses	441				461			
SG&A ratio	14.3%				13.3%			
Operating profit	346				867			
YoY	-				150.6%			

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods

Sales, volume, and unit price for waste plastic processing

Cumulative	FY03/19				FY03/20			
(JPYmn)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sales (JPYmn)	2,052	4,105	6,451	8,615	2,367			
YoY	11.8%	11.8%	12.9%	14.0%	15.4%			
Acceptance volume (tons)	84,496	166,179	254,985	328,893	74,909			
YoY	3.4%	2.9%	2.8%	1.4%	-11.3%			
Unit price (JPY'000/t)	24.3	24.7	25.3	26.2	31.6			
YoY	8.2%	8.6%	9.9%	12.4%	30.1%			
Quarterly	FY03/19				FY03/20			
(JPYmn)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sales (JPYmn)	2,052	2,053	2,346	2,164	2,367			
YoY	11.8%	11.8%	15.0%	17.4%	15.4%			
Acceptance volume (tons)	84,496	81,683	88,806	73,908	74,909			
YoY	3.4%	2.4%	2.6%	-3.0%	-11.3%			
Unit price (JPY'000/ton)	24.3	25.1	26.4	29.3	31.6			
YoY	8.2%	9.1%	12.1%	21.0%	30.1%			

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods.
Unit price is calculated as sales divided by volume.

Energy segment earnings

Cumulative	FY03/19				FY03/20			
(JPYmn)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sales	2,735	5,803	8,187	10,608	2,342			
YoY	-	-	-	-	-14.4%			
Gross profit	138				38			
GPM	5.0%				1.6%			
SG&A expenses	44				80			
SG&A ratio	1.6%				3.4%			
Operating profit	93				-41			
YoY	-				-			
Quarterly	FY03/19				FY03/20			
(JPYmn)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sales	2,735	3,068	2,384	2,421	2,342			
YoY	-	-	-	-	-14.4%			
Gross profit	138				38			
GPM	5.0%				1.6%			
SG&A expenses	44				80			
SG&A ratio	1.6%				3.4%			
Operating profit	93				-41			
YoY	-				-			

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods.

Home Sanitation(HS) segment earnings

Cumulative (JPYmn)	FY03/19 Q1	Q2	Q3	Q4	FY03/20 Q1	Q2	Q3	Q4
Sales	2,711	5,495	8,074	10,752	2,948			
YoY	16.4%	19.2%	19.3%	20.5%	8.7%			
Termite control service	925	1,831	2,623	3,441	1,024			
YoY	27.1%	34.2%	33.1%	30.9%	10.7%			
Floor and ceiling ventilation systems	411	870	1,328	1,799	557			
YoY	30.5%	37.0%	40.4%	43.5%	35.5%			
Foundation repairing & building strengthening work	571	1,110	1,600	2,126	517			
YoY	24.1%	21.8%	12.0%	8.6%	-9.5%			
Other	803	1,681	2,521	3,384	848			
YoY	-2.7%	-1.1%	4.2%	9.8%	5.6%			
Gross profit	1,637	3,327	4,826	6,371	1,828			
GPM	60.4%	60.5%	59.8%	59.3%	62.0%			
SG&A expenses	1,057	2,089	3,121	4,139	1,172			
SG&A ratio	39.0%	38.0%	38.7%	38.5%	39.8%			
Operating profit	580	1,238	1,704	2,231	655			
YoY	44.3%	65.3%	54.5%	51.7%	12.9%			
Quarterly (JPYmn)	**FY03/19 Q1**	**Q2**	**Q3**	**Q4**	**FY03/20 Q1**	**Q2**	**Q3**	**Q4**
Sales	2,711	2,784	2,579	2,678	2,948			
YoY	16.4%	22.0%	19.7%	24.2%	8.7%			
Termite control service	925	906	792	818	1,024			
YoY	27.1%	42.5%	30.7%	24.3%	10.7%			
Floor and ceiling ventilation systems	411	459	458	471	557			
YoY	30.5%	43.4%	47.3%	52.9%	35.5%			
Foundation repairing & building strengthening work	571	539	490	526	517			
YoY	24.1%	19.5%	-5.2%	-0.6%	-9.5%			
Other	803	878	840	863	848			
YoY	-2.7%	0.5%	16.7%	30.4%	5.6%			
Gross profit	1,637	1,690	1,499	1,545	1,828			
GPM	60.4%	60.7%	58.1%	57.7%	62.0%			
SG&A expenses	1,057	1,032	1,032	1,018	1,172			
SG&A ratio	39.0%	37.1%	40.0%	38.0%	39.8%			
Operating profit	580	658	466	527	655			
YoY	44.3%	89.6%	31.6%	43.2%	12.9%			

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods.

Sales, volume, and unit price for termite control services

Cumulative (JPYmn)	FY03/19 Q1	Q2	Q3	Q4	FY03/20 Q1	Q2	Q3	Q4
Sales (JPYmn)	925	1,831	2,623	3,441	1,024			
YoY	27.1%	34.2%	33.1%	30.9%	10.7%			
Treatment area ('000sqm)	545	1,078	1,534	2,013	575			
YoY	27.9%	34.7%	31.4%	29.0%	5.5%			
Price per sqm (JPY'000)	1.7	1.7	1.7	1.7	1.8			
YoY	-0.7%	-0.4%	1.3%	1.5%	5.0%			
Quarterly (JPYmn)	**FY03/19 Q1**	**Q2**	**Q3**	**Q4**	**FY03/20 Q1**	**Q2**	**Q3**	**Q4**
Sales (JPYmn)	925	906	792	818	1,024			
YoY	27.1%	42.5%	30.7%	24.3%	10.7%			
Treatment area ('000sqm)	545	1,078	1,534	2,013	575			
YoY	27.9%	42.5%	24.3%	21.8%	5.5%			
Price per sqm (JPY'000)	1.7	0.8	0.5	0.4	1.8			
YoY	-0.7%	0.0%	5.1%	2.0%	5.0%			

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods.
Price per sqm is calculated as sales divided by treatment area.

Q1 FY03/20 results

- Sales: JPY11.6bn (-1.1% YoY)
- Operating profit: JPY623mn (+504.9% YoY)
- Recurring profit: JPY600mn (+289.6% YoY)
- Net profit*: JPY436mn (+292.8% YoY)

*Net profit attributable to parent company shareholders.

With contributions from expanded business scale following reallocation of personnel and other management resources under the previous medium-term management plan, the Home Sanitation and Establishment Sanitation segments both generated higher sales, and the Environmental Resource Department segment generated higher sales after implementation of detailed examinations of the waste plastic it accepted for processing. On the other hand, the Solar Engineering segment generated lower sales after the company lowered the selling price of solar power systems in response to another drop in FIT scheme prices, and the Energy segment generated lower sales on a decline in the number of contracts primarily for high-voltage consumers.

The Home Sanitation and Environmental Resource Development segments saw a rise in profit driven by higher sales. The Solar Engineering segment, despite lower sales, generated higher profit on reductions in costs, especially for materials.

From Q1 FY03/20, Sanix separated the new electric power generation business and the energy business development department (established in April 2019) from the Environmental Resource Development segment and created an independent segment, the Energy segment.

Solar Engineering (SE) segment

- Sales: JPY2.4bn (-15.3% YoY)
- Operating profit: JPY20mn (versus operating loss of JPY88mn in Q1 FY03/19)

Revenues from installations of solar power systems fell -13.1% YoY to JPY2.3bn. Segment sales declined after the company lowered the selling price of solar power systems in response to another drop in FIT scheme prices.

The segment achieved an operating profit on expense reductions arising from the transfer of personnel to the Home Sanitation segment and progress on reducing the cost of materials.

Environmental Resources Development (ERD) segment

- Sales: JPY3.5bn (+8.5% YoY)
- Operating profit: JPY867mn (+150.6% YoY)

Sales from plastic fuel rose 15.4% YoY to JPY2.4bn, and sales from electric power generation rose 6.2% YoY to JPY868mn. In regard to plastic fuel, although the acceptance volume of plastic waste declined, Sanix made progress on detailed examinations with a focus on the quality of plastic fuel it produces.

Profit increased on lower costs achieved through careful cost examination and on detailed examinations of the waste plastic and organic waste fluid it accepted for processing.

Energy segment

- Sales: JPY2.3bn (-14.4% YoY)
- Operating loss: JPY41mn (versus operating profit of JPY93mn in Q1 FY03/19)

The number of high-voltage contracts declined, causing a drop in revenue from retail sales of electricity and therefore a drop in segment sales. Lower sales caused an operating loss.

Home Sanitation (HS) segment

- Sales: JPY2.9bn (+8.7% YoY)
- Operating profit: JPY655mn (+12.9% YoY)

The strong top-line gains reflect growth in multiple areas, including termite control services, where revenues rose 10.7% YoY to JPY1.0bn and in-floor/in-ceiling ventilation system installation work, where revenues rose 35.5% to JPY557mn. However, in foundation repair and strengthening construction work services to households, revenues fell 9.5% to JPY517mn. The company transferred employees from the SE segment and conducted hiring to expand businesses under the HS segment, and strengthened sales and work operations to provide detailed maintenance proposals to general households.

Profits increased despite higher personnel expenses stemming from increases in staffing levels, thanks to higher sales, improvement in work efficiency, and decline in the outsourced processing cost ratio.

Establishment Sanitation (ES) segment

- Sales: JPY487mn (+17.3% YoY)
- Operating profit: JPY40mn (-23.1% YoY)

Sales were driven by the segment's mainstay anti-rust equipment installation business (product name: Daelman Shock), where sales rose 21.6% YoY to JPY250mn. By transferring people from its SE business and conducted hiring, the company was able to increase the number of employees at the ES segment and expand the business, focusing especially on sales to owners of buildings and condominiums and establishing closer ties with management companies and other partners.

Profit fell on increased expenses, especially labor costs associated with an increase in personnel.

For details on previous quarterly and annual results, please refer to the Historical performance section.

Full-year company forecast

	FY03/19			FY03/20		
(JPYmn)	1H Act.	2H Act.	FY Act.	1H Est.	2H Est.	FY Est.
Sales	**24,447**	**26,272**	**50,719**	**24,464**	**26,436**	**50,900**
YoY	1.2%	1.7%	1.5%	0.1%	0.6%	0.4%
Cost of sales	16,944	18,945	35,889	15,905	17,785	33,690
Gross profit	**7,503**	**7,327**	**14,830**	**8,559**	**8,651**	**17,210**
YoY	12.2%	-0.4%	5.6%	14.1%	18.1%	16.0%
GPM	30.7%	27.9%	29.2%	35.0%	32.7%	33.8%
SG&A expenses	6,815	6,790	13,605	7,571	7,729	15,300
SG&A ratio	27.9%	25.8%	26.8%	30.9%	29.2%	30.1%
Operating profit	**688**	**536**	**1,224**	**988**	**922**	**1,910**
YoY	398.6%	-51.6%	-1.8%	43.6%	72.0%	56.0%
OPM	2.8%	2.0%	2.4%	4.0%	3.5%	3.8%
Recurring profit	**689**	**493**	**1,182**	**935**	**875**	**1,810**
YoY	-	-53.0%	16.0%	35.7%	77.5%	53.1%
RPM	2.8%	1.9%	2.3%	3.8%	3.3%	3.6%
Net income	**194**	**46**	**240**	**745**	**625**	**1,370**
YoY	-	-96.6%	-79.7%	284.0%	1258.7%	470.8%

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods
Note that net income refers to income attributable to shareholders of the parent

Earning by segment

	FY03/19			FY03/20		
(JPY mn)	1H Act.	2H Act.	FY Act.	1H Est.	2H Est.	FY Est.
Sales	**24,447**	**26,272**	**50,719**	**24,464**	**26,436**	**50,900**
YoY	1.2%	1.7%	1.5%	0.1%	0.6%	0.4%
Solar Engineering (SE)	5,947	8,480	14,427	5,280	6,304	11,584
YoY	-31.8%	-7.4%	-19.3%	-11.2%	-25.7%	-19.7%
Home Sanitation (HS)	5,496	5,257	10,753	5,952	5,708	11,660
YoY	19.2%	21.9%	20.5%	8.3%	8.6%	8.4%
Establishment Sanitation (ES)	906	1,021	1,927	1,145	1,205	2,350
YoY	32.3%	34.5%	33.4%	26.4%	18.0%	22.0%
Environmental Resource Development (ERD)	7,276	6,841	14,117	7,956	7,819	15,775
YoY	-	-	-	9.3%	14.3%	11.7%
Energy	5,804	4,806	10,610	5,465	6,492	11,957
YoY	-	-	-	-5.8%	35.1%	12.7%
Operating profit	**688**	**536**	**1,224**	**988**	**922**	**1,910**
YoY	398.6%	-51.6%	-1.8%	43.6%	72.0%	56.0%
Solar Engineering (SE)	56	1,148	1,204	171	614	785
YoY	-94.0%	57.0%	-27.8%	205.4%	-46.5%	-34.8%
Home Sanitation (HS)	1,239	992	2,231	1,260	929	2,189
YoY	65.4%	37.4%	51.7%	1.7%	-6.4%	-1.9%
Establishment Sanitation (ES)	128	159	287	115	148	263
YoY	30.6%	96.3%	60.3%	-10.2%	-6.9%	-8.4%
Environmental Resource Development (ERD)	709	-285	423	1,128	663	1,791
YoY	-	-	-	59.1%	-332.6%	323.4%
Energy	253	160	413	142	320	462
YoY	-	-	-	-43.9%	100.0%	11.9%
Unallocated expenses	-1,697	-1,639	-3,336	-1,828	-1,752	-3,580

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods
In FY03/20, Sanix separated the new electric power generation business from the ERD segment and made it into an independent segment, the Energy segment. FY03/19 results are reference figures taking into account the new segmentation.

SE segment results and forecasts

	FY03/19			FY03/20		
(JPY mn)	1H Act.	2H Act.	FY Act.	1H Est.	2H Est.	FY Est.
Sales	**5,947**	**8,480**	**14,427**	**5,280**	**6,304**	**11,584**
YoY	-31.8%	-7.4%	-19.3%	-11.2%	-25.7%	-19.7%
Sale and installation of PV systems	5,564	8,097	13,661	5,100	6,150	11,250
YoY	-30.4%	-6.4%	-17.9%	-8.3%	-24.0%	-17.6%
Wholesale operations	288	290	578	120	120	240
YoY	-50.0%	-35.6%	-43.7%	-58.3%	-58.6%	-58.5%
Cost of sales	4,174	5,566	9,740	3,296	3,789	7,085
Cost ratio	70.2%	65.6%	67.5%	62.4%	60.1%	61.2%
Material costs	2,581	3,397	5,978	1,963	2,481	4,444
Labor costs	523	495	1,018	327	292	619
Gross profit	1,772	2,915	4,687	1,984	2,515	4,499
GPM	29.8%	34.4%	32.5%	37.6%	39.9%	38.8%
SG&A expenses	1,717	1,765	3,482	1,813	1,901	3,714
Personnel expenses	846	878	1,724	972	1,055	2,027
Operating profit	**55**	**1,149**	**1,204**	**171**	**614**	**785**
YoY	-94.1%	57.2%	-27.8%	210.9%	-46.6%	-34.8%

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods

SE segment expenses

	FY03/19			FY03/20		
(JPYmn)	1H Act.	2H Act.	FY Act.	1H Est.	2H Est.	FY Est.
Marginal profit	2,670	4,096	6,766	2,645	3,114	5,759
Marginal profit ratio	44.9%	48.3%	46.9%	50.1%	49.4%	49.7%
Fixed costs	2,580	2,772	5,352	2,436	2,466	4,902
Fixed cost ratio	43.4%	32.7%	37.1%	46.1%	39.1%	42.3%
Breakeven point	5,746	5,739	11,412	4,862	4,992	9,863
Breakeven point ratio	96.6%	67.7%	79.1%	92.1%	79.2%	85.1%

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods
As amounts are calculated using ratios and sales figures, they may differ from figures released by the company.

HS segment results and forecasts

	FY03/19			FY03/20		
(JPY mn)	1H Act.	2H Act.	FY Act.	1H Est.	2H Est.	FY Est.
Sales	5,495	5,257	10,752	5,952	5,708	11,660
YoY	19.2%	21.9%	20.5%	8.3%	8.6%	8.4%
Termite control service	1,831	1,610	3,441	2,080	1,716	3,796
YoY	34.2%	27.4%	30.9%	13.6%	6.6%	10.3%
Floor and ceiling ventilation systems	870	929	1,799	922	1,036	1,958
YoY	37.0%	50.1%	43.5%	6.0%	11.5%	8.8%
Foundation repairing & building strengthening work	1,110	1,016	2,126	1,178	1,226	2,404
YoY	21.8%	-2.9%	8.6%	6.1%	20.7%	13.1%
Other	1,681	1,703	3,384	1,770	1,730	3,500
YoY	-1.1%	23.2%	9.8%	5.3%	1.6%	3.4%
Gross profit	3,327	3,044	6,371	3,565	3,300	6,865
GPM	60.5%	57.9%	59.3%	59.9%	57.8%	58.9%
SG&A expenses	2,089	2,050	4,139	2,305	2,371	4,676
SG&A ratio	38.0%	39.0%	38.5%	38.7%	41.5%	40.1%
Operating profit	1,238	993	2,231	1,260	929	2,189
YoY	65.3%	37.5%	51.7%	1.8%	-6.4%	-1.9%

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods

ERD segment results and forecasts

	FY03/19			FY03/20		
(JPY mn)	1H Act.	2H Act.	FY Act.	1H Est.	2H Est.	FY Est.
Sales	7,276	6,841	14,117	7,956	7,819	15,775
YoY	-	-	-	9.3%	14.3%	11.7%
Waste plastic processing	4,105	4,510	8,615	4,510	4,579	9,089
YoY	-	-	-	9.9%	1.5%	5.5%
Power generation	1,519	589	2,108	1,922	1,733	3,655
YoY	-	-	-	26.5%	194.2%	73.4%
Other	1,652	1,742	3,394	1,524	1,507	3,031
YoY	-	-	-	-7.7%	-13.5%	-10.7%
Gross profit	1,588	573	2,161	2,052	1,592	3,644
GPM	-	-	-	25.8%	20.4%	23.1%
SG&A expenses	879	858	1,737	924	929	1,853
SG&A ratio	-	-	-	11.6%	11.9%	11.7%
Operating profit	709	-286	423	1,128	663	1,791
YoY	-	-	-	59.1%	-	323.4%

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods
*In FY03/20, Sanix separated the new electric power generation business from the ERD segment and made it into an independent segment, the Energy segment. FY03/19 results are reference figures taking into account the new segmentation.

Energy segment results and forecasts

	FY03/19			FY03/20		
(JPYmn)	1H Act.	2H Act.	FY Act.	1H Est.	2H Est.	FY Est.
Sales	5,804	4,806	10,610	5,465	6,492	11,957
YoY	-	-	-	-5.8%	35.1%	12.7%
Gross profit	343	274	617	369	615	984
GPM	5.9%	5.7%	5.8%	6.8%	9.5%	8.2%
SG&A expenses	90	115	205	227	295	522
SG&A ratio	1.6%	2.4%	1.9%	4.2%	4.5%	4.4%
Operating profit	253	160	413	142	320	462
YoY	-	-	-	-43.9%	100.0%	11.9%

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods
In FY03/20, Sanix separated the new electric power generation business from the ERD segment and made it into an independent segment, the Energy segment. FY03/19 results are reference figures taking into account the new segmentation.

Full-year FY03/20 earnings forecast

For FY03/20, Sanix forecasts sales of JPY50.9bn (+0.4% YoY), operating profit of JPY1.9bn (+56.0% YoY), recurring profit of JPY1.8bn (+53.1% YoY), and net income attributable to parent company shareholders of JPY1.4bn (+470.8% YoY).

▷ In Solar Engineering (SE), the company expects revenue to fall on a lower feed-in tariff (JPY14/kWh in fiscal 2019) and other changes in the market environment, but will focus on maintenance work related to ancillary equipment and sales of solar power systems with land.

▷ In Home Sanitation (HS), the company aims to strengthen its business foundation by developing new customers and enhancing service systems for existing customers. It also aims to increase new customers and customer count by adding personnel through hiring and opening new stores.

▷ In Establishment Sanitation (HS), the company aims to develop relationships with management companies and other new partners, obtain introductions through careful follow-up with existing partners, increase opportunities for direct negotiations with real estate owners, and expand sales channels for mainstay anti-rust equipment installation (product name: Daelman Shock).

▷ In Environmental Resources Development (ERD), it aims to improve the quality of plastic fuel by detailed examinations of accepted articles, and to improve profitability and efficiency.

▷ In the energy business, Sanix established a new energy business headquarters and is working to enhance business structure by focusing on expanding the new electricity business in cooperation with partners and developing other energy-related businesses.

SE segment

Sanix expects sales of JPY11.6bn (-19.7% YoY) and operating profit of JPY785mn (-34.8% YoY). It expects delays in approval procedures in 1H, but believes these delays will steadily disappear in 2H, resulting in both sales and profit being weighted toward 2H.

In the SE segment, with revision of the FIT scheme and other changes, the market environment for the solar power business remains difficult. Sanix expects lower installation volume to cause lower sales, but expects unit price (SE segment sales ÷ volume) to rise. The price paid for power from solar power generation systems of 10kW to less than 500kW fell in April 2019 to JPY14/kWh (JPY18/kWh in fiscal 2018), but Sanix will promote maintenance work related to ancillary equipment and sales of solar power systems with land (Sanix procures land and installs facilities for sale to investors in lots).

As in FY03/19, the company will work to reduce fixed costs, for example by reassigning some personnel to the HS segment to reduce labor costs, and will work to reduce cost of sales by keeping down materials costs, but it still expects lower sales to cause a drop in profit.

SE business marginal profit ratio and breakeven point

The company expects the marginal profit ratio (profit ratio after subtracting variable costs such as materials costs, subcontracting costs, and transportation costs) to be 49.7% (+2.8pp YoY). Among variable costs, it expects materials costs to fall, with the materials cost ratio falling 3.1pp YoY to 38.4%.

The company expects fixed costs (Shared Research estimate based on monthly average fixed costs disclosed by Sanix) of JPY4.9bn (-JPY450mn YoY). As a result, the breakeven point (Shared Research estimate based on monthly average fixed costs disclosed by Sanix) is expected to be JPY9.9bn (-JPY1.5bn YoY).

HS segment

Sanix expects sales of JPY11.7bn (+8.4% YoY) and operating profit of JPY2.2bn (-1.9% YoY).

It expects a personnel increase (through reassignments of personnel from the SE segment) will help it to identify demand from past customers and also win new customers, pushing sales higher. However, it expects a drop in profit on higher fixed costs arising from the personnel increase.

ERD segment

Sanix expects sales of JPY15.8bn (+11.7% YoY) and operating profit of JPY1.8bn (+322.4% YoY).

In FY03/19, operations at the Tomakomai Power Plant were suspended for about six months on the impact of an earthquake that hit the eastern part of the Iburi region of Hokkaido and statutory inspections originally scheduled for FY03/20 being moved up. Sanix expects operations at the plant to be suspended for about 1.5 months of FY03/20, resulting in higher sales. In FY03/19, factors putting pressure on profit, including lower sales, repair expenses, and inspection-related expenses while the operations were suspended at the Tomakomai Power Plant, totaled about JPY1.4bn, resulting in lower profit. As these negative factors have disappeared in FY03/20, Sanix expects a jump in profit.

Energy segment

Sanix expects sales of JPY12.0bn (+12.7% YoY) and operating profit of JPY462mn (+11.9% YoY).

In the Energy segment, the company gains revenue by selling electric procured from power companies or generated at the Tomakomai Power Plant to ordinary customers (including stores and offices). It also gains revenue by concluding Power Purchase Agreements (PPAs) and conducting installation work.

Power Purchase Agreement (PPA): An investor other than the homeowner installs solar power panels on the roof of a home, but retains ownership. Sanix earns revenue as the installer of the panels. The investor sells the electricity generated to the homeowner as needed, with any surplus being sold to electric power companies.

Sanix expects to increase sales by focusing on increasing the number of retail contracts for the new electric power generation (PPS) business and developing PPAs. The company plans a personnel increase to enable it to enhance PPS business systems and PPA sales efforts. This will increase costs, but higher sales should enable higher profit.

Outlook

In May 2019, the company formulated a new medium-term management plan covering the three-year period from FY03/20 to FY03/22. This new plan targets sales of JPY59.4bn (CAGR of 5.4% versus FY03/19) and operating profit of JPY2.4bn (CAGR of 24.4% versus FY03/19) for the final year of the plan, FY03/22.

From FY03/15 to FY03/16, as the solar power market environment was deteriorating in the wake of Kyushu Electric's September 2014 decision to halt system connections and a January 2015 revision of the FIT scheme, Sanix booked an operating loss after concentrating its management resources in the solar power business. Under its medium-term plan (FY03/17–FY03/19) announced in April 2016, about 500 employees left in June and July 2016 as part of an early retirement program, and Sanix conducted measures to streamline operations and reallocate management resources not concentrated is specified business. As a result, the company achieved a stable earnings base, which brought its operating profit level to JPY1.0–1.2bn during the previous medium-term plan.

The new medium-term plan calls for shrinking the SE segment as the solar power business contracts, but maintaining or even enhancing initiatives in the other segments and growing earnings by providing new services in the various segments.

Figures for medium-term management plan (FY03/20–FY03/22)

(JPYmn)	FY03/17 Act.	FY03/18 Act.	FY03/19 Act.	FY03/20 Est.	FY03/21 MTP	FY03/22 MTP
Sales	50,955	49,993	50,719	50,900	53,660	59,410
YoY	-17.7%	-1.9%	1.5%	-17.8%	5.4%	10.7%
Gross profit	14,142	14,044	14,830	17,210	18,020	19,500
GPM	27.8%	28.1%	29.2%	33.8%	33.6%	32.8%
SG&A expenses	13,106	12,798	13,606	15,300	16,080	17,140
SG&A ratio	25.7%	25.6%	26.8%	30.1%	30.0%	28.9%
Operating profit	1,036	1,246	1,224	1,910	1,940	2,360
YoY	-	20.3%	-1.8%	56.0%	1.6%	21.6%
OPM	2.0%	2.5%	2.4%	3.8%	3.6%	4.0%
Recurring profit	907	1,019	1,182	1,810	1,840	2,260
YoY	-	12.3%	16.0%	53.1%	1.7%	22.8%
OPM	1.8%	2.0%	2.3%	3.6%	3.4%	3.8%
Net income	416	1,180	240	1,370	1,330	1,710
YoY	-	183.7%	-79.7%	470.8%	-2.9%	28.6%
Net margin	0.8%	2.4%	0.5%	2.7%	2.5%	2.9%

Source: Shared Research based on company data

Medium-term management plan targets by segment

(JPYmn)	FY03/18 Act.	FY03/19 Act.	FY03/20 Est.	FY03/21 MTP	FY03/22 MTP
Sales	49,993	50,719	50,900	53,660	59,410
YoY	-1.9%	1.5%	-17.8%	5.4%	10.7%
Solar Engineering (SE)	17,870	14,427	11,584	10,513	10,194
YoY	-31.9%	-19.3%	-19.7%	-9.2%	-3.0%
% of sales	35.7%	28.4%	22.8%	19.6%	17.2%
Home Sanitation (HS)	8,922	10,752	11,660	13,000	14,444
YoY	36.0%	20.5%	8.4%	11.5%	11.1%
% of sales	17.8%	21.2%	22.9%	24.2%	24.3%
Establishment Sanitation (ES)	1,444	1,926	2,350	2,700	3,000
YoY	39.8%	33.4%	22.0%	14.9%	11.1%
% of sales	2.9%	3.8%	4.6%	5.0%	5.0%
Environmental Resource Development (ERD)	14,134	14,116	15,775	16,160	16,688
YoY	-	-0.1%	11.8%	2.4%	3.3%
% of sales	28.3%	27.8%	31.0%	30.1%	28.1%
Energy	7,621	10,609	11,957	13,645	17,600
YoY	-	39.2%	12.7%	14.1%	29.0%
% of sales	15.2%	20.9%	23.5%	25.4%	29.6%
Inter-segment transactions		-1,113	-2,426	-2,358	-2,516
Operating profit	1,246	1,224	1,910	1,940	2,360
YoY	20.3%	-1.8%	56.0%	1.6%	21.6%
OPM	2.5%	2.4%	3.8%	3.6%	4.0%
Solar Engineering (SE)	1,668	1,204	785	610	460
YoY	-0.1%	-27.8%	-34.8%	-22.3%	-24.6%
% of OP (excl. unallocated)	38.9%	26.4%	14.3%	11.0%	7.7%
OPM	9.3%	8.3%	6.8%	5.8%	4.5%
Home Sanitation (HS)	1,471	2,231	2,189	2,413	2,619
YoY	50.3%	51.7%	-1.9%	10.2%	8.5%
% of OP (excl. unallocated)	34.3%	49.0%	39.9%	43.7%	43.7%
OPM	16.5%	20.7%	18.8%	18.6%	18.1%
Establishment Sanitation (ES)	179	287	263	316	326
YoY	90.4%	60.3%	-8.4%	20.2%	3.2%
% of OP (excl. unallocated)	4.2%	6.3%	4.8%	5.7%	5.4%
OPM	12.4%	14.9%	11.2%	11.7%	10.9%
Environmental Resource Development (ERD)	940	423	1,791	1,637	1,742
YoY	-	-55.0%	323.4%	-8.6%	6.4%
% of OP (excl. unallocated)	21.9%	9.3%	32.6%	29.6%	29.1%
OPM	6.7%	3.0%	11.4%	10.1%	10.4%
Energy	32	412	462	550	846
YoY	-	-	12.1%	19.0%	53.8%
% of OP (excl. unallocated)	0.7%	9.0%	8.4%	10.0%	14.1%
OPM	0.4%	3.9%	3.9%	4.0%	4.8%
Unallocated	-3,045	-3,335	-3,580	-3,586	-3,633

Source: Shared Research based on company data

Medium-term management plan personnel targets

(employees)	FY03/18 Act.	FY03/19 Act.	FY03/20 Est.	FY03/21 MTP	FY03/22 MTP
Total	1,788	1,911	2,134	2,179	2,292
Solar Engineering (SE)	512	451	412	388	390
Home Sanitation (HS)	541	629	758	799	890
Establishment Sanitation (ES)	83	107	125	141	153
Environmental Resource Development (ERD)	371	401	409	414	417
Energy	-	-	72	78	82
Head office	249	272	304	304	304
Corporate	32	51	54	55	56

Source: Shared Research based on company data

SE segment

SE segment targets

(JPYmn)	FY03/18 Act.	FY03/19 Act.	FY03/20 Est.	FY03/21 MTP	FY03/22 MTP
Sales	17,870	14,427	11,584	10,513	10,194
YoY	-31.9%	-19.3%	-19.7%	-9.2%	-3.0%
Gross profit	5,562	4,687	4,499	4,203	4,083
GPM	31.1%	32.5%	38.8%	40.0%	40.1%
Operating profit	1,668	1,204	785	610	460
YoY	-0.1%	-27.8%	-34.8%	-22.3%	-24.6%
OPM	9.3%	8.3%	6.8%	5.8%	4.5%

Source: Shared Research based on company data

In the SE segment, rapid contraction of the solar power facilities market seems to have run its course during the period covered by the previous medium-term plan, but the new plan presupposes gradual shrinking to continue, accompanied by lower sales. However, Sanix aims to get sales to decline at a slower pace than the pace at which the market contracts by promoting maintenance work related to ancillary equipment and sales of power systems with land (Sanix procures land and installs facilities for sale to investors in lots). In addition, the period of the FIT scheme for solar power systems installed on homes is 10 years, so since the scheme started in November 2009, some FIT scheme agreements will end in November 2019. The company aims to sell batteries to owners of systems for which the FIT scheme period has ended so they can store surplus electricity during the day.

Sanix is working to reduce labor costs by reassigning some SE segment personnel to the HS and ES segments and further reduce the cost of sales by reducing the cost of components. This is likely to improve the GPM but the each profit item is still likely to decline as sales decrease.

HS and ES segments

HS segment targets

(JPYmn)	FY03/18 Act.	FY03/19 Act.	FY03/20 Est.	FY03/21 MTP	FY03/22 MTP
Sales	8,922	10,752	11,660	13,000	14,444
YoY	36.0%	20.5%	8.4%	11.5%	11.1%
Gross profit	4,947	6,371	6,865	7,659	8,459
GPM	55.4%	59.3%	58.9%	58.9%	58.6%
Operating profit	1,471	2,231	2,189	2,413	2,619
YoY	50.3%	51.7%	-1.9%	10.2%	8.5%
OPM	16.5%	20.7%	18.8%	18.6%	18.1%

Source: Shared Research based on company data

ES segment targets

(JPYmn)	FY03/18 Act.	FY03/19 Act.	FY03/20 Est.	FY03/21 MTP	FY03/22 MTP
Sales	1,444	1,926	2,350	2,700	3,000
YoY	39.8%	33.4%	22.0%	14.9%	11.1%
Gross profit	689	993	1,218	1,414	1,567
GPM	47.7%	51.6%	51.8%	52.4%	52.2%
Operating profit	179	287	263	316	326
YoY	90.4%	60.3%	-8.4%	20.2%	3.2%
OPM	12.4%	14.9%	11.2%	11.7%	10.9%

Source: Shared Research based on company data

According to its medium-term management plan, the company aims to raise sales and profit in the HS and ES segments by increasing personnel count.

From FY03/13, Sanix worked to expand the SE segment, so it reduced the size of the HS and ES segments and focused on after-sales maintenance for existing customers. Then from FY03/17, it began reassigning SE segment personnel to the HS and ES segments in an effort to limit the decrease in existing customer count and restart sales efforts that had been suspended in 2006, hoping to win new customers. These objectives are being maintained under the new medium-term plan as well.

ERD segment

ERD segment targets

(JPYmn)	FY03/18 Act.	FY03/19 Act.	FY03/20 Est.	FY03/21 MTP	FY03/22 MTP
Sales	14,134	14,116	15,775	16,160	16,688
YoY	-	-0.1%	11.8%	2.4%	3.3%
Waste plastic processing	7,556	8,651	9,089	9,508	9,727
YoY	5.8%	14.5%	5.1%	4.6%	2.3%
Electricity business	3,474	2,107	3,655	3,588	3,781
YoY	-	-39.3%	73.5%	-1.8%	5.4%
Other	3,104	3,358	3,031	3,064	3,180
Gross profit	2,637	2,160	3,644	3,504	3,671
GPM	18.7%	15.3%	23.1%	21.7%	22.0%
Operating profit	940	423	1,791	1,637	1,742
YoY	-	-55.0%	323.4%	-8.6%	6.4%
OPM	6.7%	3.0%	11.4%	10.1%	10.4%

Source: Shared Research based on company data
*In FY03/20, Sanix separated the new electric power generation business from the ERD segment and made it into an independent segment, the Energy segment. FY03/19 results are reference figures taking into account the new segmentation.

Earnings in the ERD segment are driven primarily by increases in plastic fuel processing volume and processing price. In the electric power business, Sanix expects to suspend operations at the Tomakomai Power Plant for 1.5 months in FY03/20 for repairs, two months in FY03/21 for a boiler inspection (every two years), and 1.5 months in FY03/22.

Energy segment

Energy segment targets

(JPYmn)	FY03/18 Act.	FY03/19 Act.	FY03/20 Est.	FY03/21 MTP	FY03/22 MTP
Sales	7,621	10,609	11,957	13,645	17,600
YoY	-	39.2%	12.7%	14.1%	29.0%
Gross profit	208	616	984	1,240	1,720
GPM	2.7%	5.8%	8.2%	9.1%	9.8%
Operating profit	32	412	462	550	846
YoY	-	-	12.1%	19.0%	53.8%
OPM	0.4%	3.9%	3.9%	4.0%	4.8%

Source: Shared Research based on company data
*In FY03/20, Sanix separated the new electric power generation business from the ERD segment and made it into an independent segment, the Energy segment. FY03/19 results are reference figures taking into account the new segmentation.

In the Energy segment, the company gains revenue by selling electric procured from power companies or generated at the Tomakomai Power Plant to ordinary customers (including stores and offices). It also gains revenue by concluding Power Purchase Agreements (PPAs) and conducting installation work.

Power Purchase Agreement (PPA): An investor other than the homeowner installs solar power panels on the roof of a home, but retains ownership. Sanix earns revenue as the installer of the panels. The investor sells the electricity generated to the homeowner as needed, with any surplus being sold to electric power companies.

Sanix aims to expand the number of retail contracts, focusing on low-voltage customers (stores and offices that are customers of the new electric power generation business), and also focus on developing PPAs. In addition, it plans a personnel increase to enable it to enhance PPS business systems and PPA sales efforts.

Business

Description

Sanix began as a termite control services company, and from the early 2000s branched out into the environmental resources development field, including power generation business. In March 2010, the company commenced solar power generation business. As of May 2019, the company has four business segments: the Solar Engineering (SE) segment focused on commercial solar power generation, the Environmental Resources Development (ERD) segment conducting power generation via waste recycling, and the Home Sanitation (HS) and Establishment Sanitation (ES) segments conducting termite control and other services for residences and corporations respectively.

Segments

The company's four business segments are SE, HS, ES, and ERD.

Sales, operating profit by segment

(JPYmn)	FY03/10 Act.	FY03/11 Act.	FY03/12 Act.	FY03/13 Act.	FY03/14 Act.	FY03/15 Act.	FY03/16 Act.	FY03/17 Act.	FY03/18 Act.	FY03/19 Act.
Total sales	**24,539**	**28,980**	**31,454**	**43,366**	**84,221**	**95,629**	**61,916**	**50,955**	**49,993**	**50,719**
YoY	-2.8%	18.1%	8.5%	37.9%	94.2%	13.5%	-35.3%	-17.7%	-1.9%	1.5%
Solar Engineering	-	-	-	-	56,637	72,247	39,871	26,225	17,870	14,427
YoY	-	-	-	-	-	27.6%	-44.8%	-34.2%	-31.9%	-19.3%
% of total	-	-	-	-	67.2%	75.5%	64.4%	51.5%	35.7%	28.4%
Commercial Photovoltaic (PV) Solutions	-	-	1,411	9,617	51,340	-	-	-	-	-
YoY	-	-	-	581.6%	433.9%	-	-	-	-	-
% of total	-	-	4.5%	22.2%	61.0%	-	-	-	-	-
Home Sanitation	14,056	16,657	15,395	14,814	10,819	7,605	6,519	6,562	8,922	10,752
YoY	-4.1%	18.5%	-7.6%	-3.8%	-27.0%	-	-14.3%	0.7%	36.0%	20.5%
% of total	57.3%	57.5%	48.9%	34.2%	12.8%	8.0%	10.5%	12.9%	17.8%	21.2%
Establishment Sanitation	2,547	2,811	2,757	3,965	6,011	1,040	924	1,033	1,444	1,926
YoY	-14.4%	10.4%	-1.9%	43.8%	51.6%	-	-11.2%	11.8%	39.8%	33.4%
% of total	10.4%	9.7%	8.8%	9.1%	7.1%	1.1%	1.5%	2.0%	2.9%	3.8%
Environmental Resources Development	7,934	9,511	11,890	14,967	16,051	14,735	14,601	17,133	21,755	23,612
YoY	4.4%	19.9%	25.0%	25.9%	7.2%	-8.2%	-0.9%	17.3%	27.0%	8.5%
% of total	32.3%	32.8%	37.8%	34.5%	19.1%	15.4%	23.6%	33.6%	43.5%	46.6%
Operating profit	**390**	**502**	**410**	**1,870**	**4,508**	**-3,142**	**-2,229**	**1,036**	**1,246**	**1,224**
YoY	-	28.6%	-18.3%	356.4%	141.0%	-	-	-	20.3%	-1.8%
Solar Engineering	-	-	-	-	4,782	-2,291	-202	1,669	1,668	1,204
YoY					-	-	-	-	-0.1%	-27.8%
% of total					45.4%	-	-	44.3%	38.9%	26.4%
Commercial Photovoltaic (PV) Solutions	-	-	-265	320	4,410	-	-	-	-	-
YoY	-	-	-	-	-	-	-	-	-	-
% of total	-	-	-	8.4%	62.1%	-	-	-	-	-
Home Sanitation	3,365	2,608	2,482	1,776	1,141	1,634	614	979	1,471	2,231
YoY	-3.0%	-22.5%	-4.8%	-28.5%	-35.7%	-	-62.4%	59.4%	50.3%	51.7%
% of total	136.6%	102.4%	97.5%	46.7%	16.1%	-	82.2%	26.0%	34.3%	48.9%
Establishment Sanitation	211	154	41	139	190	-48	53	94	179	287
YoY	-	-27.2%	-73.3%	240.5%	36.5%	-	-	77.4%	90.4%	60.3%
% of total	8.6%	6.0%	1.6%	3.7%	2.7%	-	-	2.5%	4.2%	6.3%
Environmental Resources Development	-1,112	-216	288	1,568	1,365	970	282	1,029	972	836
YoY	-	-	-	444.8%	-12.9%	-28.9%	-70.9%	264.9%	-5.5%	-14.0%
% of total	-	-	11.3%	41.2%	19.2%	-	-	27.3%	22.7%	18.3%
Adjustments	-2,074	-2,044	-2,134	-1,932	-2,598	-3,406	-2,977	-2,735	-3,045	-3,335

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods
From FY03/15, following PV Systems sales and construction restructuring, the home-PV system business was moved from commercial PV, HS, ES business to the SE segment. Earnings for the Commercial PV, HS, and ES businesses up to FY03/14 were figures prior to segment changes, while those for FY03/15 and later reflect these changes.

In FY03/15, the company changed the Commercial Photovoltaic Solutions (CPS) segment to the Solar Engineering (SE) segment as it changed the solar power system sales and installations structure. The SE business encompasses the former CPS business, the West Japan residential solar power arm of the HS business, and the East Japan residential solar power arm of the ES business.

Per the above, from FY03/15, the company's segments are Solar Engineering (SE), Environmental Resources Development (ERD), and Home Sanitation and Establishment Sanitation (HS/ES).

Solar Engineering (SE) segment

This segment is involved in the sale and installation of commercial and residential solar power systems, and wholesale solar power systems.

Home Sanitation (HS) segment

This segment provides termite control-related installation, ceiling and floor ventilation system installation, and foundation repairing and strengthening construction work for buildings.

In July 2006, the company was ordered by regulatory authorities to suspend operations in relation to door-to-door sales practices (see Termite Control Services and Floor/Ceiling Ventilation Systems). Subsequently, the company ceased new customer acquisition activities and decided to focus operations on after-sales maintenance for existing customers. According to the medium-term management plan announced in April 2016, the company intends to take resources it had concentrated in the SE segment and redistribute them to the HS and ES segments in order to increase the number of new customers and the total number of customers under management, thereby increasing profits.

Establishment Sanitation (ES) segment

In FY03/16, the ES segment accounted for 1.5% of total sales. This segment provides corporate customers with installation services relating to environmental sanitation, as well as maintenance services relating to office building and condominium plumbing facilities.

Environmental Resources Development (ERD) segment

In FY03/16, the ERD segment accounted for 23.6% of total sales. The main businesses are waste plastic recycling, power generation and organic waste fluid processing. Waste plastic recycling involves taking waste plastic from industrial customers and processing it at the company's plastic-resource development factory into industrial waste-based plastic fuel. The power generation business uses this as its main fuel for generating electricity, which is sold to end-users (undisclosed). Furthermore, the company intends to sell plastic fuel as boiler fuel to paper companies.

Main businesses

Although the company operates a diverse array of businesses, its main businesses, explained in detail below, are: Solar Engineering; waste plastic recycling and power generation in the Environmental Resources Development segment; and termite control services and floor & ceiling ventilation systems installation in the Home Sanitation segment.

Solar Engineering (28.4% of sales, 26.4% of operating profit before adjustments in FY03/19)

Overview

This segment engages in the installation and sale of commercial and residential solar power systems as well as the wholesale of these systems. An important feature of this segment is its end-to-end nature—the company does everything from solar power system procurement through to sales and installation. This allows the company to eliminate intermediary margins at the distribution level, enabling it to offer solar power generation systems at low prices.

Since the company sells and installs the systems, it receives a lump fee covering both equipment and installation. Sales may be calculated by the simple formula of installed capacity (kW) multiplied by the installation fee per kW (yen). As of May 2019, the company sold and installed solar power systems for approximately JPY162,000 per kW. Sanix says this is 15-20% lower than its competitors.

This segment began supplying residential solar power generation systems in October 2009. In FY03/12 the company began handling commercial solar power systems of 10kW to 50kW capacity that can be installed in low-voltage power systems, offering them as a solution for the effective use of locations like factory/office building roofs and idle land.

> PV systems of 10kW-50kW capacity, which can be installed in low-voltage power systems, do not require notification or other administrative procedures, and qualify for full purchase of power under the Feed-in Tariff (FIT) scheme (see Feed-in Tariff (FIT) Scheme). PV systems with capacity of 50kW and over require declaration of compliance with safety regulations and participation of a senior licensed electrician.

Most sales are to owners of idle land, fallow agricultural plots, and condominiums and factories. In East Japan, the company focused on the wholesale of solar power systems to residential construction companies until FY03/14. The company shifted its focus onto direct sales and installations of solar power systems from FY03/15.

The company regards its cost competitiveness as one of its primary strengths. As explained above, by performing end-to-end services spanning procurement, sales, and installation, the company is able to eliminate intermediary margins on every phase. It also monitors the market for low-cost materials and procures volume discounts on materials through regular, large-scale orders, while also working on in-house production. All these efforts add up and allows the company to offer low-price solar power generation systems.

Commercial Solar Power System

Source: Shared Research based on company data

According to the company, under Japan's current feed-in tariff (FIT) scheme, customers who install the company's solar power systems are almost assured of reaping benefits. After a solar power system is installed, a customer is able to monitor the amount of electricity generated daily and subsequently receives payment from the electricity company for the power fed back into the grid. Hence, in a short period, customers can confirm the performance of their investment. As a result, in some cases, within a few months after installation Sanix obtains new orders through introductions from existing customers or additional orders from such customers.

The products and services sold by the company in its SE segment require a substantial amount of explanation, which means that differentiation depends not only on price but also sales channel. From the initial inquiry to installation, a sales company will need to discuss and explain a wide range of issues with the customer—these include installation method, power generation simulations, payment method, and the advantages of installing a solar power system. Consequently, specialist knowledge, the ability to respond to customer needs, and skills in explaining various aspects hold the key to closing a sale. This is not the type of product that can be simply handed over to a customer in a store, and to win a sales contract an installer or specialist sales person must visit the customer's site and confirm the exact location where the solar power system will be installed and agree on a date and time for the installation work to be carried out. Furthermore, after-sales service is also an important part of the business, which means the company's know-how in providing explanations and staff training programs cultivated in sales activities in the termite control business could be effectively leveraged. From a sales point of view, solar power systems have installation benefits based on policies such as the FIT scheme, and solar power has a positive image since it is an environment-friendly renewable power source. Hence, compared with termite control services, solar power may be seen as having more immediate appeal among potential customers. Since there is no need to perform a free-of-charge inspection of the customer's premises during the initial period of sales discussions, sales staff can achieve efficient progress in their sales activities.

Price competitiveness in the SE business

Strength in the SE business lies in its price competitiveness

Shared Research believes that one of the company's strengths is price competitiveness. The manufacturing technology for solar power panels is well established. Since manufacturing is relatively standardized, it is probably difficult to achieve differentiation based on product quality. If the product is all essentially the same, selling cheaper is a logical tactical approach.

As of May 2019, the company sold and installed commercial solar power systems for approximately JPY162,000 per kW, as mentioned earlier. Sanix says this is 15-20% lower than its competitors. Although price for solar systems varies depending on installation conditions, making it difficult to compare simple averages, the government committee that determines the price paid under the FIT scheme releases average system costs. For 2018, it put the average for systems of 10kW to less than 50kW at JPY287,000 per kW. Hence, the company's average price per kW was very low in comparison with the overall market.

Costs for solar power systems for 10kW to less than 50kW and the company's unit price (JPY1,000/kW)

(JPY'000)	2013	2014	2015	2016	2017	2018
a) Cost of PV system (per kW)	383	346	325	327	Over 300	287
YoY	-10.9%	-9.7%	-6.1%	0.6%	-	-
	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19
b) Sanix PV system price (per kW)	243	226	220	194	181	169
YoY	-24.9%	-7.1%	-2.5%	-11.8%	-6.7%	-6.5%
b) ÷ a)	63.4%	65.2%	67.7%	59.4%	-	59.0%

Source: Shared Research based on company data
*The company determines its unit price per kW by dividing sales by volume

Cost-effectiveness of solar power systems offered by Sanix

Assume that the installation cost of a 1kW facility of the company's solar power system is JPY170,000 (for the solar power system and connection fees). If the feed-in tariff is JPY14/kWh (the price of electricity generated by the solar power facility for fiscal 2019), and the solar power system generates 1,314kWh of electricity per 1kW of system capacity (assuming that the capacity utilization is 15% although it varies depending on the amount of sunlight and the angle of the solar power module), then the annual revenue from power sales would be JPY18,000.

Under this scenario, assuming the annual maintenance cost of JPY3,000/kW, the initial investment recovery period would be about 13 years, the gross yield about 9%, and the internal rate of return (IRR) about 7%.

Annual revenue from electricity sales per 1kW of power facility, maintenance cost (if the feed-in tariff is JPY18/kWh)

Capacity utilization rate	16%
Power generated (kWh)	1,314
Annual revenue per 1kW (JPY1,000)	18
Maintenance cost per 1kW (JPY1,000)	3

*The maintenance cost and capacity utilization rate are taken from Feed-in Tariff Calculation Committee documents

Solar power system 20-year cash flow (per 1kW)

(JPY'000)	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15	Yr 16	Yr 17	Yr 18	Yr 19	Yr 20
Initial investments	-184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Revenue from electric power sales	20	20	20	20	20	20	19	19	19	19	19	19	19	19	19	19	18	18	18	18
Operating and maintenance costs	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3
Cash flows	-167	17	17	17	17	17	16	16	16	16	16	16	16	16	16	16	15	15	15	15
Cumulative cash flows	-167	-150	-133	-117	-100	-83	-67	-51	-34	-18	-2	14	29	45	61	76	92	107	122	138
IRR	7.1%																			
Gross rate of return	9.2%																			

*Degradation rate is set at 0.5% a year, with facilities operating for 20 years; costs of equipment removal are not considered.

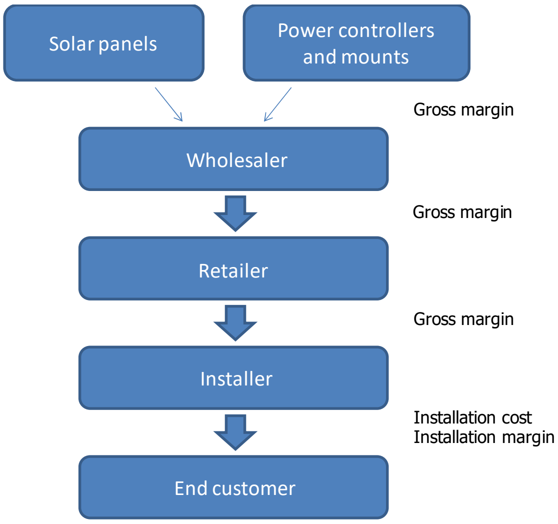
Mechanisms to maintain cost-competitiveness

The company says it achieves lower prices thanks to the following two key aspects. First, it works to procure solar power modules at the lowest possible price by constantly monitoring the market for suppliers of high-quality, low-priced panels. Second, by operating an end-to-end service encompassing procurement, direct sales and installation, Sanix can save money by eliminating multiple intermediaries. The company says this is a substantial advantage as virtually no large providers in this particular niche (small-scale "commercial"—i.e. producing electricity for sale—installations) offer a similar end-to-end service.

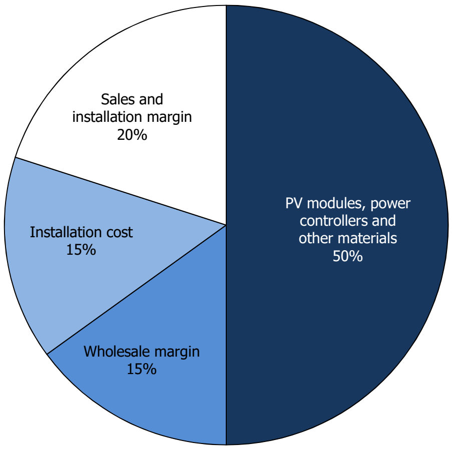
The company's scale provides an advantage in volume discount negotiations. Specifically, the company focuses on small- to medium-sized solar power systems, and operates an order-based business. Hence, based on its installation plans, the company can continually place large-lot orders with solar power module suppliers. In contrast, given the order volume from small-scale providers that specialize in residential solar power systems are small, major solar power module manufacturers do not have the sales structure to deal directly with these small-lot dealers (i.e., order volume too small to make it worth dealing directly with these small-lot customers). Construction companies that handle mega-solar projects are able to place large-lot order for materials but may not be able to enjoy volume discounts given that such orders are done on an ad hoc basis. Sanix gathers a large number of small and medium-sized orders (i.e., its overall order volume is high and stable), and can deal directly with manufacturers for the best volume discounts. Furthermore, the company is trying to reduce costs by producing equipment such as inverters and panel mounts in-house.

With regard to the second aspect, generally within the sales channel, manufacturers, wholesalers and retailers of solar power panels, panel mounts and inverters add their own margin at each stage. By the time the product reaches the consumer, these margins add up to a substantial premium inflating the final price. Sanix does everything more or less by itself, sharing the savings with the customer as a lower price while earning a healthy margin. This is critically important because for the customer, a "commercial" installation is an investment and the initial price determines the return on this investment over the years.

Solar Power Value Chain



Breakdown of Solar Power Costs and Profit Margin



Source: Shared Research based on company data

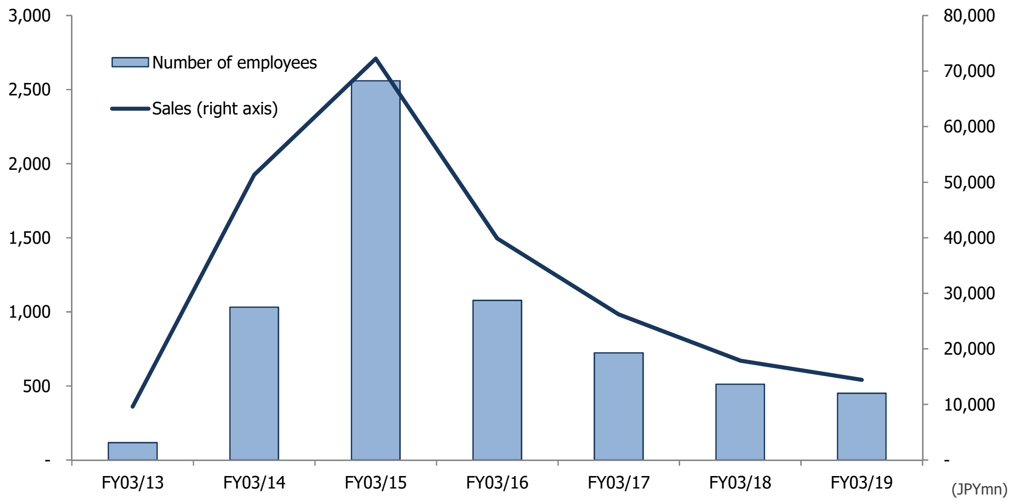
Organization of the solar power business

With regard to organization, in 2010 the company established Shanri (Shanghai) Energy Science and Technology Co., Ltd., as a solar power module manufacturing subsidiary in China. In 2012, to meet the needs of a full-fledged commercial solar power business, the company set up Sanix Engineering Inc. (100%-owned subsidiary) to handle planning, design, sales, installation and consulting for commercial solar power systems. Hence, the company is building on its track record in the residential solar power system field to establish itself in the commercial solar power market. In FY03/15, Sanix combined the commercial and residential PV businesses that had been dispersed throughout the company to form the Solar Engineering (SE) segment. The company established a system to develop the solar power segment from the SE segment headquarters in East and West Japan.

Sanix aggressively expanded its workforce in the SE segment from 58 sales staff and 277 technicians as of the end of March 2013 to 648 sales staff and 1,937 technicians as of end September 2014. However, electricity companies began to suspend responses to applications for connecting solar power facilities in September 2014, highlighting the problem of grid connection volume. In January 2015, the government revised the output control rules, making it difficult for the company to increase sales in the SE segment in line with the personnel expansion. As a cost-cutting measure, Sanix in May 2015 conducted a voluntary retirement program for workers in technical and administrative positions in the SE segment, resulting in the early retirement of 609 employees. This was followed by another 229 in December 2015, again mostly in the SE segment. In February 2016, 70 employees across all positions were let go as part of reorganization as the company sought to cope with falling sales. Between June and July 2016, about 500 employees left in a new early retirement program.

In April 2017, Sanix integrated the SE business departments in western and eastern Japan into a single SE business division, streamlining the organization into an efficient management structure.

Sales of commercial and residential PV businesses and the number of employees



	FY03/12	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19
Sales (JPYmn)	1,411	9,617	51,340	72,247	39,871	26,225	17,870	14,427
Number of employees	25	117	1,032	2,560	1,077	723	512	451

Source: Shared Research based on company data

Structure of earnings of the SE segment

SE segment sales

Sales in the SE segment primarily consist of sales from installations of solar power systems. A simple formula for calculating sales is the capacity installed (kW) as measured by the number of units sold multiplied by system price per kW.

Sales and sales volume for the SE segment

(JPYmn)	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19
Total sales	56,637	72,247	39,871	26,225	17,870	14,427
YoY	197.9%	27.6%	-44.8%	-34.2%	-31.9%	-19.3%
PV systems	47,396	67,697	34,419	24,228	16,647	13,661
YoY	206.4%	42.8%	-49.2%	-29.6%	-31.3%	-17.9%
Wholesale of PV systems	9,172	4,451	5,351	1,889	1,026	578
Other	68	98	99	107	196	188
PV systems sales volume (kW)	195,079	299,881	156,395	124,786	91,882	80,614
YoY	308.0%	53.7%	-47.8%	-20.2%	-26.4%	-12.3%
PV system price per kW (JPY'000)	243	226	220	194	181	169
YoY	-24.9%	-7.1%	-2.5%	-11.8%	-6.7%	-6.5%

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods

Sales of solar power systems had been on the rise until Q3 FY03/15 because of government measures to promote solar power generation. However, a major power utility in September 2014 began to put a hold on requests for grid connections, raising concerns about the capacity of power that can be connected to their networks. The government revised its output control rules in January 2015, reducing demand for solar power energy.

The company's unit price per 1kW continues to decline. This is because the company is seeking to compensate for a decline in feed-in tariffs and the benefits of solar power systems by reducing the unit price. Declining material costs and price competition with peers have also contributed to the price fall.

SE segment expenses

These include materials costs, such as solar power modules (including those manufactured in-house) and other solar power system components (such as inverters, power generation monitors, cables, and mounts); labor costs for construction personnel; and fees for outsourced processing. The material costs-to-sales ratio and the labor expense ratio have been declining since

FY03/16. The material costs-to-sales ratio fell because of a decline in procurement prices, such as those for solar cell modules, while the labor expense ratio was lowered as the number of employees declined.

SG&A expenses mainly comprises of fixed components, such sales force labor costs and advertising expenses. SG&A expenses began to decline in FY03/16. Advertising spending fell after the company stopped placing ads in newspapers. Labor costs dropped because of a decline in the number of employees.

Variable costs include materials, outsourced processing, and transportation. The marginal profit ratio was 46.9% in FY03/19 against 46.8% in FY03/18.

SE segment cost structure

(JPYmn)	FY03/14 Act.	FY03/15 Act.	FY03/16 Act.	FY03/17 Act.	FY03/18 Act.	FY03/19 Act.
Total sales	56,637	72,247	39,871	26,225	17,870	14,427
YoY	197.9%	27.6%	-44.8%	-34.2%	-31.9%	-19.3%
CoGS	43,621	60,180	31,853	18,802	12,308	9,740
YoY	-	38.0%	-47.1%	-41.0%	-34.5%	-20.9%
CoGS ratio	77.0%	83.3%	79.9%	71.7%	68.9%	67.5%
Raw materials	-	41,679	22,483	13,320	8,291	5,978
YoY	-	-	-46.1%	-40.8%	-37.8%	-27.9%
% of sales	-	57.7%	56.4%	50.8%	46.4%	41.4%
Labor	-	9,238	4,618	2,253	1,433	1,018
YoY	-	-	-50.0%	-51.2%	-36.4%	-29.0%
% of sales	-	12.8%	11.6%	8.6%	8.0%	7.1%
Gross profit	13,016	12,067	8,017	7,423	5,562	4,687
YoY	-	-	-33.6%	-7.4%	-25.1%	-15.7%
GPM	23.0%	16.7%	20.1%	28.3%	31.1%	32.5%
SG&A expenses	8,234	14,358	8,220	5,754	3,893	3,482
YoY	-	-	-42.7%	-30.0%	-32.3%	-10.6%
SG&A-to-sales ratio	14.5%	19.9%	20.6%	21.9%	21.8%	24.1%
Personnel expenses	3,109	5,979	3,594	2,194	1,769	1,724
Operating profit	4,782	-2,291	-202	1,669	1,668	1,204
YoY	-	-	-	-	-0.1%	-27.8%
OPM	8.4%	-3.2%	-0.5%	6.4%	9.3%	8.3%
Marginal profit ratio	35.2%	33.1%	36.8%	44.5%	46.8%	46.9%

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods

Competitors in solar power

Direct competitors include the Hiroshima-based West Holdings Corporation (JASDAQ: 1407), which began as a house renovation firm and expanded into the solar power business. West is shifting from residential solar power systems toward mega-solar projects and commercial solar power systems. The company also provides maintenance services and engages in power and energy-conservation businesses.

Companies that compete with Sanix in a portion of their business include—in solar power modules—Sharp Corporation (TSE1: 6753), Kyocera Corporation (TSE1: 6971), Panasonic Corporation (TSE1: 6752), Mitsubishi Electric Corporation (TSE1: 6503), and Solar Frontier K.K. (subsidiary of Showa Shell Sekiyu K.K. (TSE1: 5002)). In solar power systems sales, partial competitors include Yamada Denki Co., Ltd. (TSE1: 9831), while in installation there are competing housing equipment firms in each local area.

However, there are very few companies competing on an end-to-end basis encompassing manufacture, sales and installation in the way Sanix does. Based on this fact, as mentioned previously, the company may be seen as having an advantage over its competitors through its structure that allows it to offer lower prices. It is also significant that the company has consciously chosen to focus on the 10kW to 50kW system market, thereby avoiding competition. In other words, for small, local housing equipment installers, the 10kW to 50kW range is beyond their capabilities, and for major construction companies, the scale is below their business threshold, meaning excessive competition is unlikely to occur.

Environmental Resources Development (46.6% of sales and 18.3% of operating profit before adjustments in FY03/19)

This segment's business is divided into waste plastic processing, electric power sales, organic waste liquid processing, landfill and other disposal, and others. The waste plastic processing and electric power sales account for a large portion of the segment's operations.

ERD performance

(JPYmn)	FY03/10 Act.	FY03/11 Act.	FY03/12 Act.	FY03/13 Act.	FY03/14 Act.	FY03/15 Act.	FY03/16 Act.	FY03/17 Act.	FY03/18 Act.	FY03/19 Act.
Sales	7,934	9,511	11,890	14,967	16,051	14,735	14,601	17,133	21,755	23,612
YoY	4.4%	19.9%	25.0%	25.9%	7.2%	-8.2%	-0.9%	17.3%	27.0%	8.5%
Waste plastic processing	4,295	5,023	6,673	8,665	9,103	7,534	7,227	7,139	7,556	8,615
YoY	19.2%	16.9%	32.8%	29.9%	5.1%	-17.2%	-4.1%	-1.2%	5.8%	14.0%
Electric power sales	1,276	1,427	2,303	3,370	3,416	3,795	3,986	6,806	11,095	11,603
YoY	-17.7%	11.8%	61.4%	46.3%	1.4%	11.1%	5.0%	70.7%	63.0%	4.6%
Power sales (Tomakomai Power Station)	1,276	1,427	2,303	3,370	3,416	3,795	3,739	3,881	3,474	994
YoY	-17.7%	11.8%	61.4%	46.3%	1.4%	11.1%	-1.5%	3.8%	-10.5%	-71.4%
PPS business	-	-	-	-	-	-	247	2,925	7,621	10,609
YoY	-	-	-	-	-	-	-	-	160.5%	39.2%
Organic waste liquid processing	1,474	1,444	1,595	1,602	1,768	1,635	1,604	1,768	1,748	1,958
Landfill and other disposal	415	939	706	607	628	619	702	648	654	788
Others	472	676	611	722	1,134	1,150	1,080	770	701	646
Gross profit	424	1,337	1,974	3,739	3,596	2,793	2,177	3,023	2,846	4,687
GPM	5.3%	14.1%	16.6%	25.0%	22.4%	19.0%	14.9%	17.6%	13.1%	19.9%
SG&A expenses	1,537	1,553	1,686	2,171	2,232	1,823	1,895	1,994	1,873	3,482
SG&A-to-sales ratio	19.4%	16.3%	14.2%	14.5%	13.9%	12.4%	13.0%	11.6%	8.6%	14.7%
Operating profit	-1,112	-216	288	1,568	1,365	970	282	1,029	972	836
YoY	-	-	-	444.8%	-12.9%	-28.9%	-70.9%	264.9%	-5.5%	-14.0%

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods

From FY03/19, the power sales and new electric power generation businesses will be recategorized as wholesale and retail power sales

Waste plastic processing

The waste plastic processing business collects plastic generated during the production processes of industrial customers, and Sanix then crushes and processes this plastic at its own factory. The company receives a processing fee for these services from customers whose waste it collects. Revenues vary according to the volume and fee charged. An important feature of this business is that the company turns the waste plastic it processes into fuel, which is then used in its power generation business.

The company conducts this business nationwide, and its customers span all industries, from large companies to small enterprises. The company's appropriate processing method and system to turn waste plastic into regenerated fuel is appraised highly by its customers and its processing volume is increasing.

Plastic fuel sales

(JPYmn)	FY03/10 Act.	FY03/11 Act.	FY03/12 Act.	FY03/13 Act.	FY03/14 Act.	FY03/15 Act.	FY03/16 Act.	FY03/17 Act.	FY03/18 Act.	FY03/19 Act.
Sales	4,295	5,023	6,673	8,665	9,103	7,534	7,227	7,139	7,556	8,615
YoY	19.2%	16.9%	32.8%	29.9%	5.1%	-17.2%	-4.1%	-1.2%	5.8%	14.0%
Volume processed (tons)	241,000	290,738	348,854	370,362	404,794	363,440	381,584	330,599	324,249	328,893
YoY	41.9%	20.6%	20.0%	6.2%	9.3%	-10.2%	5.0%	-13.4%	-1.9%	1.4%
Processing price (JPY'000)	17.8	17.3	19.1	23.4	22.5	20.7	18.9	21.6	23.3	26.2
YoY	-16.0%	-3.1%	10.7%	22.3%	-3.9%	-7.8%	-8.6%	14.0%	7.9%	12.4%

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods

The company entered the industrial waste processing business in 1994. It has established a large network of plants nationwide, through which it processes and recycles industrial waste. As of May 2019, the Sanix Group operated factories (waste plastic intermediate processing plants) at 15 locations throughout Japan. The plants were set up for the purpose of processing industrial waste plastic generated by companies and other work sites.

Its customers span all industries, from large companies to small enterprises, and total around 7,500 companies. In FY03/19, the company's total annual amount processed was around 330,000 tons. According to the company, this is the largest amount processed in Japan. Japan's waste plastic processing market was approximately 4.85mn tons in 2017, so the company's processing capacity is equivalent to about 7% of all waste plastic processed annually in Japan.

Sanix's waste plastic recycling flow is as follows.

- The company collects waste plastic generated by companies and other work sites and delivers it to the processing plant;
- The plastic is separated by suitable or non-suitable use as fuel;
- Plastic is processed in a crusher;
- After crushed, the suitable plastic is compressed into 1-meter cubes and packaged for use as plastic fuel. The plastic not suitable for fuel is processed at cement companies, or used landfills.

Since Sanix is able to process all types of plastic, but subcontracts this to a number of waste processing companies and provides strict guidance in the separation of such waste. All waste plastic storage and processing are conducted in enclosed spaces (inside plants and storage areas), thereby preventing airborne dispersion of waste, spills and noise pollution. Waste brought to the company's plants is also strictly managed, including through analysis and testing, throughout the processing system.

Article 3 of Japan's Waste Processing Law, which was amended in 2000, stipulates "A business operator must take responsibility for waste generated in its operations and dispose of such waste appropriately." This means that companies generating industrial waste are responsible for the waste's processing and disposal. Although the law mandates processing by the companies generating waste, such companies may contract this work out to authorized industrial waste processors. However, if an industrial waste processor improperly processes or illegally dumps waste, the company that generated the industrial waste and contracted the industrial waste processor may be liable to criminal penalties and obligated to restore a damaged area to its original state. For this reason, when a waste generating company selects a waste plastic processor, an important criterion is not only price but also whether the contractor will process the waste appropriately. The customer usually inspects the processing facilities and confirms the equipment and processing methods to be employed. Sanix has built a reputation for its appropriate processing, and this has been a decisive factor in the growth of the business.

Competition in waste plastic recycling generally encompasses three to four operators in each of Japan's 47 prefectures. Major operators include Taiheiyo Cement Corporation (TSE1: 5233), Mitsubishi Materials Corporation (TSE1: 5711), and JFE Kankyo Corporation (subsidiary of JFE Holdings, Inc. (TSE1: 5411)). In addition to its reliability for appropriate recycling methods, Sanix says that its other strength is that it generates power after recycling; meaning customers are able to contribute to the effective reuse of waste materials. Furthermore, the recycling capacity of each plant is high enough to accept large and steady waste shipments.

Factors affecting earnings of the waste plastic processing business

Sales of the waste plastic recycling may be calculated by multiplying the acceptance volume of waste by the average acceptance unit price. The acceptance volume is dependent on the overall volume of industrial waste generated in Japan. Although this volume is affected to a certain extent by the fortunes of economy, customers use waste processing firms on an ongoing basis and this usage does not greatly fluctuate. The recycling unit price is determined by negotiation, and may be affected by such factors as area, fluctuation in expenses, and the level of economic activity.

Waste plastic recycling companies are also involved in the sale of plastic fuel, and although the company sells plastic fuel to Sanix Energy Inc., these sales are eliminated as intercompany transactions at the consolidated level. In addition, the company also sells plastic fuels as boiler fuel to paper companies.

Cost of goods sold for industrial waste recycling business mainly comprises of outsourced work and labor costs. These two costs are essential for the operation of the processing plants, and are estimated to be partially controlled depending on the level of capacity utilization. Consequently, the main factors affecting profitability of the waste plastic recycling business are fluctuation in recycling volume, fluctuation in unit processing price, sales volume of post-processed plastic fuel, and fluctuation of selling prices.

Power generation business

Revenue at the power generation business largely comes from retail sales of procured electricity to general households and wholesale to electricity companies.

Sanix purchases electricity from power plants operated by its subsidiaries and customers using solar power systems the company has built and sold. Further, it procures electricity via face-to-face negotiations with electricity companies and purchases it from Japan Electric Power eXchange (JPEX). Because purchasing electricity from JPEX is relatively expensive, an increase in the share of electricity procured from JPEX tends to lead to a decline in profit margins at the power generation business. In FY03/18, the company increased the share of electricity procured from JPEX as it was under pressure to meet increasing demand, which pushed down profit margins at the ERD business. From FY03/19 onward, by integrating the power generation business at the Tomakomai Power Plant with that in Honshu, the company plans to lower the share of electricity procured from JPEX and stabilize procurement costs.

In retail sales, the company sells electricity to low-voltage consumers (e.g., stores, offices, and general households) with contract load of less than 50kW, and to high-voltage consumers (e.g., factories, large commercial facilities, and hospitals) with contract load of more than 50kW. In wholesale, the company sells electricity generated at the Tomakomai Power Plant as well as that procured at a relatively low cost via face-to-face negotiations with electricity companies to power producers and suppliers. From FY03/20, Sanix discloses retail sales as part of the independent Energy segment.

Power generation business at Tomakomai Power Plant

A unique feature of the power generation business at the Tomakomai Power Plant is use of waste plastic fuel. In this business, revenue is proportionate to the volume of power generated and it is a stable source of earnings for the company. Although the power plant experienced a variety of problems in the past (see History), and even suspended operations for about six months starting in September 2018 as a result of damage from an earthquake that hit the eastern part of the Iburi region of Hokkaido, it was operating smoothly as of May 2019.

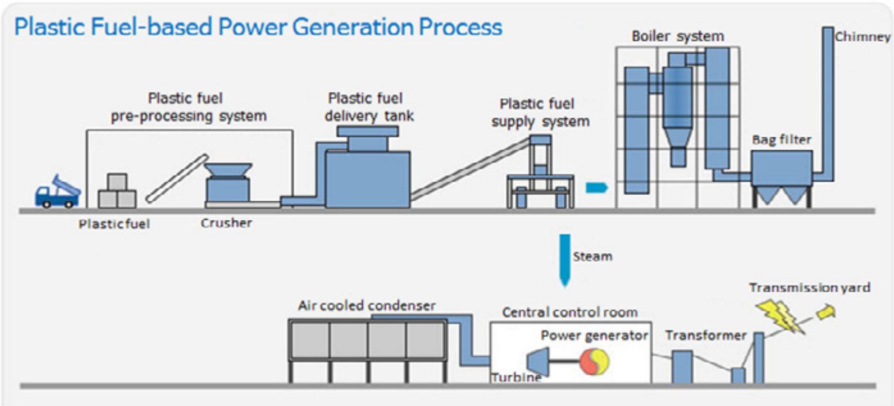
Sanix Energy Inc., which handles the power generation business, was established in October 2001, and commenced operation of the Sanix Energy Tomakomai Power Station in Hokkaido in 2003. This facility runs completely on waste plastic fuel and supplies electricity.

Tomakomai Power Station

Source: Shared Research based on company data

The flow of operations at Sanix Energy's Tomakomai Power Station is as follows.

- ▷ Plastic fuel is re-crushed at the power station into pieces up to 30mm.
- ▷ This plastic fuel is fed into the boiler furnace to produce steam, which turns the turbine to generate electricity.
- ▷ Electricity is sent through transmission lines to supply the electricity purchaser.



Source: Shared Research based on company data

The power station has one turbine generator with the maximum output of 74,000kW (equivalent to the power needed to supply 23,000 households). Of the 74,000kW capacity, approximately 15% is used within the company's plant and the remaining 85% is sold.

The power station's basic design differs from the most common waste-to-energy (WtE) method, which is called Refuse Derived Fuel (RDF). The plant adopts a method whereby finely crushed waste plastic (boiler furnace fuel) only is directly fed through four chutes using compressed air into a single-fuel fired boiler (a boiler fired exclusively by waste plastic). The resulting high-temperature, high pressure steam turns a turbine to generate electricity. After power generation, the steam is recovered using an air-cooled condenser and the water is reused. For this reason, there is absolutely no output of heated wastewater, which is often cited as for power plants. Soot is recovered and together with the incineration ash is detoxified and recycled or sent to its consolidated subsidiary, C&R Co., Ltd. to be used in landfills.

Through technology development, the boiler is operated with an internal temperature of over 850 degrees centigrade, and the generation of dioxins is prevented by cooling this to 200 degrees centigrade.

Sanix Energy's Tomakomai Power Station encountered several problems between 2005 and 2009, and unavoidably temporarily halted operations (see History). It then suspended operations again for about six months as a result of damage from an earthquake that hit the eastern part of the Iburi region of Hokkaido in September 2018. However, the plant appears to have overcome these problems and implemented many improvements to increase its power generation capacity. As of May 2019, it was operating smoothly.

Factors affecting power generation earnings at Tomakomai Power Plant

The simple formula for calculating sales is volume of power sold multiplied by the unit selling price. The unit price is agreed by negotiation.

Main expenses include materials cost (such as landfill and chemicals costs), labor cost and outsourced work cost. Fuel cost is waste plastic processed by other companies in the Sanix Group, meaning there is no fluctuation risk for materials cost. Labor cost may also be assumed as essentially fixed, meaning profits are steady when the plant is operating smoothly.

However, since regular inspections (once every two years) and continual maintenance are necessary, profit is potentially affected if the plant does not operate for the number of days planned or if there is a rise in maintenance costs. In FY03/18, the company booked JPY600mn in inspection and repair costs as income from the sale of power declined at the Tomakomai Power Station, impacted by the regular inspection (conducted once every two years) and annual repairs in 1H. In addition, generation efficiency deteriorates based on fuel quality attributable to the mixture of metal and chlorine, leading to a risk of not being able to meet its electricity sales volume target.

Home Sanitation (21.2% of sales and 48.9% of operating profit before adjustments in FY03/19)

The HS segment provides termite control, foundation repairing and strengthening, and ceiling and floor ventilation work for households.

HS segment performance

(JPYmn)	FY03/10 Act.	FY03/11 Act.	FY03/12 Act.	FY03/13 Act.	FY03/14 Act.	FY03/15 Act.	FY03/16 Act.	FY03/17 Act.	FY03/18 Act.	FY03/19 Act.
Sales	14,056	16,657	15,395	14,814	10,819	7,605	6,519	6,562	8,922	10,752
YoY	-4.1%	18.5%	-7.6%	-3.8%	-27.0%	-29.7%	-14.3%	0.7%	36.0%	20.5%
Termite control services	4,775	4,095	3,498	2,690	3,264	2,783	2,459	2,159	2,628	3,441
YoY	-9.7%	-14.2%	-14.6%	-23.1%	21.3%	-14.7%	-11.6%	-12.2%	21.7%	30.9%
Floor and ceiling ventilation systems	2,996	2,568	2,092	1,310	1,641	1,078	895	854	1,254	1,779
YoY	17.5%	-14.3%	-18.5%	-37.4%	25.3%	-34.3%	-17.0%	-4.6%	46.8%	41.9%
Foundation repairing & building strengthening work	2,977	2,110	1,614	831	930	549	377	582	1,957	2,126
YoY	-37.8%	-29.1%	-23.5%	-48.5%	11.9%	-41.0%	-31.3%	54.4%	236.3%	8.6%
Other	3,308	7,884	8,191	9,983	4,984	3,195	2,788	2,967	3,083	3,406
YoY	62.5%	138.3%	3.9%	21.9%	-50.1%	-35.9%	-12.7%	6.4%	3.9%	10.5%
Gross profit	8,455	7,964	7,381	6,161	4,845	3,755	3,255	3,285	4,947	4,947
GPM	60.2%	47.8%	47.9%	41.6%	44.8%	49.4%	49.9%	50.1%	55.4%	46.0%
SG&A expenses	5,090	5,356	4,899	4,385	3,703	2,121	2,640	2,306	3,475	3,475
SG&A ratio	36.2%	32.2%	31.8%	29.6%	34.2%	27.9%	40.5%	35.1%	38.9%	32.3%
Operating profit	3,365	2,608	2,482	1,776	1,141	1,634	614	979	1,471	1,471
YoY	-3.0%	-22.5%	-4.8%	-28.5%	-35.7%	43.2%	-62.4%	59.4%	50.3%	0.0%

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods
In FY03/15, the company changed the structure for the solar power system sales and installations. Since then, the residential solar power construction business was moved from the HS segment to the SE segment.

Termite control services and floor/ceiling ventilation systems are included in the Home Sanitation (HS) segment and the termite control service is its original business since the company's founding. The company applies termite eradication agents to the wooden-structured houses of customers and installs ventilation systems. Revenue is derived from the provision of services and construction work, as well as anti-termite agents and other products.

In July 2006, the company was the subject of administrative sanctions ordered by the Ministry of Economy, Trade and Industry (METI) for violations of the Act on Specified Commercial Transactions (see History). After that, in addition to thorough measures to prevent recurrence of these problems, the company stopped acquiring new customers. For this reason, although at its peak this business served 320,000 customers, the number fell to about 120,000. Sanix restarted sales efforts in FY03/17 and has since been striving to raise the customer count.

In 2006, the company began focusing on providing after-sales maintenance to existing customers of its termite control and floor/ceiling ventilation system services. In March 2013, its focus shifted again, this time to the installation of solar power generation systems. For these reasons, sales have continued to decline in the termite control and floor/ceiling ventilation system installation businesses.

However, in January 2015 the government revised the Feed-in Tariff Scheme for Renewable Energy, changing output control rules. In response to this change in the segment's business environment, the company promoted the streamlining of operations to achieve sustainable growth, reducing the numbers of both workers and stores in the SE segment. From FY03/17, it plans to take resources it had concentrated in the SE segment and redistribute them to the HS and ES segments with the aim of stimulating a recovery in performance.

Termite-control services

	FY03/10	FY03/11	FY03/12	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19
Sales (JPYmn)	4,775	4,095	3,498	2,690	3,264	2,783	2,459	2,159	2,628	3,441
Treatment area ('000sqm)	2,803	2,433	2,086	1,626	1,990	1,696	1,521	1,339	1,560	2,013
Price per sqm (JPY'000)	1.70	1.68	1.68	1.65	1.64	1.64	1.62	1.61	1.68	1.71

Source: Shared Research based on company data

Sales for termite-control services can be obtained by multiplying the treatment area by the unit price. From FY03/09 to FY03/17, the treatment area declined, but has been trending upward since changed its resource allocation in FY03/17. The unit price has remained stable at around JPY1,500–1,800/sqm.

Foundation repairing and reinforcement work for households

	FY03/10	FY03/11	FY03/12	FY03/13	FY03/14	FY03/15	FY03/16	FY03/17	FY03/18	FY03/19
Sales (JPYmn)	2,977	2,110	1,614	831	930	549	377	1,249	1,957	2,126
Number of construction works	6,479	4,593	3,437	1,807	1,963	1,170	803	3,714	5,551	5,562
Unit price (JPY'000)	0.46	0.46	0.47	0.46	0.47	0.47	0.47	0.34	0.35	0.38

Source: Shared Research based on company data

Sales for foundation repairing and reinforcement work for households can be obtained by multiplying the number of projects by the unit price. The number of projects, which had been on the decline up to FY03/17, began to register a YoY increase that year, reaching 5,562 projects in FY03/19. The unit price has remained stable at around JPY400,000 per project.

The HS segment has GPM of about 40-60%, compared with 20-40% for the company as a whole. We believe that the HS segment has a higher GPM because termite-control services have a high GPM.

Strengths and weaknesses

Strengths

- **Relatively high GPM in mainstay HS segment:** As of FY03/19, the HS segment accounted for 21.2% of sales and 48.9% of operating profit before adjustments, making it the company's mainstay segment. With the contribution of the comparatively high-margin termite control services, the HS segment's 59.3% GPM is well above the companywide average of 33.8% (FY03/19 figures).
- **Niche market player with strong sales know-how:** Solar power generation systems of the sort handled by Sanix, with capacities between 10kW and 50kW—suitable for installation in low-voltage power systems—are too large to be handled by small, local housing equipment installers but are below the size threshold handled by major construction groups. Since the company started out selling termite control services and installing floor/ceiling ventilation systems, it has ample experience in door-to-door sales and a workforce proficient in small- to medium-scale installation projects. Hence the foundations already existed on which the company could build its commercial solar power business focusing on 10kW to 50kW systems ahead of potential competitors. Shared Research feels this is also one of the reasons the company is able to gain volume discounts when procuring solar power modules.
- **Stable earnings source:** The waste plastic processing business, once a customer enters a service contract, the probability of the customer changing service providers is quite low. In addition, stable operations in the power generation business have enabled the company to secure sales and profits. The company has stable source profits from its Environmental Resources Development segment.

Weaknesses

- **Management culture that historically tended to incorrectly discount risk:** Sanix's earnings slumped for 10 years after peaking in FY03/02. One of the causes of this slump was a full-scale entry into the power generation business in FY03/03, which involved capital investment of JPY12.0bn—an amount greater than the entire operating profit at the time. The Environmental Resources Development segment with its power generation business, lost money every year until FY03/11 (see "Segment Breakdown"). In FY03/15, the company expanded personnel sharply in the solar power business, but it incurred losses in FY03/15 and FY03/16 due to a change in the business environment. Shared Research feels that while the company is prone to move aggressively, in hindsight it often underestimated future risks in the past, both to its reputation and bottom line.
- **Sustainable cost competitiveness:** Shared Research believes that Sanix's competitive advantage in solar power business is providing both direct sales and installation, focused on solar power generating system of less than 50kW. The company has developed a system where it can provide a stable volume of orders to solar power generating equipment makers by bundling small lot orders together and offer competitive low prices. On the other hand, Sanix's strategy is based on being cost competitive, and consequently, may lose its competitiveness if competitors and new entrants with greater financial strength, initiates a low-priced strategy with a disregard for profits in the short term. In addition, the company's cost competitiveness is not based on commanding an overwhelming market share through production volume, and this low-price strategy may be imitated by competitors. It is inevitable that when competitors imitate the company's business model, the company may lose its low-price competitive advantage.
- **Continuing fall in FIT scheme prices for solar power:** The FIT scheme price for solar power (10kW or more) dropped from JPY40/kWh in FY 2012 to JPY14/kWh in FY 2019. In addition, the revised FIT Act sets a target of JPY7/kWh by FY 2030 for generation of 10kW or more. Shared Research understands the falling price will lead to reduced demand for installation of solar power systems, but in FY03/19 the SE segment still accounted for 28.4% of total sales.

Group companies

The Sanix Group comprises of the parent company and 10 consolidated subsidiaries.
The main subsidiaries are listed below (shareholding ratio in parentheses).

- Sanix Engineering Inc. (100%): planning, design, sales, and installation of commercial solar power systems
- Shanri (Shanghai) Energy Science and Technology Co., Ltd. (100%): Manufacture of PV modules and sales to Sanix.
- Sanix Energy Inc. (98.6%): Purchasing of processed plastic fuel (processed by the parent company for use in its power station), and sales of the electricity

Market

SE segment market overview

Policies to promote solar power in Japan

FIT Act implemented in July 2012 to launch a system of feed-in tariffs for renewable energy

As a policy to promote the spread of renewable energy, the Act on Special Measures Concerning Procurement of Renewable Electric Energy by Operators of Electric Utilities (often abbreviated to "FIT Act") was enacted in August 2011 and implemented in July 2012. The result was a feed-in tariff mechanism under which the government guarantees the purchase of electricity generated by five types of renewable energy sources, such as solar, wind, and geothermal power, at predetermined prices for a certain period of time. The costs of purchasing power is added to electricity prices as a levy.

The spread of solar power in Spain and Germany is attributed to the introduction of a system similar to the feed-in tariff mechanism. The use of solar power tends to rise when purchase prices for renewable energy are high.

Revised FIT Act implemented in April 2017

According to a document released by the Agency for Natural Resources and Energy, the combined capacity of power generation facilities that use renewable sources reached 53.2mn kW at end October 2016, about 2.5 times the level of end June 2012, when the figure was about 20.6mn Kw. The cost of purchasing renewable energy, which was JPY0.3tn in fiscal 2012, rose to JPY2.3tn in fiscal 2016 (of which the levy was JPY1.8tn, JPY675 per average household). The agency expects that the cost of renewable energy purchases will increase to JPY3.7-4.0tn in 2030.

In April 2017, the Partial Revision of the Act on Special Measures Concerning Procurement of Electricity from Renewable Energy Sources by Electricity Utilities (the revised FIT Act) was implemented to address the growing financial burdens on the public and an increase in idle facilities. The revised FIT Act sets forth medium- to long-term purchase price targets and calls for the establishment of a system of competitive bidding.

Purchase of excess electricity from systems of less than 10kW

For solar power generation systems of less than 10kW, the FIT scheme is applied, and surplus solar power generated by households is sold to electric utility companies. When the scheme was launched in 2009, the feed-in tariff for surplus power was set at JPY48/kWh (including tax) to promote use. Electricity companies were to purchase power generated at a fixed tariff for 10 years from installation of the solar power system. The tariff for newly installed generation capacity has been lowered each year thereafter. The feed-in tariffs for fiscal 2016 (March 2017) and later are shown in the table below.

Under the revised FIT Act, the target rate for residential solar power in 2019 will be roughly equivalent to household electricity prices (JPY24/kWh). The law also calls for the purchase price to match the market price (JPY11/kWh) at an early date in 2020 or thereafter.

Feed-in tariffs for less than 10kW of solar power

Procurement type		Price per 1kWh				Procurement period
		FY2016	FY2017	FY2018	FY2019	
Less than 10kW	Output control equipment not required	JPY31	JPY28	JPY26	JPY24	10 years
	Output control equipment required	JPY33	JPY30	JPY28	JPY26	
Less than 10kW (double power generation)	Output control equipment not required	JPY25	JPY25		JPY24	
	Output control equipment required	JPY27	JPY27		JPY26	

Source: Shared Research with data from the Agency for Natural Resources and Energy
*The installation of output control equipment is required within the service areas of Hokkaido Electric Power Company, Tohoku Electric Power Company, Hokuriku Electric Power Company, Chugoku Electric Power Company, Shikoku Electric Power Company, Kyushu Electric Power Company, and Okinawa Electric Power Company.

Net metering for systems of 10kW or more

In July 2012, a system called "net metering" was established within the FIT scheme, for facilities generating 10kW of solar power or more. Under this scheme, producers can sell all power generated to electricity companies, regardless of their own consumption. In 2012, the tariff stood at JPY40/kWh (excluding tax). The tariff is fixed for 20 years, from the time of installation. The tariff was lowered in 2013 and 2014, to JPY36/kWh (excluding tax) and JPY32/kWh (excluding tax) respectively. The tariff was further lowered in fiscal 2015 to JPY29/kWh (excluding tax) for facilities concluding connection contracts with electricity companies by June and to JPY27/kWh (excluding tax) for facilities concluding connection contracts in July and later. The tariff was lowered yet again in 2016, to JPY24/kWh (excluding tax). The feed-in tariffs for fiscal 2016 and later are shown in the table below.

Under the revised FIT Act, the target rate for non-residential solar power is JPY14/kWh in 2020 and JPY7/kWh in 2030.

Feed-in tariffs for 10kW or more of solar power

<table>
<tr><th rowspan="2">Procurement type</th><th colspan="4">Procurement price per 1kWh</th><th rowspan="2">Procurement period</th></tr>
<tr><th>FY2016</th><th>FY2017</th><th>FY2018</th><th>FY2019</th></tr>
<tr><td>From 10kW to less than 500kW</td><td>JPY24</td><td>JPY21</td><td>JPY18</td><td>JPY14</td><td rowspan="3">20 years</td></tr>
<tr><td>From 500kW to less than 2,000kW</td><td>JPY24</td><td>JPY21</td><td>JPY18</td><td></td></tr>
<tr><td>2,000kW or more</td><td>JPY24</td><td colspan="3">Determined by auction</td></tr>
</table>

Source: Shared Research with data from the Agency for Natural Resources and Energy

The tariff and purchase period set under the FIT scheme are set each year by the Minister of Economy, Trade and Industry prior to the commencement of the fiscal year. The minister is required to take into account the opinions of a neutral, third-party committee (Feed-in Tariff Calculation Committee), which conducts public deliberations.

SE segment barriers to entry

It is possible for a local home builder to go into the solar power generation system installation business tomorrow. However, given that Sanix (involved in the whole process from manufacturing to sales, to installation and maintenance), has already achieved low prices of sources, generated some brand equity, and gained scale to leverage advertising costs, new entrants may find it difficult to compete with the company. Sanix has also cut costs and made installations more efficient by producing inverters in-house and changing panel mounts. The company hopes that unique products and installation methods will allow it to lower costs—a further competitive advantage.

Significant capital investment and operating know-how are required in the plastic waste recycling business. Consequently, given the additional capital investment and know-how needed post-recycling, there appears to be little merits for a new company to enter into this business field.

Environmental Resources Development (ERD) segment market overview

History of electricity business liberalization

After World War II, the Japanese government controlled electricity rates, but regional electric power companies took on the burden of generating, distributing, and retailing electricity to consumers in their relative regions. After the bursting of Japan’s bubble economy in the 1990s, in order to correct the high costs of the electricity business and the disparity with fees overseas, the government initiated reforms with the aim of introducing elements of competition to the business. Since that time, the Electricity Business Act has been revised four times, in 1995, 1999, 2003, and 2014, and the electricity business has been liberalized in stages.

1995: Liberalization of power generation

The 1995 revision of the Electricity Business Act liberalized power generation, and it became possible for Independent Power Producers (IPPs) to generate and provide electricity to electric power companies.

1999: Liberalization of retail sales to large users

The 1999 revision liberalized some aspects of retail sales. Retail sales to large users such as large factories, department stores, and office buildings, which account for some 20-30% of electricity demand, were liberalized, and new electric power generation (Power Producer and Supplier [PPS]) was permitted. In addition, electricity rate controls were abolished.

2003: Liberalization of retail sales to mid-size users

The 2003 revision liberalized retail sales to mid-size users (with contract demand of 50kW or more and high voltage), including supermarkets and small and medium factories and buildings. This meant more than half of electricity sales volume had been liberalized.

2014: Liberalization of retail sales to small users (total retail liberalization)

The 2014 revision liberalized retail sales to small users, including ordinary households. This completed the liberalization of retail electricity sales.

New electric power generation (PPS) sales volume and share

New electric power generation sales volume is trending upward, as is the share of total electric sales volume. According to the Electricity and Gas Market Surveillance Commission's Electricity Trading Report, new electric power generation sales volume in December 2018 was 10,357,896 MWh (+10.8% YoY) and the share of total electric sales volume was 14.8% (+2.1pp YoY).

New electric power generation sales volume

(MWh)	Jun 2016	Dec 2016	Jun 2017	Dec 2017	Jun 2018	Dec 2018
Electric power sales volume	64,313,738	70,025,106	63,291,539	73,509,262	64,706,047	69,871,708
YoY	-	-	-1.6%	5.0%	2.2%	-4.9%
PPS	4,607,055	6,076,153	7,222,897	9,352,409	9,290,129	10,357,896
YoY	-	-	56.8%	53.9%	28.6%	10.8%
As % of total power sales	7.2%	8.7%	11.4%	12.7%	14.4%	14.8%

Source: Shared Research based on Electricity and Gas Market Surveillance Commission's Electricity Trading Report

HS segment market overview

According to the Yano Research Institute's report entitled PCO/TCO/Fumigation Service Market in Japan: Key Research Findings 2016, the termite control operator (TCO) service market has remained stable at about JPY45.0bn. The fiscal 2016 forecast for the TCO service market (operator sales basis) was JPY46.9bn (+0.8% YoY).

TCO service market trends

(JPYmn)	2011	2012	2013	2014	2015	2016
Termite control operator (TCO) market size	46,680	45,760	46,600	45,920	46,470	46,860
YoY	-	-2.0%	1.8%	-1.5%	1.2%	0.8%

Source: Yano Research Institute's PCO/TCO/Fumigation Service Market in Japan: Key Research Findings 2016
Note: Fiscal 2016 figures are forecasts.

Listed companies involved in termite control are Duskin (TSE1: 4665), ASANTE (TSE1: 6073), NITTOH (NSE2: 1738), and Freesia Macross (TSE2: 6343) subsidiary Picoi.

Comparison of competitor performance

	Sanix (HS segment)	Duskin	NITTOH	Picoi
Sales (JPYmn)	10,752	110,712	1,147	5,337
Segment profit (JPYmn)	2,231	13,406	150	707
Profit margin	20.7%	12.1%	13.1%	13.2%
Extermination cost (tax excluded)	JPY92,000 up to 40sqm, and JPY2,300/sqm over 40sqm	JPY112,500 up to 50sqm, and JPY2,250/sqm over 50sqm	Estimate required	Estimate required

Source: Shared Research based on data from the various companies
Duskin figures are the door-to-door sales group's FY03/19 results; NITTOH figures are the home services business' FY03/19 results; Picoi figures are FY03/18 results.

Historical performance

Full-year FY03/19 results

- Sales: JPY50.7bn (+1.5% YoY)
- Operating profit: JPY1.2bn (-1.8% YoY)
- Recurring profit: JPY1.2bn (+16.0% YoY)
- Net profit*: JPY240mn (-79.7% YoY)

*Net profit attributable to parent company shareholders.

Sales increased in the Home Sanitation (HS), Establishment Sanitation (ES) and Environmental Resources Development (ERD) segments as the company properly distributed its management resources, including human resources. On the other hand, sales declined in the Solar Engineering (SE) segment as the impact of the shrinking solar power market was unavoidable.

In terms of profit, earthquake damage at the Tomakomai Power Plant and early implementation of statutory inspections had a negative impact of JPY1.4bn, but operating profit fell only slightly YoY on increased profit in the Home Sanitation (HS) and Establishment Sanitation (ES) segments. Recurring profit rose on lower non-operating expenses. Net income attributable to parent company shareholders fell due to JPY472mn in extraordinary loss booked to cover expenses expected to be incurred to repair earthquake damage to the Tomakomai Power Plant. Concurrently with the repairs at the Tomakomai Power Plant, Sanix carried out a boiler inspection it had planned for FY03/20 (statutes require it to be conducted every two years), along with a turbine inspection (every four years). With the inspections completed, the company expects operations at the plant to be halted for 1.5 months in FY03/20 (for about 6 months in FY03/19).

Sanix, in the final year of its previous medium-term management plan (for FY03/17 through FY03/19) worked to promote sustainable, stable management and create a structure for ongoing growth. The Tomakomai Power Plant was shut down following the earthquake that hit the eastern part of the Iburi region of Hokkaido in September 2018 (Q2), but was brought back online after repairs that took about six months.

In November 2018, Sanix announced a revision of its full-year FY03/19 forecasts because of earthquake damage at the Tomakomai Power Plant. Progress versus the revised forecasts, sales were at 102.6%, operating profit at 91.5%, recurring profit at 91.6%, and net income attributable to parent company shareholders at 44.9%. In Q4 (January–March 2019), sales exceeded the company's expectations, since in the SE segment the number of facilities for which approval procedures were completed exceeded plan. Operating and recurring profits were both below company forecasts due to a JPY152mn loss on valuation of inventories (booked as CoS) related to inverters developed in house. In addition, reactivation of the Tomakomai Power Plant was delayed by an aftershock in February 2019, which also put downward pressure on operating and recurring profits. Net income attributable to parent company shareholders reached less than 50% of plan as extraordinary loss related to recovery at the Tomakomai Power Plant exceeded expectations because of the aftershock.

Solar Engineering (SE) segment

- Sales: JPY14.4bn (-19.3% YoY)
- Operating profit: JPY1.2bn (-27.8% YoY)

The drop in sales was largely due to a sharp decline in revenues from installations of solar power systems, which fell 17.9% YoY to JPY13.7bn. In addition to the conventional contract installations of solar power systems, Sanix promoted maintenance work related to ancillary equipment and sales of solar power systems with land (Sanix procures land and installs facilities for sale to investors in lots). However, there were fewer installation projects due to lengthening times to approve FIT scheme projects, and the unit price of solar power systems fell.

In FY03/19, sales from solar power system installations, the core business in the segment, were JPY13.7bn (-17.9% YoY). Sales weakened on lower volume, down 12.3% YoY to 80,614kW. However, as the approval procedures began wrapping up from Q2, in Q3 quarter alone, installation sales were JPY3.6bn (+20.8% QoQ) and volume was 20,920kW (+18.4% QoQ) and in Q4 quarter alone, installation sales were JPY4.5bn (+26.3% QoQ) and volume was 27,933kW (+33.5% QoQ). The unit price of solar power systems in FY03/19 was JPY169,000/kW (-6.5% YoY according to Shared Research calculations). The company reduced prices for solar power system installations in step with a decline in purchase prices under the fixed-price purchase scheme (FIT scheme). Approval procedures for facilities to which the 2018 purchasing price of JPY18/kWh (JPY21/kWh in fiscal 2017) was applied began to wrap up in Q2 (July–September 2018) and, accompanying this trend, the company lowered unit prices for solar power systems.

In earnings, the company made progress on streamlining, general cost reductions, and cutting materials costs. However, the segment saw profit fall on a decline in gross profit on weaker sales. In addition, reduced profitability of inventory assets related to inverters developed in house caused Sanix to book a JPY152mn valuation loss (JPY401mn loss in FY03/18).

Gross profit was JPY4.7bn (-15.7% YoY), GPM rose 1.4pp YoY to 32.5%, and the CoS ratio was 67.5%. In addition to the aforementioned narrowed loss on valuation of inventories, the company succeeded in lowering materials costs, and the GPM rose. The materials cost and labor cost ratios fell in the CoS breakdown. The ratio of materials cost to sales (excluding loss on valuation of inventories) fell 3.8pp YoY to 40.4% as the procurement cost of solar power modules fell. The ratio of labor costs to sales fell 1.0pp YoY to 7.1%. Sales fell, but the company reduced its labor cost ratio YoY by transferring some personnel from the SE segment to the HS and ES segments. In standalone Q4 (January–March 2019), gross profit was JPY1.6bn (+24.7% YoY) and GPM 33.2% (+8.0pp YoY). The materials cost ratio (excluding loss on valuation of inventories) was 38.0% (-8.9pp YoY), and labor cost ratio 5.2% (-1.0pp YoY).

SG&A expenses were JPY4.7bn (-10.6% YoY), reflecting a fall in personnel and other expenses. In standalone Q4 (January–March 2019), SG&A expenses were JPY889mn (-6.0% YoY).

SE business marginal profit ratio and breakeven point

The marginal profit ratio (profit ratio after subtracting variable costs such as materials costs, subcontracting costs, and transportation costs) rose 0.1pp YoY to 46.9%. The marginal profit ratio rose slightly as the ratio of subcontracting costs to sales rose, but the ratio of materials costs to sales (excluding valuation loss on inventory assets) fell.

Fixed costs (Shared Research estimate based on monthly average fixed costs disclosed by Sanix) were down JPY864mn or 13.8% YoY to JPY5.4bn because the company transferred personnel from the SE segment to the HS segment. The fixed cost ratio rose 2.4pp YoY to 37.5% as sales fell at a greater rate than fixed costs did. The marginal profit ratio rose and fixed costs fell, so the breakeven point for sales (Shared Research estimate based on monthly average fixed costs disclosed by Sanix) finished at JPY11.5bn, down JPY1.9bn or 14.1% YoY.

Environmental Resources Development (ERD) segment

- ▷ Sales: JPY23.6bn (+8.5% YoY)
- ▷ Operating profit: JPY836mn (-14.0% YoY)

Sales were up, primarily on a rise in revenue from plastic fuel.

Sales from plastic fuel rose 14.0% YoY to JPY8.6bn on an increase in plastic waste intake to 328,893 tons (+1.4% YoY) and efforts to raise the unit price received for waste plastics.

Sales from electric power generation rose 4.6% YoY to JPY11.6bn on increased sales volume of wholesale power to power companies in the new electric power generation (Power Producer and Supplier [PPS]) business, despite the shutdown at the

Tomakomai Power Plant caused by an earthquake that struck the eastern part of the Iburi region of Hokkaido in September 2018. The plant was reactivated in March 2019.

Operating profit fell on a JPY1.4bn burden from the shutdown at the Tomakomai Power Plant and early implementation of statutory inspections, despite contributions from a falling CoGS and improved profitability due in part to a focus on plastic fuel quality. Also contributing were increased sales in the new electric power generation business and measures that were successful in stabilizing energy procurement costs.

Home Sanitation (HS) segment

- Sales: JPY10.8bn (+20.5% YoY)
- Operating profit: JPY2.2bn (+51.7% YoY)

The strong top-line gains reflect growth in multiple areas, including termite control services, where revenues rose 30.9% YoY to JPY3.4bn, in-floor/in-ceiling ventilation system installation work, where revenues rose 43.5% to JPY1.8bn, and foundation repairing and strengthening construction work services to households, where revenues rose 8.6% to JPY2.1bn. The company transferred employees from the SE segment and conducted hiring to expand businesses under the HS segment, and strengthened sales and work operations to provide detailed maintenance proposals to general households.

Profits increased despite higher personnel expenses stemming from increases in staffing levels, thanks to higher sales, improvement in work efficiency, and decline in the outsourced processing cost ratio. GPM was 59.3% (+3.8pp YoY). The share of sales from relatively high-margin services such as termite control services and floor and ceiling ventilation systems installation work increased, while the share of relatively low-margin others (e.g., subcontracted construction work such as renovation) fell.

Establishment Sanitation (ES) segment

- Sales: JPY1.9bn (+33.4% YoY)
- Operating profit: JPY287mn (+60.3% YoY)

Sales were driven by the segment’s mainstay anti-rust equipment installation business (product name: Daelman Shock), where sales rose 77.6% YoY to JPY927mn. By transferring people from its SE business and conducted hiring, the company was able to increase the number of employees at the ES segment and expand the business, focusing especially on sales to owners of building and condominiums and building closer ties with management companies and other partners.

Although personnel expenses and other fixed costs rose on the increase in the staff, the rise in sales as well as improved work efficiency and decline in the outsourced processing cost ratio pushed up profits.

Other topics: Plans for the FIT scheme for fiscal 2019 onward

In March 2019, the Ministry of Economy, Trade and Industry released FIT scheme prices to be paid from fiscal 2019. Solar power generation systems of 10kW to less than 500kW will receive JPY14/kWh (JPY18/kWh in fiscal 2018). The company said it would be able to sell systems at prices where customers could get a return and it could still make a profit due to cost cuts.

Q3 FY03/19 results

- Sales: JPY37.0bn (+1.3% YoY)
- Operating profit: PY978mn (+26.5% YoY)
- Recurring profit: JPY938mn (+68.1% YoY)
- Net income*: JPY193mn (-43.4% YoY)

*Net income refers to net income attributable to parent company shareholders.

Sales increased in the Home Sanitation (HS) and Establishment Sanitation (ES) segments as the company properly distributed its management resources, including the human resources. Moreover, the Environmental Resources Development (ERD) segment saw sales growth due to expansion of electric power sales by the new electric power generation (PPS) business.

Earnings were bolstered by rising sales at the HS, ES, and ERD businesses, which together were more than enough to offset the impact of decline in sales at the SE business and leave the company with higher earnings at both the operating and recurring profit levels. Net income attributable to parent company shareholders fell due to JPY427mn in extraordinary loss booked to cover the expenses expected to be incurred to repair the damage to the Iburi power plant caused by the earthquake that struck the eastern part of the Iburi region of Hokkaido.

Sanix implemented a new medium-term management plan (for FY03/17 through FY03/19) to cope with the business environment surrounding the solar electric power market. According to the new medium-term plan, in FY03/18, it established a general headquarter for the SE, HS, and ES businesses, a cross-segmental organization that enables employees to join forces and conduct effective sales and installation activities across the three businesses that share the same sales offices. Further, in a bid to deploy personnel properly, the company transferred part of the SE segment staff to the HS and ES segments.

The Iburi power plant was shut down following the earthquake that hit the eastern part of the Iburi region of Hokkaido in September 2018. The company is currently in the process of repairing the damage caused by the earthquake. Restart is scheduled for March 2019. The damage is expected to have a full-year impact of JPY1.2bn in lower sales and JPY1.2bn decline in operating profit. Sanix has already booked an extraordinary loss of JPY427mn. Concurrently with the repairs, the company also carried out a boiler inspection (every two years) and a regular turbine inspection (every four years) that had been slated for FY03/20. It thus expects the power plant to be operating throughout FY03/20.

In November 2018 Sanix revised its full-year FY03/19 forecasts due to the damage to the Tomakomai Power Plant. In cumulative Q3, versus the company's revised full-year forecasts, progress was sales 74.9% (73.2% of full-year results in cumulative Q3 FY03/18), operating profit 73.1% (62.0%), recurring profit 72.7% (54.8%), and net income 36.1% (28.9%). Excluding the ERD business, progress was largely as planned at the segment level, while operating profit for the ERD business was above plan. This is because the periodic inspection (repair) costs will be booked in Q4 rather than in Q3 as previously planned.

Solar Engineering (SE) segment

- Sales: JPY9.7bn (-24.8% YoY)
- Operating profit: JPY513mn (-61.9% YoY)

Sales from solar power system installations were JPY9.1bn (-22.9% YoY). There were fewer installation projects due to lengthening times to approve FIT scheme projects.

In cumulative Q3, sales from solar power system installations, the core business in the segment, were JPY9.1bn (-22.9% YoY). Sales weakened on lower volume, down 19.4% YoY to 52,681kW. However in standalone Q3, installation sales were JPY3.6bn (+20.8% QoQ) and volume was 20,920kW (+18.4% QoQ) as the approval procedures began wrapping up from Q2. The unit price of solar power systems in cumulative Q3 was JPY174,000/kW (-4.4% YoY according to Shared Research calculations). The company reduced prices for solar power system installations in step with a decline in purchase prices under the fixed-price purchase scheme (FIT scheme). Approval procedures for facilities to which the 2018 purchasing price of JPY18/kWh (JPY21/kWh in fiscal 2017) was applied began to wrap up in Q2 (July JPY18/kWh (JPY21/kWh in fiscal 2017) scheme (FI accompanying this trend, the company lowered unit prices for solar power systems.

In earnings, the company promoted cost reductions by moving personnel to the HS business and cutting materials costs. However, the segment saw profit fall on a decline in gross profit on weaker sales. In Q3 standalone, profit rose despite lower sales. The OPM increased on lower cost-of-sales and SG&A expense ratios.

Gross profit was JPY3.1bn (-27.7% YoY), GPM fell 1.3pp YoY to 32.1%, and the CoS ratio was 67.8%. The company succeeded in lowering materials costs, and the percentage drop in GPM was lower than that for unit prices for solar power systems. The materials cost and labor cost ratios fell in the CoS breakdown. The ratio of materials cost to sales fell 1.5pp YoY to 41.6% as the procurement cost of solar power modules fell. The ratio of labor costs to sales fell 0.8pp YoY to 8.0%. Sales fell, but the company reduced its labor cost ratio YoY by transferring some personnel from the SE segment to the HS and ES segments. In Q3 standalone, gross profit was JPY1.3bn (+1.4% YoY) and GPM 35.9% (+4.0pp YoY). The materials cost ratio was 38.6% (-6.8pp YoY), and labor cost ratio 7.6% (-1.8pp YoY).

SG&A expenses were JPY2.6bn (-12.0% YoY), reflecting a fall in personnel and other expenses. In Q3 standalone, SG&A expenses were JPY876mn (-3.4% YoY).

SE business marginal profit ratio and breakeven point

The marginal profit ratio (profit ratio after subtracting variable costs such as materials costs, subcontracting costs, and transportation costs) fell 1.6pp YoY to 46.4%. The marginal profit ratio dropped as the ratio of subcontracting costs to sales rose.

Fixed costs (Shared Research estimate based on monthly average fixed costs disclosed by Sanix) were down JPY846mn or 17.6% YoY to JPY4.0bn because the company transferred personnel from the SE segment to the HS segment. Fixed cost ratio rose 3.6pp YoY to 41.0% as sales fell at a greater rate than fixed costs did. Despite lower marginal profit ratio, as a result of the fall in fixed costs, the breakeven point for sales (Shared Research estimate based on monthly average fixed costs disclosed by Sanix) finished at JPY8.5bn, down JPY1.5bn or 14.7% YoY.

Environmental Resources Development (ERD) segment

- Sales: JPY17.9bn (+12.6% YoY)
- Operating profit: JPY1.1bn (+116.7% YoY)

Sales rose on higher plastic fuel income. Sales from plastic fuel rose 12.9% YoY to JPY6.5bn on an increase in plastic waste intake to 254,985 tons (+2.8% YoY) and efforts to raise the unit price received for waste plastics. Sales from electric power generation rose 14.2% YoY to JPY8.9bn on increased sales volume of wholesale power to power companies in the new electric power generation (PPS) business. The Tomakomai Power Plant shutdown caused by the Hokkaido earthquake in September 2018 resulted in a YoY loss of roughly JPY800mn power sales. The restart of the power station is scheduled for March 2019 due to time required to procure made-to-order components.

Profit rose on higher GPM accompanying an increase in the unit price received for waste plastics at the waste plastics processing business. In Q3 FY03/18, the company recorded repair expenses of JPY600mn associated with regular biennial inspections at the Tomakomai Power Plant. However, inspections were not conducted during cumulative Q3 FY03/19, which also contributed to increased profit. Additionally, higher sales and stabilization of electricity procurement costs at the new electric power generation (PPS) business contributed to profit growth. In Q2 FY03/18, profit margins fell as the company had to resort to purchasing high-cost electricity to handle increased sales volume. However, in Q4 FY03/18 Sanix changed its procurement method and became able to secure profit corresponding to sales volume without being influenced by supply and demand. In Q3 standalone, profit fell YoY and QoQ due to the shutdown at the Tomakomai Power Plant following the Hokkaido earthquake.

Home Sanitation (HS) segment

- Sales: JPY8.1bn (+19.3% YoY)
- Operating profit: JPY1.7bn (+54.5% YoY)

The strong top-line gains reflect growth in multiple areas, including termite control services, where revenues rose 33.1% YoY to JPY2.6bn, in-floor/in-ceiling ventilation system installation work, where revenues rose 40.4% to JPY1.3bn, and foundation repairing and strengthening construction work services to households, where revenues rose 12.0% to JPY1.6bn. The company transferred employees from the SE segment to expand businesses under the HS segment, and strengthened sales and work operations to provide detailed maintenance proposals to general households.

Profits increased despite higher personnel expenses stemming from increases in staffing levels, thanks to higher sales, improvement in work efficiency, and decline in the subcontracting cost ratio. GPM was 59.8% (+4.7pp YoY). The share of sales from relatively high-margin services such as termite control services and floor and ceiling ventilation systems installation work increased, while the share of relatively low-margin others (e.g., subcontracted construction work such as renovation) fell.

Establishment Sanitation (ES) segment

- Sales: JPY1.4bn (+32.5% YoY)
- Operating profit: JPY196mn (+50.8% YoY)

Sales were driven by the segment's mainstay anti-rust equipment installation business (product name: Daelman Shock), where sales rose 85.3% YoY to JPY667mn. By transferring people from its SE business the company was able to increase the number of employees at the ES segment and expand the business, focusing especially on sales to owners of building and condominiums and building closer ties with management companies and other partners.

Although personnel expenses and other fixed costs rose on the increase in the staff, the rise in sales as well as improved work efficiency and decline in the outsourced processing cost ratio pushed up profits.

Other topics: Plans for the FIT scheme for fiscal 2019 onward

In January 2019 the government committee that determines the price paid under the FIT scheme released its proposal for prices to be paid for fiscal 2019. The plan calls for solar power generation systems of 10kW to less than 500kW to receive JPY14/kWh (JPY18/kWh in fiscal 2018). The company said it would be able to sell systems at prices where customers could get a return and it could still make a profit due to cost cuts.

1H FY03/19 results

- Sales: JPY24.4bn (+1.2% YoY)
- Operating profit: JPY688mn (+398.6% YoY)
- Recurring profit: JPY689mn (versus loss of JPY29mn in 1H FY03/18)
- Net profit*: JPY194mn (versus loss of JPY155mn in 1H FY03/18)

*Net profit attributable to parent company shareholders.

Sales in the Solar Engineering (SE) segment decreased due to the shrinking market of solar electric power generation. However, sales increased in the Home Sanitation (HS) and Establishment Sanitation (ES) segments as the company properly distributed its management resources, including the human resources. Moreover, the Environmental Resources Development (ERD) segment saw sales growth due to expansion of electric power sales by the new electric power generation (PPS) business.

Earnings were bolstered by rising sales at the HS, ES, and ERD businesses, which together were more than enough to offset the impact of decline in sales at the SE business and leave the company with higher earnings at both the operating and recurring profit levels. Underpinned by the gains at the recurring profit level, net income attributable to parent company shareholders also finished higher despite a JPY377mn in extraordinary loss booked to cover the expenses expected to be incurred to repair the damage to the Tomakomai Power Plant caused by the earthquake that struck the eastern part of the Iburi region of Hokkaido.

Sanix implemented a new medium-term management plan (for FY03/17 through FY03/19) to cope with the business environment surrounding the solar electric power market. According to the new medium-term plan, in FY03/18, it established a general headquarter for the SE, HS, and ES businesses, a cross-segmental organization that enables employees to join forces and conduct effective sales and installation activities across the three businesses that share the same sales offices. Further, in a bid to deploy personnel properly, the company transferred part of the SE segment staff to the HS and ES segments.

The Tomakomai Power Plant was shut down due to an earthquake that hit the eastern part of the Iburi region of Hokkaido in September 2018 (Q2). The company is currently in the process of inspecting the plant and repairing the damage caused by the earthquake, and expects to have the plant up and running again in early March 2019.

In light of the disaster affecting the Tomakomai Power Plant, the company announced revisions to its FY03/19 full-year forecast as it released 1H financial results. Verses the revised full-year forecast, 1H sales achieved 49.5% (48.3% in 1H FY03/18 verses full-year FY03/18 results), operating profit 51.4% (11.1%), recurring profit 53.4% (recurring loss of JPY29mn in 1H FY03/18 versus full-year recurring profit of JPY1.0bn in FY03/18), and net income attributable to parent company shareholders 36.3% (net loss of JPY155mn in 1H FY03/18 versus full-year net income of JPY1.2bn in FY03/18). In 1H FY03/18, the company conducted regular inspections at Tomakomai Power Plant and recorded JPY600mn in repair expenses, which resulted in sluggish progress for all profit categories.

Solar Engineering (SE) segment

- ▷ Sales: JPY5.9bn (-31.8% YoY)
- ▷ Operating profit: JPY55mn (-94.1% YoY)

The drop in sales reflects a sharp decline in revenues from installations of solar power systems, which fell 30.4% YoY to JPY5.6bn. In 1H FY03/19, the number of facilities fell as FIT business plan approval took longer than expected. According to the "Status of review of application for FIT" published in July 2018 by the Agency for Natural Resources and Energy, review process has begun on schedule for applications seeking approval to apply 2018 FIT rates. Approval procedures began wrapping up during Q2 (July–September 2018), and the installation volume is expected to increase starting in Q3. According to the company, customers can reap benefits from installing solar power systems, and hence there is still demand for them.

In earnings, the company promoted cost reductions by moving personnel to the HS business and cutting materials costs. However, the segment saw profit fall on a decline in gross profit on weaker sales.

Sales from solar power system installations, the segment's core business, were JPY5.9bn (-30.4% YoY). Sales weakened on lower volume at a 25.3% drop YoY to 31,761kW. The enforcement of the revised FIT Act elongated the period required for receiving approval of solar power systems, which also led to the decline in installation volume. The unit price of solar power systems (dividing sales from installations by solar power system volume) was JPY175,000/kW (-6.8% YoY according to Shared Research calculations). The company reduced prices for solar power system installations in accordance with a decline in purchase prices under the fixed-price purchase scheme (FIT scheme). Approval procedures for facilities to which the 2018 purchasing price of JPY18/kWh (JPY21/kWh in fiscal 2017) is applied began to wrap up in Q2 (July–September 2018). This contributed to sales, and with this, the company lowered unit prices for solar power systems.

Gross profit was JPY1.8bn (-40.5% YoY), GPM fell 4.4pp YoY to 28.9%, and the CoGS ratio was 70.2%. The company found success with its efforts to lower material costs, and the drop in GPM was lower than the rate of decline in unit prices for solar power systems. The materials cost and labor cost ratios rose in the CoGS breakdown. The ratio of materials cost to sales was on a downward trend since FY03/16 thanks to the company's efforts to lower materials costs for solar power modules and inverters. However, it increased 1.4pp YoY to 43.4% in 1H FY03/19 as the procurement source of solar power modules lowered production volume and adjusted inventory from Q3 FY03/18. The ratio of labor costs to sales fell 0.1pp YoY to 8.8%. Sales fell, but the company maintained a flat labor cost ratio YoY by transferring a portion of personnel in the SE segment to the HS and ES segments.

SG&A expenses were JPY1.7bn (-15.8% YoY), reflecting a fall in personnel and other expenses.

SE business marginal profit ratio and breakeven point

The marginal profit ratio (profit ratio after subtracting variable costs such as materials costs, subcontracting costs, and transportation costs) fell 3.8pp YoY to 45.0%. The marginal profit ratio dropped as the ratio of materials costs to sales rose.

Fixed costs (Shared Research estimate based on monthly average fixed costs disclosed by Sanix) were down JPY696mn or 21.0% YoY to JPY2.6bn because the company transferred personnel from the SE segment to the HS segment. Fixed cost-to-sales ratio rose 6.0pp YoY to 43.9% as sales fell at a greater rate than fixed costs did. Despite lower marginal profit ratio, as a result of the fall in fixed costs, the breakeven point for sales (Shared Research estimate based on monthly average fixed costs disclosed by Sanix) finished at JPY5.8bn, down JPY970mn or 14.3% YoY.

Environmental Resources Development (ERD) segment

- Sales: JPY12.1bn (+19.2% YoY)
- Operating profit: JPY962mn (versus loss of JPY57mn in 1H FY03/18)

Sales from plastic fuel sales rose 11.8% YoY to JPY4.1bn on an increase in plastic waste acceptance volume to 166,000 tons (+2.9% YoY) and efforts to raise the unit price received for waste plastics.

Sales from electric power generation rose 30.0% YoY to JPY6.3bn thanks to growth in volume of wholesale to power producers and suppliers. The Tomakomai Power Plant achieved about the same amount of sales from electric power generation as it did in 1H FY03/18, despite suspending operations for about a month due to the 2018 Hokkaido Eastern Iburi Earthquake in September. The results did not change significantly YoY because the plant had also suspended operations for regular biennial inspections in 1H FY03/18. Sanix forecasts the Tomakomai plant will resume operations early March 2019 because it will require time to procure made-to-order parts beforehand.

Profit rose on higher GPM accompanying an increase in the unit price received for waste plastics at the waste plastics processing business. Regarding electric power generation business revenue, improved electricity generation efficiency at the Tomakomai Power Plant as a result of selectively receiving waste products that can be converted into quality fuel also led to higher profit. In 1H FY03/18, the company recorded repair expenses of JPY600mn associated with regular biennial inspections at the Tomakomai Power Plant. However, inspections were not conducted during 1H FY03/19, which also contributed to increased profit. Additionally, higher sales and stabilization of electricity procurement costs at the new electric power generation (PPS) business contributed to profit growth. In Q2 FY03/18, profit margins fell as the company had to purchase high-cost electricity to handle increased sale volume. However, since Q4 FY03/18, Sanix changed its method for electricity procurement and became able to secure profit corresponding to sales without being influenced by supply and demand for electricity.

Home Sanitation (HS) segment

- Sales: JPY5.5bn (+19.2% YoY)
- Operating profit: JPY1.2bn (+65.3% YoY)

The strong top-line gains reflect growth in multiple areas, including termite control services, where revenues rose 34.2% YoY to JPY1.8bn, in-floor/in-ceiling ventilation system installation work, where revenues rose 37.0% to JPY870mn, and foundation repairing and strengthening construction work services to households, where revenues rose 21.8% to JPY1.1bn. The company transferred employees from the SE segment to expand businesses under the HS segment, and strengthened sales and work operations to provide detailed maintenance proposals to general households.

Profits increased despite higher personnel expenses stemming from increases in staffing levels, thanks to higher sales, improvement in work efficiency, and decline in the outsourced processing cost ratio. GPM rose 5.8pp YoY to 60.5% as the share of sales from relatively high-margin services such as termite control services, floor/ ceiling ventilation system installation work, and foundation repair and building reinforcement work increased while the share of sales from relatively low-margin others (e.g., subcontracted construction work such as reforms) fell.

Establishment Sanitation (ES) segment

- Sales: JPY905mn (+32.1% YoY)
- Operating profit: JPY128mn (+30.6% YoY)

Sales were driven by the segment's mainstay anti-rust equipment installation business (product name: Daelman Shock), where sales rose 79.8% YoY to JPY433mn. By transferring people from its SE business, the company was able to increase the number of employees at the ES segment and expand the business, focusing especially on sales to owners of building and condominiums and building closer ties with management companies and other partners.

Although personnel expenses and other fixed costs rose on the increase in the staff, the rise in sales as well as improved work efficiency and decline in the outsourced processing cost ratio pushed up profits.

Q1 FY03/19 results

- Sales: JPY11.7bn (-3.0% YoY)
- Operating profit: JPY103mn (-74.0% YoY)
- Recurring profit: JPY154mn (-47.3% YoY)
- Net profit*: JPY111mn (-46.9% YoY)

*Net profit attributable to parent company shareholders.

Sales in the Solar Engineering (SE) segment decreased due to an increase in the time required for obtaining approval for solar power systems under the revised FIT Act. However, sales increased in the Home Sanitation (HS) and Establishment Sanitation (ES) segments as the company properly distributed its management resources, including the human resources. Moreover, the Environmental Resources Development (ERD) segment saw sales growth due to expansion of the new electric power generation (PPS) business.

In earnings, while profits rose on higher sales in HS, ES, and ERD, the SE business booked a loss due to weaker sales, leading to an overall decline in profits.

Sanix implemented a new medium-term management plan (for FY03/17 through FY03/19) to cope with the business environment surrounding the solar electric power market. According to the new medium-term plan, in FY03/18, it established a general headquarter for the SE, HS, and ES businesses, a cross-segmental organization that enables employees to join forces and conduct effective sales and installation activities across the three businesses that share the same sales offices. Further, in a bid to deploy personnel properly, the company transferred part of the SE segment staff to the HS and ES segments.

Versus the company forecasts for 1H FY03/19, Q1 sales reached 48.3% (50.1% in Q1 FY03/18 versus 1H FY03/18 results), operating profit 11.9% (287.0% in Q1 FY03/18 versus 1H FY03/18 result), recurring profit 18.8% (recurring profit of JPY292mn in Q1 FY03/18 versus a loss of JPY29mn in 1H FY03/18), and net income attributable to parent company shareholders of 17.3% (net income of JPY209mn in Q1 FY03/18 versus a net loss of JPY155mn in 1H FY03/18). Sales and profit at the SE segment undershot plan, but sales and profits at all the other segments (HS, ES, and ERD) surpassed plan. As a result, overall sales and all profit categories finished the quarter above plan. In Q2 FY03/18, the company posted a loss in the ERD segment due to the booking of repair expenses and suspension of the Tomakomai Power Plant accompanying an inspection required by law once every two years. However, no such inspection was scheduled for Q2 FY03/19.

Solar Engineering (SE) segment

- Sales: JPY2.8bn (-38.2% YoY)
- Operating loss: JPY88mn (vs. a JPY442mn profit in Q1 FY03/18)

The drop in sales reflects a sharp decline in revenues from installations of solar power systems, which fell 37.3% YoY to JPY2.6bn. In Q1 FY03/19, the number of facilities fell as FIT business plan approval took longer than expected. According to the "Status of review of application for FIT" published in July 2018 by the Agency for Natural Resources and Energy, review process has begun on schedule for applications seeking approval to apply 2018 FIT rates. The company expects to obtain approval from Q2 onward. According to the company, customers can reap benefits from installing solar power systems, and hence there is still demand for them.

In earnings, the company promoted cost reductions by moving personnel to the HS business and cutting materials costs. However, the segment booked a loss because of decline in gross profit on weaker sales. As of end Q1 FY03/19, there were 464 employees (versus 512 at end FY03/18) at the SE segment.

Sales from solar power system installations, the segment's core business, were JPY2.6bn (-37.3% YoY). Sales weakened on lower volume at a 37.0% drop YoY to 14,099kW. The enforcement of the revised FIT Act elongated the period required for receiving approval of solar power systems, which also led to the decline in installation volume. The unit price of solar power systems (dividing sales from installations by solar power system volume) was JPY185,000/kW (-0.3% YoY according to Shared Research calculations).

Gross profit was JPY761mn (-49.3% YoY), GPM fell 6.0pp to 27.4%, and the CoGS ratio was 72.6%. The materials cost and labor cost ratios rose in the CoGS breakdown. The ratio of materials cost to sales was on a downward trend since FY03/16 thanks to the company's efforts to lower materials costs for solar power modules and inverters. However, it increased 2.6pp YoY to 44.8% in Q1 FY03/19 as the procurement source of solar power modules lowered production volume and adjusted inventory from Q3 FY03/18. The ratio of labor costs to sales increased 2.6pp YoY to 9.7%. Although labor costs fell owing to the transfer of some employees at the SE segment to the HS and ES segments, the labor cost-to-sales ratio increased because of lower sales.

SG&A expenses were JPY849mn (-19.8% YoY), reflecting a fall in personnel and other expenses.

SE business marginal profit ratio and breakeven point

The marginal profit ratio (profit ratio after subtracting variable costs such as materials costs, subcontracting costs, and transportation costs) fell 4.3pp YoY to 44.1%. The marginal profit ratio dropped as the ratio of materials costs to sales rose.

Fixed costs (Shared Research estimate based on monthly average fixed costs disclosed by Sanix) were down JPY423mn or 24.4% YoY to JPY1.3bn because the company transferred personnel from the SE segment to the HS segment. Fixed cost-to-sales ratio rose 8.6pp YoY to 47.2% as sales fell at a greater rate than fixed costs did. Despite lower marginal profit ratio, as a result of the fall in fixed costs, the breakeven point for sales (Shared Research estimate based on monthly average fixed costs disclosed by Sanix) finished at JPY3.0bn, down JPY610mn or 17.0% YoY.

Environmental Resources Development (ERD) segment

- Sales: JPY5.8bn (+17.5% YoY)
- Operating profit: JPY439mn (+29.9% YoY)

Plastic fuel sales rose 11.8% YoY to JPY2.1bn on an increase in plastic waste acceptance volume to 84,000 tons (+3.4% YoY) and efforts to raise the unit price received for waste plastics.

Sales from the electric power generation business rose 29.2% YoY to JPY3.0bn thanks to increased sales volume in wholesale to power producers and suppliers in the new electric power generation (PPS) business.

Profit rose on higher GPM accompanying an increase in the unit price received for waste plastics at the waste plastics processing business. Regarding electric power generation business revenue, improved electricity generation efficiency at the Tomakomai Power Plant as a result of selectively receiving waste products that can be converted into quality fuel also led to higher profit. Additionally, higher sales and stabilization of electricity procurement costs at the new electric power generation (PPS) business contributed to profit growth. In Q2 FY03/18, profit margins fell as the company had to purchase high-cost electricity to handle increased sale volume. However, since Q4 FY03/18, Sanix changed its method for electricity procurement and became able to secure profit corresponding to sales without being influenced by supply and demand for electricity.

Home Sanitation (HS) segment

- Sales: JPY2.7bn (+16.4% YoY)
- Operating profit: JPY580mn (+44.3% YoY)

The strong top-line gains reflect growth in multiple areas, including termite control services, where revenues rose 27.1% YoY to JPY925mn, floor/ ceiling ventilation system installation work, where revenues rose 30.5% to JPY411mn, and foundation repairing and strengthening construction work services to households, where revenues rose 24.1% to JPY571mn. The company transferred employees from the SE segment to expand businesses under the HS segment, and strengthened sales and work operations to provide detailed maintenance proposals to general households. The number of employees at the HS segment as of end Q1 FY03/19 was 582 (versus 528 at end Q1 FY03/18).

Profits increased, despite higher personnel expenses and other fixed costs on increased number of employees, thanks to higher sales, improvement in work efficiency, and decline in the subcontracting cost-to-sales ratio. GPM rose 4.9pp YoY to 60.4% as the share of sales from relatively high-margin services such as termite control services, floor/ ceiling ventilation system installation work, and foundation repair and building reinforcement work increased while the share of sales from relatively low-margin others (e.g., subcontracted construction work such as reforms) fell.

Establishment Sanitation (ES) segment

- Sales: JPY415mn (+33.8% YoY)
- Operating profit: JPY52mn (+30.7% YoY)

Sales were driven by the segment's main anti-rust equipment installation business (product name: Daelman Shock), where revenues rose 104.2% YoY to JPY206mn. By transferring people from its SE business, the company was able to increase the number of employees at the ES segment and expand the business, focusing especially on sales to owners of building and condominiums and building closer ties with management companies and other partners.

Although personnel expenses and other fixed costs rose on the increase in the staff, the rise in sales as well as improved work efficiency and decline in the outsourced processing cost ratio pushed up profits.

Income statement

Income statement (JPYmn)	FY03/10 Cons.	FY03/11 Cons.	FY03/12 Cons.	FY03/13 Cons.	FY03/14 Cons.	FY03/15 Cons.	FY03/16 Cons.	FY03/17 Cons.	FY03/18 Cons.	FY03/18 Cons.
Sales	**24,539**	**28,980**	**31,454**	**43,366**	**84,212**	**95,629**	**61,916**	**50,955**	**49,993**	**50,719**
YoY	-2.8%	18.1%	8.5%	37.9%	94.2%	13.6%	-35.3%	-17.7%	-1.9%	1.5%
CoGS	14,621	18,704	21,013	29,996	62,800	76,721	48,133	36,812	35,948	35,889
Gross profit	**9,918**	**10,276**	**10,442**	**13,370**	**21,421**	**18,907**	**13,783**	**14,142**	**14,044**	**14,830**
YoY	-6.1%	3.6%	1.6%	28.0%	60.2%	-11.7%	-27.1%	2.6%	-0.7%	5.6%
GPM	40.4%	35.5%	33.2%	30.8%	25.4%	19.8%	22.3%	27.8%	28.1%	29.2%
SG&A expenses	9,528	9,774	10,032	11,500	16,913	22,049	16,013	13,106	12,798	13,605
SG&A ratio	38.8%	33.7%	31.9%	26.5%	20.1%	23.1%	25.9%	25.7%	25.6%	26.8%
Operating profit	**390**	**502**	**410**	**1,870**	**4,508**	**-3,142**	**-2,229**	**1,036**	**1,246**	**1,224**
YoY	-	28.6%	-18.3%	356.4%	141.0%	-	-	-	20.3%	-1.8%
OPM	1.6%	1.7%	1.3%	4.3%	5.4%	-	-	2.0%	2.5%	2.4%
Non-operating income	124	126	133	138	209	278	561	208	205	209
Non-operating expenses	290	198	195	219	407	575	280	338	432	251
Recurring profit	**225**	**430**	**348**	**1,789**	**4,310**	**-3,439**	**-1,949**	**907**	**1,019**	**1,182**
YoY	-	91.2%	-19.1%	414.1%	140.9%	-	-	-	12.3%	16.0%
RPM	0.9%	1.5%	1.1%	4.1%	5.1%	-	-	1.8%	2.0%	2.3%
Extraordinary gains	162	75	4	143	-	-	-	-	-	-
Extraordinary losses	3,779	153	10	19	-	271	991	177	-	472
Tax charges	283	302	329	337	1,345	1,256	308	312	-163	473
Implied tax rate	-8.3%	85.8%	96.3%	17.6%	31.2%	-33.9%	-10.5%	42.7%	-16.0%	66.6%
Net income	**-3,676**	**50**	**14**	**1,575**	**2,965**	**-4,966**	**-4,602**	**416**	**1,180**	**240**
YoY	-	-	-71.8%	-	88.2%	-	-	-	183.7%	-79.7%
Net margin	-	0.2%	0.0%	3.6%	3.5%	-	-	0.8%	2.4%	0.5%

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods

Past segment data

(JPYmn)	FY03/10 Act.	FY03/11 Act.	FY03/12 Act.	FY03/13 Act.	FY03/14 Act.	FY03/15 Act.	FY03/16 Act.	FY03/17 Act.	FY03/18 Act.	FY03/19 Act.
Total sales	**24,539**	**28,980**	**31,454**	**43,366**	**84,221**	**95,629**	**61,916**	**50,955**	**49,993**	**50,719**
YoY	-2.8%	18.1%	8.5%	37.9%	94.2%	13.5%	-35.3%	-17.7%	-1.9%	1.5%
Solar Engineering	-	-	-	-	56,637	72,247	39,871	26,225	17,870	14,427
YoY	-	-	-	-	-	27.6%	-44.8%	-34.2%	-31.9%	-19.3%
% of total	-	-	-	-	67.2%	75.5%	64.4%	51.5%	35.7%	28.4%
Commercial Photovoltaic (PV) Solutions	-	-	1,411	9,617	51,340	-	-	-	-	-
YoY	-	-	-	581.6%	433.9%	-	-	-	-	-
% of total	-	-	4.5%	22.2%	61.0%	-	-	-	-	-
Home Sanitation	14,056	16,657	15,395	14,814	10,819	7,605	6,519	6,562	8,922	10,752
YoY	-4.1%	18.5%	-7.6%	-3.8%	-27.0%	-	-14.3%	0.7%	36.0%	20.5%
% of total	57.3%	57.5%	48.9%	34.2%	12.8%	8.0%	10.5%	12.9%	17.8%	21.2%
Establishment Sanitation	2,547	2,811	2,757	3,965	6,011	1,040	924	1,033	1,444	1,926
YoY	-14.4%	10.4%	-1.9%	43.8%	51.6%	-	-11.2%	11.8%	39.8%	33.4%
% of total	10.4%	9.7%	8.8%	9.1%	7.1%	1.1%	1.5%	2.0%	2.9%	3.8%
Environmental Resources Development	7,934	9,511	11,890	14,967	16,051	14,735	14,601	17,133	21,755	23,612
YoY	4.4%	19.9%	25.0%	25.9%	7.2%	-8.2%	-0.9%	17.3%	27.0%	8.5%
% of total	32.3%	32.8%	37.8%	34.5%	19.1%	15.4%	23.6%	33.6%	43.5%	46.6%
Operating profit	**390**	**502**	**410**	**1,870**	**4,508**	**-3,142**	**-2,229**	**1,036**	**1,246**	**1,224**
YoY	-	28.6%	-18.3%	356.4%	141.0%	-	-	-	20.3%	-1.8%
Solar Engineering	-	-	-	-	4,782	-2,291	-202	1,669	1,668	1,204
YoY					-	-	-	-	-0.1%	-27.8%
% of total					45.4%	-	-	44.3%	38.9%	26.4%
Commercial Photovoltaic (PV) Solutions	-	-	-265	320	4,410	-	-	-	-	-
YoY	-	-	-	-	-	-	-	-	-	-
% of total	-	-	-	8.4%	62.1%	-	-	-	-	-
Home Sanitation	3,365	2,608	2,482	1,776	1,141	1,634	614	979	1,471	2,231
YoY	-3.0%	-22.5%	-4.8%	-28.5%	-35.7%	-	-62.4%	59.4%	50.3%	51.7%
% of total	136.6%	102.4%	97.5%	46.7%	16.1%	-	82.2%	26.0%	34.3%	48.9%
Establishment Sanitation	211	154	41	139	190	-48	53	94	179	287
YoY	-	-27.2%	-73.3%	240.5%	36.5%	-	-	77.4%	90.4%	60.3%
% of total	8.6%	6.0%	1.6%	3.7%	2.7%	-	-	2.5%	4.2%	6.3%
Environmental Resources Development	-1,112	-216	288	1,568	1,365	970	282	1,029	972	836
YoY	-	-	-	444.8%	-12.9%	-28.9%	-70.9%	264.9%	-5.5%	-14.0%
% of total	-	-	11.3%	41.2%	19.2%	-	-	27.3%	22.7%	18.3%
Adjustments	-2,074	-2,044	-2,134	-1,932	-2,598	-3,406	-2,977	-2,735	-3,045	-3,335

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods
Operating profit composition (shown in "% of OP excl. adjustments") is based on simple aggregation of segments before adjustments. As it includes segments with operating losses, the percentage may add up to over 100%.
In FY03/15, the company changed the structure for the solar power system sales and installations. Since then, the residential solar power construction business was moved from the HS segment to the SE segment.

The company's earnings for the past 10 years went through three stages. Until FY03/10, the company had a poor record of sales and operating profit/loss. Sales and profits improved during the period from FY03/11 through FY03/14. However, starting in FY03/15, Sanix has been seeking to bounce back from an earnings slump.

Sales decline, poor operating profit/loss until FY03/10

Sales declined for five straight years until FY03/10. The company also had a poor record of operating profit/loss during the period. The HS segment had a sales decline after it stopped seeking new customers. The ERD segment also tended to post a sales decline and continued to post an operating loss.

Past performance of the home sanitation (HS) segment

In July 2006, the company faced administrative sanctions from the Ministry of Economy, Trade and Industry (METI) based on the Specified Commercial Transactions Act, which included a three-month suspension of operations at six stores. In response to the sanctions, Sanix reviewed its compliance system, and changed its organization to prevent any incidents from recurring, but segment operating profit was significantly affected and stagnated at roughly JPY2.0bn in FY03/07.

In FY03/08, earnings bottomed as new services such as foundation repairs and reinforcement and cost reduction measures such as store mergers, job cuts, and pay cuts helped turn around operating profit. However, segment profit declined again in FY03/09 and FY03/10. Termite-control and floor/ceiling ventilation businesses were highly profitable, but the company stopped seeking new clients for these services after it received the sanctions mentioned earlier. The company instead focused on maintenance for existing customers.

Past performance of Environmental Resources Development (ERD) segment

The ERD segment posted losses from FY03/01 until FY03/11 because of expenses linked with capital investments. However, the operating loss began to narrow from FY03/05 until FY03/07. This is primarily because the company gradually increased power generation and sales volume, and wrote off JPY9.6bn for impairment losses in FY03/05, which contributed to a reduction in depreciation expense (a JPY1.7bn decline in FY03/06 from FY03/05).

However, operating loss was widened in FY03/08 and FY03/09. In FY03/08, together with safety measures taken following the fire in FY03/07, the plant suspended operations again in November 2007 after flue gas concentration exceeded the level specified in the plant's pollution prevention agreement. As a result of these plant suspensions, the company restrained its volume of waste plastic to avoid a build-up of fuel inventories, which contributed to a decline in revenues for power generation and plastic processing services. Consequently, segment operating losses once again expanded.

FY03/11 – FY03/14: Increased sales and profits due to strong performance of the SE, ERD segments

The company increased sales and profits during a period from FY03/11 through FY03/14. The SE segment made contributions to the company's overall earnings. The ERD segment also posted an increase in sales and profits. However, the HS segment, which was designated as a non-core business, had a decline in sales and profits during the period.

Changes in the performance of the SE segment

The company, which began to sell residential solar power systems in FY03/10, began to put emphasis on the procurement, sale, and construction of commercial solar power systems in FY03/13, positioning this business as a major pillar of its operations.

In July 2012, a mechanism was adopted in which solar power of over 10kW would all be purchased, a move that increased demand for solar power systems. The SE segment had a sudden expansion in earnings as a result.

Changes in performance of the ERD segment

A change in end-user in FY03/11, improved utilization rates from stable operations, and an increase in unit selling prices in FY03/12 and FY03/13 led to a sales rise. Furthermore, volume in waste plastic operations expanded favorably during this period, and together with cost reductions and improvement in production, the Environmental Resources Development segment saw a significant profit increase.

FY03/15 and later: seeking to overcome earnings slump

In FY03/15, the company tried to increase the number of employees along with an expansion in the SE segment. However, a major power utility under the feed-in tariff system suspended responding to any new requests submitted by solar power operators in September 2014 and onward, which created a grid connection capacity problem. The incident prompted a January 2015 change in output rules, a development that led to a decline in demand for solar power.

As a result, the company – most noticeably in the SE segment – had a sales increase but a profit drop in FY03/15. Sales fell in FY03/16 mainly because of a decline in sales in the SE segment. Although the company implemented an early retirement program and merged or closed some of its stores, it continued to post an operating loss.

In FY03/17, earnings recovered after the SE segment carried out an early retirement program, merged or closed some of its outlets, and made efforts to reduce procurement costs. In FY03/18, sales were even YoY as the company transferred personnel from the SE segment to the HS and ES segments. As a result, profits in each category rose due to the cut in SG&A expenses.

Company forecasts versus actual results

Results vs. Initial Est. (JPYmn)	FY03/10 Cons.	FY03/11 Cons.	FY03/12 Cons.	FY03/13 Cons.	FY03/14 Cons.	FY03/15 Cons.	FY03/16 Cons.	FY03/17 Cons.	FY03/18 Cons.	FY03/19 Cons.
Sales (Initial Est.)	25,000	27,500	38,000	38,000	71,500	161,500	78,000	46,670	47,680	50,000
Sales (Results)	24,539	28,980	31,454	43,366	84,212	95,629	61,916	50,955	49,993	50,719
Results vs. Initial Est.	**-1.8%**	**5.4%**	**-17.2%**	**14.1%**	**17.8%**	**-40.8%**	**-20.6%**	**9.2%**	**4.9%**	**1.4%**
Operating profit (Initial Est.)	750	1,240	1,300	2,000	8,000	14,000	4,000	600	1,210	2,190
Operating profit (Results)	390	502	410	1,870	4,508	-3,142	-2,229	1,036	1,246	1,224
Results vs. Initial Est.	**-48.0%**	**-59.5%**	**-68.5%**	**-6.5%**	**-43.6%**	**-**	**-**	**72.7%**	**3.0%**	**-44.1%**
Recurring profit (Initial Est.)	720	1,150	1,250	1,970	7,950	13,800	3,820	480	1,090	2,100
Recurring profit (Results)	225	430	348	1,789	4,310	-3,439	-1,949	907	1,019	1,182
Results vs. Initial Est.	**-68.8%**	**-62.6%**	**-72.2%**	**-9.2%**	**-45.8%**	**-**	**-**	**89.0%**	**-6.5%**	**-43.7%**
Net income (Initial Est.)	600	900	830	1,820	5,100	8,830	2,820	-60	810	1,610
Net income (Results)	-3,676	50	14	1,575	2,965	-4,966	-4,602	416	1,180	240
Results vs. Initial Est.	**-**	**-94.5%**	**-98.3%**	**-13.5%**	**-41.9%**	**-**	**-**	**-**	**45.7%**	**-85.1%**

Source: Shared Research based on company data
Initial Est. = Company forecasts; figures may differ from company materials due to differences in rounding methods

Past trends show a significant difference between the company's forecasts and actual results. Management's earnings forecasts are unreliable and may be revised several times a year. In addition, its actual results even differ from its revised earnings forecasts, indicating the company is unable to accurately forecast sales and profits.

Balance sheet

Balance sheet (JPYmn)	FY03/10 Cons.	FY03/11 Cons.	FY03/12 Cons.	FY03/13 Cons.	FY03/14 Cons.	FY03/15 Cons.	FY03/16 Cons.	FY03/17 Cons.	FY03/18 Cons.	FY03/19 Cons.
ASSETS										
Cash and deposits	1,255	1,138	1,366	3,559	9,237	7,026	3,038	5,578	5,482	5,238
Notes and accounts receivable	2,056	2,521	3,309	7,357	22,205	14,800	6,693	6,017	5,485	6,010
Inventories	1,221	1,642	1,767	2,898	6,145	10,285	7,164	5,458	4,517	4,687
Deferred tax assets	288	299	245	299	597	17	8	12	-	-
Allowance for doubtful accounts	-109	-105	-107	-142	-624	-1,237	-693	-544	-525	-299
Other	443	395	385	681	1,089	678	720	1,001	800	977
Total current assets	5,153	5,890	6,964	14,652	38,649	31,569	16,930	17,522	15,759	16,613
Buildings and structures (net)	2,248	2,260	2,090	1,890	1,890	2,533	1,909	1,720	2,080	1,901
Machinery, equipment, and vehicles (net)	162	144	239	557	1,270	1,640	1,323	1,234	1,189	1,355
Land	8,980	8,980	8,980	8,890	9,180	9,399	8,001	7,941	7,811	7,811
Other	439	380	415	990	1,841	1,527	1,184	1,383	846	990
Total tangible fixed assets	11,828	11,763	11,724	12,326	14,181	15,099	12,417	12,278	11,926	12,057
Goodwill	961	849	737	625	513	401	289	177	65	-
Other	62	61	59	60	59	143	151	148	148	262
Total intangible assets	1,023	910	796	685	573	545	440	325	214	262
Investment securities	367	405	501	317	339	450	91	145	151	129
Lease and guarantee deposits	960	820	781	706	723	742	644	669	629	609
Deferred tax assets	318	233	129	96	313	66	59	52	582	612
Other	345	385	391	415	540	648	664	652	675	724
Investment and total other assets	1,991	1,843	1,802	1,533	1,914	1,906	1,458	1,518	2,037	2,074
Total fixed assets	14,843	14,516	14,322	14,545	16,668	17,551	14,317	14,122	14,178	14,395
Total assets	19,996	20,407	21,286	29,196	55,317	49,120	31,248	31,645	29,938	31,009
LIABILITIES										
Notes and accounts payable	1,159	868	1,386	5,460	20,115	18,537	7,227	6,365	5,079	4,188
Short-term debt	5,654	3,186	3,085	4,186	5,948	7,416	11,014	13,504	11,825	12,440
Accounts payable–other	1,141	1,449	2,330	3,166	4,836	4,408	3,298	2,644	3,069	3,930
Accrued expenses	731	754	825	931	1,813	2,000	1,374	1,041	1,049	1,098
Other	657	704	755	1,130	3,870	3,199	1,729	2,032	1,981	1,873
Total Current Liabilities	9,342	6,961	8,381	14,873	36,582	35,560	24,642	25,586	23,003	23,529
Long-term debt	1,726	4,319	3,630	2,870	3,725	3,055	1,077	484	325	210
Net defined benefit liability	1,212	1,329	1,382	1,419	1,534	1,490	1,371	1,404	1,465	1,642
Other	661	695	759	1,197	1,648	1,684	1,528	1,324	1,067	1,433
Total fixed liabilities	3,599	6,343	5,770	5,486	6,907	6,229	3,976	3,212	2,857	3,285
Total liabilities	12,941	13,304	14,151	20,359	43,489	41,789	28,618	28,799	25,861	26,815
Net assets										
Capital stock	14,042	14,042	14,042	14,042	14,042	14,042	14,042	14,041	14,041	14,041
Capital surplus	-	-	-	-	4	4	1	1	1	1
Retained earnings	-5,441	-5,391	-5,377	-3,733	-769	-5,588	-10,193	-9,777	-8,597	-8,357
Treasury stock	-1,611	-1,611	-1,611	-1,611	-1,581	-1,481	-1,481	-1,481	-1,481	-1,481
Accumulated other comprehensive income	34	33	53	111	102	325	229	28	76	-42
Non-controlling interests	30	30	29	29	29	29	31	32	35	31
Total net assets	7,055	7,103	7,135	8,837	11,828	7,331	2,629	2,845	4,076	4,193
Working capital	2,117	3,296	3,690	4,794	8,235	6,548	6,630	5,110	4,923	6,509
Total interest-bearing debt	7,380	7,505	6,714	7,056	9,674	10,471	12,091	13,988	12,150	12,650
Net debt	6,125	6,367	5,349	3,497	437	3,445	9,053	8,410	6,668	7,412

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods

Assets

Changes in assets

Over the past 10 years, the amount of total assets rose during the period from FY03/13 through FY03/14, but began to decline in FY03/15.

The amount of tangible fixed assets declined until FY03/10 as the company wrote down impairment losses primarily in the ERD segment. The combined assets rose in FY03/14 mainly because of an increase in liquid assets. This was due to growth in the SE segment (the old Photovoltaic Solutions segment), which led to an increase in notes receivable, accounts receivable, and inventory assets. In FY03/15 and thereafter, accounts receivable and inventory assets declined as the SE segment contracted. Liquid assets accounted for 54.2% of total assets at that time.

Main asset items

The company’s major assets items are cash and cash equivalents, notes receivable and accounts receivable, inventory assets, and tangible fixed assets.

Tangible fixed assets

In FY03/19, the ratio of land to total tangible fixed assets was high. Specifically, they were facilities including the ERD segment's organic waste fluid processing facility (Fukuoka Prefecture), a waste plastic processing facility (Gunma Prefecture), and a landfill disposal facility operated by the company's C&R Co. Ltd. unit.

Liabilities

Changes in liabilities

The amount of total liabilities has changed in tandem with overall assets over the past 10 years. The amount rose from FY03/13 until FY03/15, but started to fall in FY03/16.

In FY03/13 and FY03/14, accounts payable, accounts receivable, and interest-bearing debt rose with the growth of the SE segment. Accounts payable and receivable started to decline in FY03/15 as the SE segment shrank.

Main liability items

Much of the company's liability is accounts payable and interest-bearing debt.

Notes and accounts payable

Notes and accounts payable, as did liquid assets, increased with growth in the SE segment starting in FY03/13. The amount increased until FY03/14, but began to fall in FY03/15.

Interest-bearing debt

Interest-bearing debt continued to increase until FY03/11 due to stagnant earnings but, such debt declined in FY03/12. Later, the debt amount has been on a rising trend due to expansion of businesses and a return of dull performance. Regarding the balance of the company short and long-term interest-bearing debt, the ratio of short-term debt has increased since FY03/13.

Net assets

Net losses since FY03/03 continued to negatively impact net assets until FY03/10. Net assets were on a gradual recovery since FY03/11 due to an improvement in earnings. However, net assets decreased to JPY2.6bn in FY03/16 as the company booked net losses in FY03/15 and in FY03/16. From FY03/17, net assets began increasing as the company achieved a net income status. Despite a rise in net assets, the equity ratio fell to 13.4% in FY03/19 from 13.5% in FY03/18 as interest-bearing debt increased.

Cash flow statement

Cash flow statement (JPYmn)		FY03/10 Cons.	FY03/11 Cons.	FY03/12 Cons.	FY03/13 Cons.	FY03/14 Cons.	FY03/15 Cons.	FY03/16 Cons.	FY03/17 Cons.	FY03/18 Cons.	FY03/19 Cons.
Cash flows from operating activities	(1)	563	55	1,260	2,185	4,934	-1,794	-5,403	1,668	2,184	-25
Pre-tax profit		-3,392	352	341	1,913	4,309	-3,710	-4,293	729	1,019	710
Depreciation		583	416	371	387	547	887	918	668	709	808
Impairment losses		3,701	-	-	19	-	271	991	-	-	-
Goodwill amortization		56	112	112	112	112	112	112	112	112	65
Change in accounts receivable–trade		42	-465	-788	-4,000	-14,848	7,405	8,107	675	532	-525
Change in inventories		-604	-425	-124	-967	-3,229	-4,091	3,108	1,704	947	-173
Change in accounts payable–trade		546	-291	519	4,013	14,665	-1,922	-11,074	-804	-1,308	-877
Income taxes paid		-135	-157	-271	-202	-536	-1,929	-287	-252	-396	-457
Cash flows from investing activities	(2)	-2,304	-214	-151	-222	-3,271	-1,181	1,062	-409	171	-947
Purchase of tangible fixed assets		-472	-176	-93	-616	-1,687	-1,254	-679	-454	-314	-577
Proceeds from sale of tangible fixed assets		179	1	4	104	18	-	709	62	202	3
Purchase of intangible fixed assets		-	-	-	-	-	-32	-93	-25	-37	-
Proceeds from sale of marketable securities		-	-	-	258	-	-	318	-	-	-
Free cash flow	(1+2)	-1,741	-159	1,109	1,962	1,663	-2,975	-4,341	1,259	2,355	-972
Cash flows from financing activities		1,946	43	-882	230	2,433	647	1,288	1,437	-2,156	392
Change in short-term debt		29	-2,920	-100	1,013	1,662	1,360	3,757	2,851	-1,284	612
Proceeds from long-term debt		2,020	3,530	-	210	1,870	485	-	-	-	20
Repayments of long-term debt		-20	-485	-761	-862	-894	-1,026	-2,128	-954	-553	-131
Simple FCF	(Net income + A + B - C)	-3,156	1,580	798	2,563	5,378	-6,940	-4,262	-803	1,463	2,122
Depreciation and amortization	(A)	639	528	483	499	659	999	1,030	780	821	873
Capital expenditures	(B)	-472	-176	-93	-616	-1,687	-1,286	-772	-479	-351	-577
Working capital changes	(C)	-352	-1,178	-394	-1,105	-3,441	1,687	-82	1,520	187	-1,586

Source: Shared Research based on company data
Figures may differ from company materials due to differences in rounding methods

Cash flows from operating activities

The company's cash flows from operating activities are influenced by changes in net income, depreciation expenses, and working capital. During the period from FY03/08 through FY03/10, and in FY03/16, impairment losses had a positive impact on the company's cash flows from operating activities.

Cash flows from investing activities

Increases or decreases in fixed deposits and spending to acquire tangible fixed assets are the main factors impacting the company's cash flows from investing activities. Its solar power-related operations do not require large amounts of capital expenditures, but additional capacity at its plastic waste recycling facilities and power generation plants may necessitate a temporary increase in capital expenditures.

Cash flows from financing activities

Cash flows from financing activities change in line with rises and falls in interest-bearing debt. Since FY03/13, in conjunction with an increase in interest-bearing debt, cash flows from financing activities have remained positive.

Other information

History

Sanix Inc. was established in April 1975 in Sasebo City, Nagasaki Prefecture, to provide termite control and corrosion-proof services to homeowners.

Shinichi Munemasa, the founder and former president saw a business opportunity in "dirty jobs", work that most people wouldn't want to do. His mission became "To Make the Dirty Clean." Munemasa took upon himself to visit the U.S. and receive the necessary job training to expand his business. In 1982, Sanix established a foothold in western (Kansai) Japan, and expanded to East Japan (Kanto) in 1992.

In the 1990s, the company sought to branch out into new business fields and expand operations. In 1994, Sanix started operations to recycle and reduce industrial waste, as well as render such waste harmless. In 1999, it established a factory in Okazaki City, Aichi Prefecture, to process plastic waste into fuel. Sanix listed its shares on the second sections of the Tokyo Stock Exchange, Osaka Stock Exchange and Fukuoka Stock Exchange, respectively, in 1997. Its shares advanced to the first sections of the Tokyo Stock Exchange and the Osaka Securities Exchange, respectively, in 1999.

The company continued to expand in the early 2000s, and established Sanix Energy Inc. (currently a consolidated subsidiary) to sell generated power from plastic fuel in 2001. In 2003, Sanix Energy completed the construction of the Sanix Energy Tomakomai Power Station, in Tomakomai City, Hokkaido.

When discussing the company's history, a business suspension order (also discussed elsewhere in this report) in 2006 must be mentioned. In July 2006, the company received administrative sanctions from the Ministry of Economy, Trade and Industry (METI) for violations of the Act on Specified Commercial Transactions (a misrepresentation, failure to clearly state the purpose of solicitation, forceful solicitation, act of taking advantage of the impaired judgment of a person and having such person conclude a sales contract, violation of the principle of suitability). The sanctions were imposed after the company was found to have pressed insistently to obtain contracts during door-to-door sales. Under the guise of a free-of-charge check, sales staff reported to householders that there were problems that required addressing when in fact no such problems existed. Such cases were said to include contracts signed with incapacitated individuals (dementia and schizophrenia sufferers). As a preventive measure, the company stopped new sales of termite control and floor-ceiling ventilation systems, and introduced a new business structure to only satisfy requests from existing customers. As a result, such problems have not reoccurred.

At the same time, the company encountered several problems at Tomakomai Power Plant from 2005 to 2009 as follows.

- In August 2005, there was a fire in a waste plastic fuel delivery tank.
- In FY03/07, there was a fire, and operation of the plant was suspended until June to enable extra fire prevention systems to be installed and management to be strengthened.
- For approximately two weeks in November 2007, operations were suspended after flue gas concentration exceeded the level specified in the plant's pollution prevention agreement.
- In 2009, the plant voluntarily suspended operations after dioxins were detected in the soot and smoke from two power-generating boilers at levels exceeding the plant's pollution control rules. Regulators ordered the plant to rectify the problem.

After the administrative sanctions by METI, Sanix scaled back its termite control operations, while its power generation business was operating at a loss. Unable to find new business opportunities, earnings struggled until FY03/09.

Starting in 2009, Sanix looked at the sale and installation of solar power generation systems as a business opportunity and worked to change the direction of the company, but the government revised the Feed-in Tariff Scheme for Renewable Energy in January 2015, including changes to output control rules. As part of its response to the changing business environment, the company promoted a streamlining of operations to achieve sustainable growth and reduced the number of workers and stores in its SE segment.

Under its medium-term management plan (FY03/17–FY03/19) announced in April 2016, about 500 employees left in June and July 2016 as part of an early retirement program, and Sanix conducted measures to streamline operations. In addition, it reassigned personnel from the SE segment to the HS segment, including the termite control business, and restructured the HS segment's sales system. With these measures, from FY03/17 to FY03/19, HS segment sales increased at an average of 28.0% per year and operating profit at an average of 51.0%. In FY03/19, the HS segment accounted for 21.2% of total sales and 48.9% of operating profit before adjustments.

News and topics

March 2019

On **March 14, 2019**, the company announced the restart of the Tomakomai Power Plant.

On March 13, 2019, the company resumed operations at the Tomakomai Power Plant, which had been suspended due to the Hokkaido Eastern Iburi earthquake that occurred on September 6, 2018. The impact of the restart of the plant was factored into the FY03/19 earnings forecasts revised in November 2018.

November 2018

On **November 13, 2018**, the company announced revisions to its full-year FY03/19 earnings forecast.

Revised company forecast for FY03/19:

- Sales: JPY49.4bn (versus JPY50.0bn in the previous forecast)
- Operating profit: JPY1.3bn (versus JPY2.2bn)
- Recurring profit: JPY1.3bn (versus JPY2.1bn)
- Net income*: JPY534mn (versus JPY1.6bn)
- Earnings per share: JPY11.19 (versus JPY33.68)

*Net income attributable to parent company shareholders

Reason for revision

Sales are expected to come in below the company's previous forecast due to the cessation of electric power sales by the Tomakomai Power Plant, which has been shut down and is not expected to be restarted until early March 2019. Due to the shortfall in sales stemming from the shutdown of the Tomakomai Power Plant and increases in fixed costs, operating profit and recurring profit are also expected to come in below the company's previous forecast. Net income attributable to parent company shareholders is likewise expected to come in below the company's previous forecast as the company is booking an extraordinary loss to cover the added expenses incurred to repair the damage to the Tomakomai Power Plant caused by the earthquake.

On **November 5, 2018**, the company announced the impact of the 2018 Hokkaido Eastern Iburi earthquake on the company.

Sanix's Tomakomai Power Plant ceased generating power as a result of the September 2018 Hokkaido Eastern Iburi earthquake, and the company conducted inspections of all power generation facilities, and disassembly and inspection of the steam turbine and generator.

Extent of damage

When checking damage to the steam turbine and generator (the most important components at the power plant) it became evident that certain parts require replacement, and that this would take a considerable amount of time as the parts are made to order. Apart from this, although there were slight deviations and damage to various power generation facilities caused by the earthquake, the company stated that it has already begun on repairs, and that such damage will not influence the timeline for resumed operations.

Timeline for coming back online

The company expects operations to resume in early March, 2019.

Impact on performance

The impact on performance is currently being calculated, and will be disclosed as soon as identified.

Major shareholders

Top shareholders	Shares held ('000)	Shareholding ratio
BION Co., Ltd.	8,716	18.23%
Hiroshi Munemasa	6,454	13.50%
Korea Securities Depository–EBEST (Standing proxy: Citibank N.A. Tokyo Branch)	1,870	3.91%
Sanix Mutual Aid Society	1,700	3.56%
Japan Trustee Services Bank, Ltd. (Trust account)	1,237	2.59%
The Master Trust Bank of Japan, Ltd. (Trust account)	930	1.95%
Sanix Employees' Shareholding Association	919	1.92%
Japan Trustee Services Bank, Ltd. (Trust account 5)	580	1.21%
The Nishi-Nippon City Bank, Ltd.	536	1.12%
Japan Trustee Services Bank, Ltd. (Trust account 2)	441	0.92%
SUM	23,387	48.92%

Source: Shared Research based on company data
(As of March 31, 2018)

Company profile

Company Name	Head Office
Sanix Incorporated	2-1-23, Hakata Ekimae Higashi, Hakata-ku, Fukuoka
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+81-92-436-8870	Tokyo Stock Exchange 1st Section, Fukuoka Stock Exchange
Established	**Exchange Listing**
September 12, 1978	September 13, 1996
Website	**Financial Year-End**
https://sanix.jp/lang_en/index.html	March
IR Contact	**IR Web**
Management and Planning Division	-
IR Mail	**IR Phone**
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Earth Corporation
Elecom Co., Ltd.
en-Japan Inc.
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FaithNetwork Co., Ltd.
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Financial Products Group Co., Ltd.
FreeBit Co., Ltd.
FRONTEO, Inc.
Fujita Kanko Inc.
Gamecard-Joyco Holdings, Inc.
GCA Corporation
Good Com Asset Co., Ltd.
Grandy House Corporation
Hakuto Co., Ltd.
Hamee Corp.
Happinet Corporation
Harmonic Drive Systems Inc.
HOUSEDO Co., Ltd.
IDOM Inc.
IGNIS LTD.
i-mobile Co.,Ltd.
Inabata & Co., Ltd.
Infocom Corporation
Infomart Corporation
Intelligent Wave, Inc.
ipet Insurance CO., Ltd.
istyle Inc.
Itochu Enex Co., Ltd.
JSB Co., Ltd.
JTEC Corporation
J Trust Co., Ltd
Japan Best Rescue System Co., Ltd.
JINS HOLDINGS Inc.
JP-HOLDINGS, INC.
KAMEDA SEIKA CO., LTD.
Kenedix, Inc.
KFC Holdings Japan, Ltd.
KI-Star Real Estate Co., Ltd.
Kondotec Inc.
Kumiai Chemical Industry Co., Ltd.
Lasertec Corporation
LUCKLAND CO., LTD.
MATSUI SECURITIES CO., LTD.
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MEDINET Co., Ltd.
MedPeer,Inc.
Mercuria Investment Co., Ltd.
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MIRAIT Holdings Corporation
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MORINAGA MILK INDUSTRY CO., LTD.
NAGASE & CO., LTD
NAIGAI TRANS LINE LTD.
NanoCarrier Co., Ltd.
Net One Systems Co.,Ltd.
Nichi-Iko Pharmaceutical Co., Ltd.
Nihon Denkei Co., Ltd.
Nippon Koei Co., Ltd.
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NIPRO CORPORATION
Nisshinbo Holdings Inc.
NS TOOL CO., LTD.
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Oisix ra daichi Inc.
Oki Electric Industry Co., Ltd
ONO SOKKI Co., Ltd.
ONWARD HOLDINGS CO.,LTD.
Pan Pacific International Holdings Corporation
PARIS MIKI HOLDINGS Inc.
PIGEON CORPORATION
QB Net Holdings Co., Ltd.
RACCOON HOLDINGS, Inc.
Raysum Co., Ltd.
RESORTTRUST, INC.
ROUND ONE Corporation
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SANIX INCORPORATED
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