

Message from Top Management

We are working to achieve sustained growth together with society through the policies outlined by our new Medium-Term Management Plan.



In the corporate vision adopted in 2012, the Takuma Group embraced the goal of continuing to play an essential role for society as a leading company in the utilization of renewable energy and in the field of environmental protection and of achieving ordinary profit of JPY 10.0 billion in FY2020. Under our 11th Medium-Term Management Plan (FY2015 to FY2017), which identified the realization of sustained growth as a top priority, we worked to expand our businesses in terms of both quality and quantity in order to achieve that corporate vision through the six policies set forth in the plan, including maintaining and expanding our market position in the EPC* business and expanding businesses that generate base profits.

In our EPC business, we firmly harnessed robust demand to drive orders, allowing us to secure a certain position in the various markets we serve while building a foothold to expand that position by capturing orders for multiple large biomass power plants and sludge-fueled power plants. In businesses that generate base profits, we pursued initiatives to expand those profits in an effort to maintain and increase profitability, for example by developing a business foundation and strengthening our maintenance capabilities. As the result of these initiatives, we were able to steadily expand our business in terms of both quality and quantity, and to achieve our targets for consolidated order value and consolidated ordinary profit under our quantitative plan.

*EPC business: A business in which Takuma offers turnkey service extending from plant design to procurement and construction.

About the new Medium-Term Management Plan

This April, the Group embarked on the 12th Medium-Term Management Plan (FY2018 to FY2020), which embodies the final stage of its current medium- and long-term vision (corporate vision). Although we expect demand to remain robust during the years covered by the plan, we also anticipate that the business environment will undergo major changes as Japanese policy and social structure continue to evolve over the medium and long term. The plan identifies five policies to boost the Group's strength so that we can achieve our corporate vision and subsequently realize steady growth in light of the future changes we expect to see in the business environment.

The first policy is to strengthen and expand our revenue foundation. The Group's products—that is, waste treatment plants, water treatment plants, and boiler plants—serve as social infrastructure and as a base for companies' business activities. Most products remain in use for a long time following their delivery to customers, often 20 or 30 years, and our ability to provide sustained, high-quality after-sales service to ensure that those products function longer and more effectively contributes to our customers' profits as well as our own, providing a basis for stable, long-term profits. By supplying high-quality solutions throughout the plant and product life cycle in order to precisely meet customers' diversifying needs, we will work to further strengthen and enhance our revenue base.

The second policy is to achieve sustained growth. Over the approximately 80 years since its founding, the Group has supplied products built around a core of technology that have earned recognition for their high value, giving it an essential role in society. Drawing on strengths including the technology, track record, experience, and expertise accumulated through our business activities to date, we will achieve sustained growth by continuing to develop unique technologies, services, and business models; creating value for customers; and securing and creating competitive advantages by rapidly accommodating changes in the business environment, for example in the form of evolving needs and the emergence of new social issues.

The third policy is to increase productivity, for example by reforming business processes. The Group's businesses are changing dramatically in response to changes in the business environment, including structural changes such as the aging and shrinking of Japan's population and a tendency for customers' needs and social issues to become more sophisticated and diverse. To address these changes, we will seek to more effectively utilize human resources and to provide higher value to customers by boosting productivity by radically reviewing and rebuilding business processes that have become more complex and focusing on higher-added-value operations.

The fourth policy is to use human resources more effectively. In addition to hiring and training the more diverse workforce that will be essential for the future development of our businesses, we will work to put in place an environment that allows each and every employee to do their jobs in an energetic and engaged manner so that they can take full advantage of their skills and abilities.

The fifth policy is to continue to pursue compliance management. The Group has consistently considered compliance to be a key basis for corporate activities, and the last several Medium-Term Business Plans have included policies that address this area in an effort to ensure the penetration and implementation of associated measures. A sustained program of awareness-raising and educational activities has helped compliance awareness to take root throughout our organization, and we will continue to pursue improvements so the trust that our quality and other accomplishments inspires will remain unshaken. In addition, we will work to ensure that enhanced awareness of the importance of compliance permeates the company even more deeply by effectively implementing and utilizing mechanisms such as our in-house reporting system and CSR awareness questionnaire survey.

Responsible corporate management

Through the current Medium-Term Management Plan the Group is working to build business and management platforms that will be resistant to future changes in the business environment. In order for us to achieve those priorities, I believe that it will be important for us to live up to the trust placed in us by all stakeholders, including customers, shareholders and investors, business partners, employees, and local communities, in a spirit of good faith. To that end, we will work aggressively to implement corporate governance, compliance, and risk management in a way that serves as a basis for our corporate activities going forward.



Message from Top Management

Achieving sustained growth together with society

Takuma has been a signatory to the United Nations Global Compact since 2006, and we support its 10 fundamental principles in the 4 areas of human rights, labour, environment, and anti-corruption. We will work to develop our business while understanding and respecting these globally shared principles. In addition, concerning the implementation of the Sustainable Development Goals (SDGs) adopted by the United Nations and the provisions of the Paris Agreement adopted at COP21, the Group is helping resolve social issues with technologies for reducing emissions of the greenhouse gas carbon dioxide through high-efficiency generation of electricity using waste and biomass.



The Takuma Group has joined the United Nations Global Compact (UNGC), which is a voluntary effort to create a global framework for implementing sustainable growth by having companies and groups exercise responsible and creative leadership while acting as good members of society. Reference: UN Global Compact <http://www.unglobalcompact.org/>



July 2018

Takaaki Kato
President and CEO
Takuma Co., Ltd.

Takaaki Kato

Sustainable Development Goals (SDGs)

The Sustainable Development Goals (SDGs) are a series of international goals covering the time period of 2016 to 2030 as described in “Transforming Our World: The 2030 Agenda for Sustainable Development,” which was adopted at a UN summit in September 2015. The SDGs were intended to pick up where the Millennium Development Goals (MDGs), which were formulated in 2001, left off. They consist of 169 targets organized around 17 goals for achieving a sustainable world, built around the pledge of leaving no one behind. Intended to be implemented not only by developing nations, but also by advanced nations, they are universal in scope, and Japan is working actively to implement them.

Takuma, too, is working to further progress toward the SDGs through its business activities. (The “Introduction to Takuma’s Businesses” section on pages 23 to 34 of this report includes icons representing the SDGs that are related to each business.)

Sustainable Development Goals
17 GOALS TO TRANSFORM OUR WORLD



Company Motto

Value Technology, Value People, Value the Earth

Management Principles

Takuma will strive for social contribution, corporate value enhancement, long-term corporate development and the satisfaction of all stakeholders by providing goods and services that are needed and recognized as valuable in society.

The founding spirit of Takuma was “Service to the nation through boiler manufacturing,”* which in present-day language means “contribution to society by supplying goods and services that we yield.” This spirit can also be applied to the concept of Corporate Social Responsibility (CSR) that in recent years has become a vital issue for corporate management. The management principles of the Takuma group companies are all based on the said founding spirit.

* Service to the nation through boiler manufacturing
It was the Company Motto of Takuma, then Takuma Boiler Manufacturing Co., Ltd., founded by Mr. Tsunekichi Takuma, one of the ten great inventors of Japan during the Meiji and Taisho periods (1868–1926).

Takuma Group Ethics Charter

Takuma and the Takuma Group companies believe that it is essential for the sound development of the group that all of the directors and employees remain aware of our social responsibilities and the circumstances surrounding us as well as act in response to social ethics complying with applicable related laws and ordinances. Bearing the above in mind, we have established and will promote this ethics charter as our code of conduct, aiming to realize our management principles.

- 1. We shall strive for proactive social contribution while establishing a harmonious coexistence with the global environment as good corporate citizens.
- 2. We shall act in good faith in accordance with sound business custom, while complying with applicable laws and regulations and committing ourselves to fair, transparent and free competition, as well as conducting lawful business activities.
- 3. We shall never have any relationship with antisocial forces or organizations, which may pose a threat to the social order and security of civil society.
- 4. We shall respect fundamental human rights and never practice discrimination.
- 5. We shall strive to provide high quality products and services, based on our advanced technologies, to attain high acclaim and confidence from our customers.
- 6. We shall strive to disclose corporate information to shareholders and investors through investor relations (IR) and other activities on a timely and equitable basis.
- 7. We shall strive to protect corporate properties as well as information, while never using either for improprieties or any unjustifiable purpose other than normal business operations.

Takuma Group Code of Conduct

Harmony with society

- 1. Coexistence with the global environment
- 2. Coexistence with international society
- 3. Practice of social contribution activities

Practice of compliance with laws and ordinances as well as sound economic activities

- 4. Free competition and fair trade
- 5. Relationship with politics and public administration
- 6. Policies concerning business entertainment and gift-giving
- 7. Prohibition of involvement in anti-social activities
- 8. Appropriate export and import transactions

Respect for basic human rights

- 9. Prohibition of discriminatory actions
- 10. Respect for individuality, personal quality, and privacy
- 11. Safe work environment

Practice of customer satisfaction

- 12. Safety of products and services as well as ensuring reliability
- 13. Policies concerning advertising

Making appropriate disclosure of information

- 14. Transmission of corporate information
- 15. Ensuring reliability of financial reporting
- 16. Prohibition of insider trading

Protection of corporate properties and information

- 17. Management and proper use of corporate properties
- 18. Handling of confidential information
- 19. Intellectual property protection

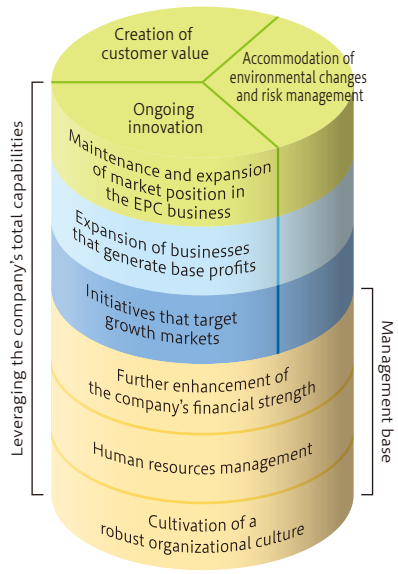
1. Reflections on the 11th Medium-Term Management Plan

1 Initiatives to implement policies

► Initiatives of the 11th Medium-Term Management Plan (2015 to 2017)

- Theme**

Build upon our previous results to further improve our business in terms of both quantity and quality in order to achieve sustained growth.
- Policies**
 - Maintenance and expansion of market position in the EPC business
 - Expansion of businesses that generate base profits
 - Initiatives that target growth markets
 - Further enhancement of the company's financial strength
 - Human resources management
 - Cultivation of a robust organizational culture
- Perspectives**
 - Creation of customer value
 - Ongoing innovation
 - Accommodation of environmental changes and risk management



► Results and issues

- In our EPC business, we established a certain position in the markets we serve by steadily harnessing robust demand to drive orders.
- We built a foothold to expand our presence by capturing orders for multiple large biomass power plants and sludge-fueled power plants.
- Businesses that generate base profits allowed us to generally achieve the profit targets outlined in the plan, contributing to stable consolidated earnings.
- Preparing a stage for overseas expansion and developing human resources continue to be important issues.
- We maintained a certain level of equity ratio thanks to continued profitability.
- Efforts to secure adequate manpower, for example through midcareer hires, as a way to accommodate growth in orders faced difficulty due to a shortage of workers. Tight labor conditions persisted.
- Compliance and CSR awareness spread throughout the Group thanks to ongoing initiatives.



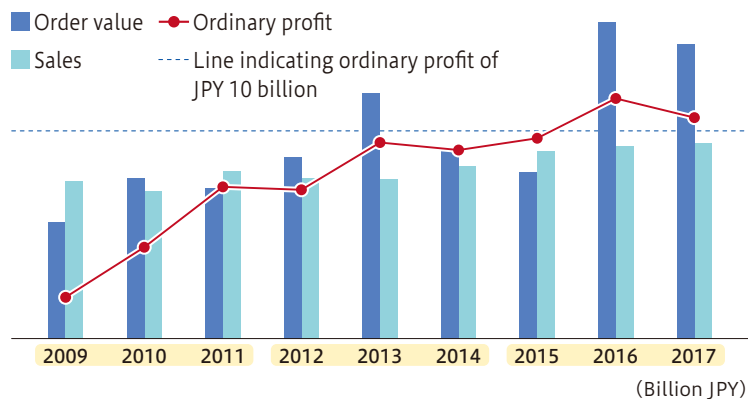
Biomass Power Plant



Sewage Sludge-Fueled Power Plant

2 Quantitative results

- Business volume expanded steadily against a backdrop of robust demand. Order value significantly exceeded the plan, while the order backlog grew to the JPY 200 billion level.
- In terms of quality, we achieved the level of profit outlined in the plan and made smooth progress toward our goal of reaching ordinary profit of JPY 10 billion in FY2020.



	9 th Medium-Term Management Plan results (2009 to 2011)	10 th Medium-Term Management Plan results (2012 to 2014)	11 th Medium-Term Management Plan results				11 th Medium-Term Management Plan targets
			2015	2016	2017	Total	
Order value	257.8	371.0	99.9	191.0	177.1	468.0	400.0
Sales	285.2	296.5	113.0	116.3	118.1	347.5	360.0
Ordinary profit	13.7	25.7	9.6	11.6	10.6	31.9	27.0
Order backlog	78.1	152.5	139.4	214.1	273.0	—	—

*Order backlog figures are provided for the last year of each Medium-Term Management Plan and for the end of each fiscal year.

2. Business Environment

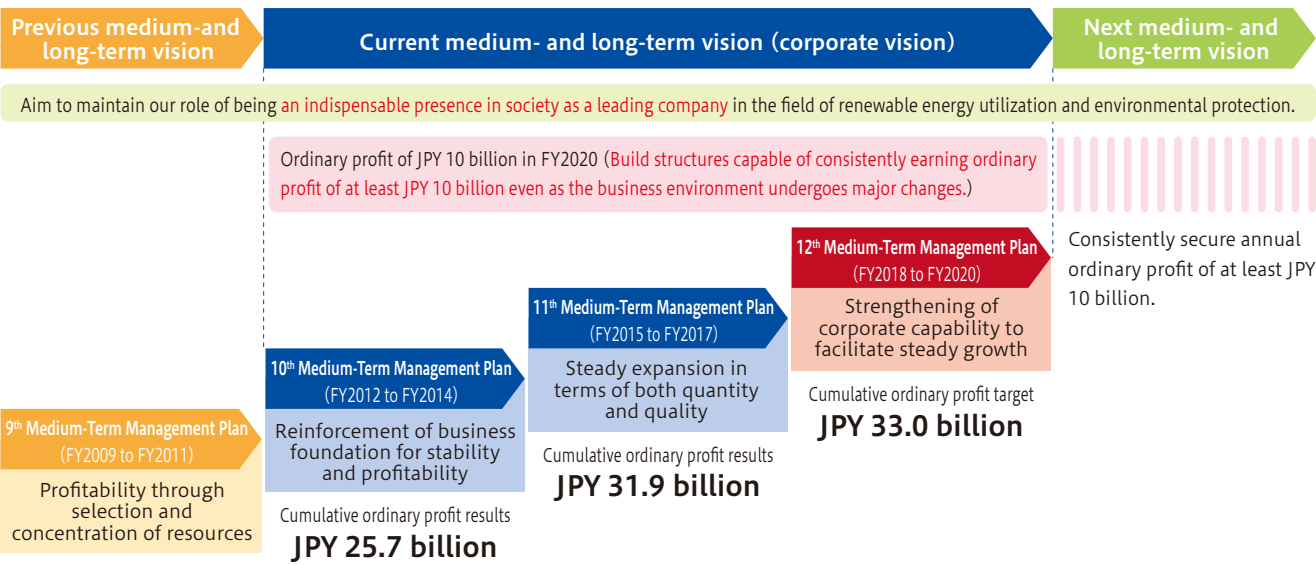
- We expect to see continued robust demand in the Group's principal business domains.
- At the same time, the business environment is expected to undergo major changes over the medium and long term, including changes in demand in response to evolving national policies and the structure of society, increased reliance on comprehensive contracts due to a trend to outsource government services, and increasing sophistication and diversity in customer needs.

	Current 3-year period (12 th Medium-Term Management Plan)	Future (medium and long term)
Waste treatment plants (Japan)	<ul style="list-style-type: none">Renewal and service life elongation demand will continue as facilities age.There will continue to be demand for more efficient energy use and additional functionality (development of disaster prevention and peripheral facilities, etc.).Comprehensive contracts for plant operation, for example in the form of DBO and O&M arrangements, will become more common.	<ul style="list-style-type: none">Renewal and service life elongation demand will eventually fall off.The market will contract due to the aging and shrinking of Japan's population.The trend to outsource government services (by making use of the private sector) will gain momentum.
Water treatment plants (Japan)	<ul style="list-style-type: none">Renewal demand will increase as sewage treatment plants age.Demand for converting sewage sludge into energy will grow.PPP arrangement (that make use of the private sector) will be embraced by the sewer industry.	<ul style="list-style-type: none">Comprehensive contracts for plant construction and operation, such as PPP/PFI arrangements, will become more common.There will continue to be demand for energy conservation, energy creation, and resource use.
Boiler plants (Japan)	<ul style="list-style-type: none">There will continue to be demand from FIT projects.The number of plants targeted for maintenance will continue to grow as more plants come online.Demand for plant operational management and O&M will grow.	<ul style="list-style-type: none">Demand for renewable energy will continue as society works to achieve a new energy mix by 2030.Use of regional distributed biomass will continue.There will continue to be a certain level of demand for renewal and fuel conversion of existing plants.
Boiler plants (overseas)	<ul style="list-style-type: none">Demand for biomass power plants in Southeast Asia will remain robust.Our flagship bagasse-fired boiler plants will continue to face intense competition, especially from manufacturers in countries such as India and China.	<ul style="list-style-type: none">There will continue to be a certain level of demand against the backdrop of rich biomass resources.Demand for using a variety of fuels such as EFB will grow.
Waste treatment plants (overseas)	<ul style="list-style-type: none">Demand for Waste to Energy will grow in Southeast Asia due to growing urbanization, and an increase in, and diversification of, waste.Market development will be gradual due to institutional and financial issues, amongst others.	<ul style="list-style-type: none">The market will expand as economies grow.
Package boilers (general-purpose boilers)	<ul style="list-style-type: none">A certain level of demand will continue due to factors such as renewal demand even as the Japanese market matures.Demand for energy-conserving boilers will grow overseas particularly in emerging nations.	<ul style="list-style-type: none">The Japanese market will contract due to the aging and shrinking of the country's population.The market will expand further as emerging nations' economies grow.
Equipment and systems	<ul style="list-style-type: none">A certain level of demand will continue for both building equipment and semiconductor manufacturing equipment as construction demand rises and investment in the semiconductor industry expands.	<ul style="list-style-type: none">A certain level of demand will continue for both building equipment and semiconductor manufacturing equipment.

*DBO : Design Build Operate / O&M : Operation & Maintenance / PPP : Public Private Partnership / PFI : Private Finance Initiative / FIT : Feed-in Tariff / EFB : Empty Fruit Bunch

3. Positioning of the 12th Medium-Term Management Plan

- The plan represents the final stage of the current medium- and long-term vision (corporate vision), for which FY2020 is the target year.
- During its three years, we will achieve the vision and boost our corporate capabilities to prepare for steady growth in the future in response to future changes that are forecasted to occur in the business environment.



4. Policies of the 12th Medium-Term Management Plan

• By undertaking five new policies in line with the three perspectives continued from the 11th Medium-Term Management Plan, we will strengthen profitability and competitiveness while working to strengthen our management foundation, with a focus on effective use of human resources. In this way, we will strive to achieve our medium- and long-term vision while building a robust business and management foundation in response to future changes in the business environment.

1 Strengthening and expanding our revenue foundation

Many of the Group's products are used for a long period of time, for example for 20 or 30 years from the time of delivery. Offering high-quality after-sales service in an ongoing manner so that customers can use those products more effectively and over a longer period of time contributes to both customers' and the Group's profits, helping to create a foundation for stable, long-term earnings.

We will work to further strengthen and expand our revenue foundation by continuing to provide high-quality solutions throughout the plant and product life cycle as we meet customers' diversifying needs in an individualized manner.

2 Achieving sustained growth

Over the 80 years since the Group's founding, we have built a reputation as an essential part of society by providing products that are recognized for their value utilizing our technologies which are the core part of our company.

We will create customer value by continually developing unique technologies, services, and business models based on Takuma's strengths such as the technologies, track record, experience, and expertise that we've accumulated through our business activities to date. In addition, we will work to secure sustained growth by securing and creating competitive advantages as we respond quickly to changes in the business environment, such as evolving customer needs and emerging social issues.

3 Increasing productivity, for example by reforming business processes

The nature of the Group's businesses is undergoing major evolution as the business environment changes, for example due to changes in social structure such as the shrinking and aging of Japan's population and the emergence of more advanced and diverse customer needs as well as social issues.

We will strive to improve productivity, make effective use of human resources, and further increase the level of value we provide by fundamentally reviewing and rebuilding business processes that have become increasingly complex in order to accommodate these changes while focusing on businesses with higher added value (which will help us create and provide value).

4 Using human resources effectively

We will work to hire and train the diverse workforce that will be essential as we develop the Group's businesses going forward. At the same time, we will strive to create an environment that keeps individual employees engaged in their work and able to make full use of their skills and abilities (by cultivating a healthy workplace culture, reforming individual awareness, and facilitating fulfilling workstyles).

5 Continuing to pursue compliance management

The Group considers compliance to be a key foundation of its corporate activities, and we've worked to spread awareness and foster adoption of good practices by including compliance as a policy in the last several Medium-Term Management Plans.

Awareness of the importance of compliance has steadily taken root among our employees thanks to ongoing awareness-raising and educational activities, and we will continue to pursue such initiatives to ensure that the trust we've built up in our quality and integrity remains unshakable. In addition, we will work to further spread and improve compliance awareness throughout the Group by effectively implementing and utilizing mechanisms such as our internal reporting system and CSR awareness survey.

Policies

- 1 Strengthening and expanding our revenue foundation
- 2 Achieving sustained growth
- 3 Increasing productivity, for example by reforming business processes
- 4 Using human resources effectively
- 5 Continuing to pursue compliance management

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Perspectives for achieving our policies

1 Creation of customer value

Strive to create new value from the customers' perspective and avoid price competition by working closely with, and developing a deep understanding of, customers.

2 Ongoing innovation

Achieve sustained differentiation by pursuing innovation in terms of both technologies and business models, and leverage that differentiation to create the value demanded by customers.

3 Accommodation of environmental changes and risk management

Adapt to changes of the business environment in which the company operates (e.g., changes in the economic climate, revisions to applicable laws, and changes in customer needs) and strengthen initiatives to treat such changes as business opportunities.

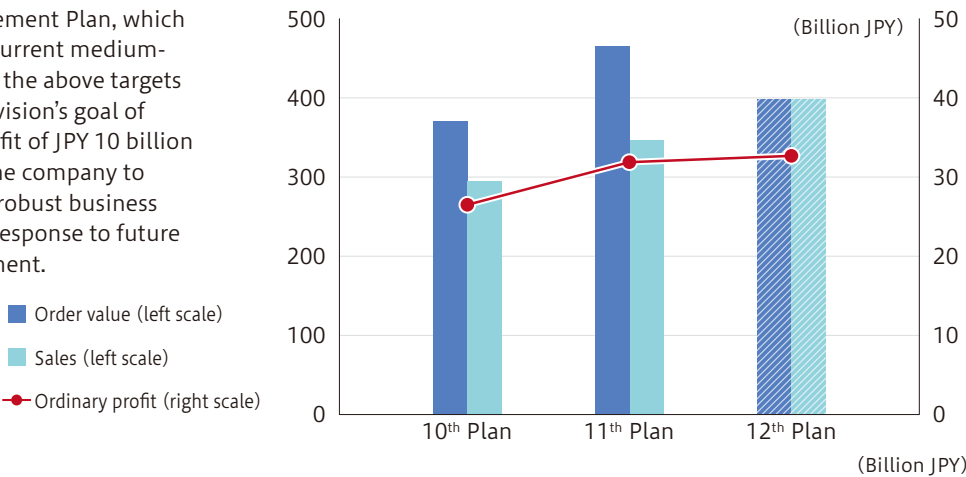
Achieving our vision

Building a business and management foundation that is resilient during change

5. Financial Target

▶ Target: 3-year cumulative consolidated ordinary profit of JPY 33 billion

The 12th Medium-Term Management Plan, which represents the final stage of our current medium- and long-term vision, establishes the above targets to guide our achievement of the vision's goal of consistently earning ordinary profit of JPY 10 billion while simultaneously directing the company to utilize all its resources to build a robust business and management foundation in response to future changes in the business environment.



	10 th Medium-Term Management Plan results				11 th Medium-Term Management Plan results				12 th Medium-Term Management Plan
	2012	2013	2014	Total	2015	2016	2017	Total	FY2018 to FY2020
Order value	109.2	148.0	113.7	371.0	99.9	191.0	177.1	468.0	JPY 400 billion (approx.) (3-year cumulative total; reference value)
Sales	96.3	96.3	103.8	296.5	113.0	116.3	118.1	347.5	
Ordinary profit	7.1	9.4	9.1	25.7	9.6	11.6	10.6	31.9	Target: JPY 33 billion (3-year cumulative total)

6. Core Business Units and Emphasis of Future Activities

► Municipal Solid Waste Treatment Plant Business

Business Environment

- As facilities age, there is ongoing robust demand for renewal and service life elongation.
- Volume is growing for DBO projects as well as O&M services for existing facilities.

Emphasis of Future Activities

- Strengthen the profitability of our plant operation business.
- Further strengthen initiatives to prolong the service life of facilities.



Waste-to-Energy Plant
(Primary equipment improvement project)
Treatment capacity: 810 tons per day
Generating capacity: 17,200 kW



Waste-to-Energy Plant
(DBO Project)
Treatment capacity: 174 tons per day
Generating capacity: 3,800 kW

► Water Treatment Plant Business

Business Environment

- There is growing demand for sludge incineration plants that conserve and create energy.
- There is increasing use of PPP/PFI arrangements in the sewer business.

Emphasis of Future Activities

- Strengthen the competitiveness of our sludge-fueled power system.
- Scale our waste management expertise horizontally to other businesses.



Moving Bed Upflow Continuous
Sand Filtration System (high-speed)
Treatment capacity: 29,500 m³ per day



Sludge-Fueled Power System
Demonstration Plant
Treatment capacity: 35 wet tons per day
(with moisture content of about 70%)
Generating output: About 100 kWh/h

► Boiler Plant Business (Japan)

Business Environment

- FIT demand remains robust.
- The number of plants targeted for maintenance is increasing as facilities are completed and transferred to customers.
- There is growing demand for plant operational management and O&M.

Emphasis of Future Activities

- Capture new orders for FIT biomass plants.
- Strengthen our maintenance structures.
- Scale our waste management expertise horizontally to other businesses.



Wood Chip Biomass Power Plant
Generating capacity: 1,990 kW



Wood Chip Biomass Power Plant
Generating capacity: 22,100 kW

► Boiler Plant Business (Overseas)

Business Environment

- Demand for biomass power plants in Southeast Asia remains robust.
- Our flagship bagasse-fired boiler plants continue to experience intense competition.

Emphasis of Future Activities

- Capture orders continually by creating competitive advantages.
- Strengthen the ability of our local subsidiary (SIAM TAKUMA) to carry out its business operations.



Bagasse-Fired Boiler Plant (Thailand)



Bagasse-Fired Boiler Plant
(Thailand)

► Waste Treatment Plant Business (Overseas)

Business Environment

- There is a growing need for proper waste management and energy utilization against a backdrop of growing urbanization, increase of waste volume, and diversification of waste characteristics.

Emphasis of Future Activities

- Build structures to facilitate collaboration with partner companies.
- Build schemes for entering new markets.



Waste-to-Energy Plant (China)
Treatment capacity: 1,600 tons per day
Generating capacity: 30,000 kW



Waste-to-Energy Plant (UK)
Treatment capacity: 1,370 tons per day
Generating capacity: 36,650 kW

► Package Boiler Business

Business Environment

- We are continuing to see a certain level of demand in Japan, particularly in terms of renewal demand.
- The need for energy-conserving boilers is increasing overseas, particularly in developing nations.

Emphasis of Future Activities

- Maintain and expand our domestic business.
- Expand our overseas business.



Super EQOS EQI Series



Super Vacotin Heater
GTL Series

Perspectives on 12th Medium-Term Management Plan

This section introduces how Takuma's management and the management of major Group companies view their social responsibilities and how they are working to fulfill them as they strive to pursue their respective missions under the 12th Medium-Term Management Plan, which began in FY2018.

Corporate Services Division

Koji Tanaka Executive Manager, Corporate Services Division



The Corporate Services Division's mission is to help boost profits throughout the Group by providing services to its various departments, for example so they can more effectively utilize information and other management resources and practice legal risk management. To that end, it is called upon to provide higher-quality services to help achieve steady growth and to enhance the Group's capabilities.

Due to the extensive scope of these operations, the Division's activities encompass a variety of CSR issues, including with regard to strengthening relationships with shareholders, BCP, information security, and reducing risk. Particularly important priorities under the current Medium-Term Management Plan address human resources, an area that plays an essential role as the basis of all business activities, including hiring practices and training programs as well as the development of an environment that will allow each and every employee to do his or her job in an energetic and engaged manner and to take advantage of his or her skills and abilities, while simultaneously facilitating improvements in productivity.

Corporate Planning & Administration Division

Tsuyohito Nishiyama Executive Manager, Corporate Planning & Administration Division



The current Medium-Term Management Plan sets forth five policies to address the theme of strengthening corporate capability to facilitate steady growth.

Strengthening the Group's corporate capabilities encompasses the meaning of transforming Takuma so that it will be universally recognized as a good company, and the only way to do that is not only to pursue performance metrics, for example by increasing sales and profits, but also to participate actively in the process of addressing social needs.

We are seeing a shift in how the world determines corporate value in the form of a move from tangible assets to intangible assets, and one key area of risk that the world recognizes now is the environment.

The Group is keenly attuned to these social trends, and as we pursue a range of initiatives to make Takuma a better company, we will be fulfilling our responsibilities by working to resolve social issues in the areas of renewable energy utilization and environmental protection.

Perspectives on 12th Medium-Term Management Plan

► Corporate Marketing Group

Business Administration Division

Kengo Numata Executive Manager, Corporate Marketing Group & Business Administration Division & Environmental Plant Division



We are seeking to increase Takuma's corporate value and to achieve sustained growth by formulating and executing a business strategy that will earn us the trust of a broad range of customers and other stakeholders.

For example, our ability to consistently supply high-quality solutions throughout the plant life cycle while responding precisely to changes in the market environment and evolving customer needs yields mutual profits for both customers and the Group over the long term.

At the same time, maintaining and expanding our market position in such EPC markets as waste treatment plants and biomass power plants will allow us to make a significant contribution to the resolution of a variety of current social issues.

By formulating and executing these business strategies, I believe we will be able to build a business platform that is resistant to change so that we can continue to develop as a company that plays an essential role in society.

Environmental Plant Division

Hidetoshi Tomita Deputy Executive Manager, Environmental Plant Division



The Paris Agreement, which seeks to eliminate the world's dependence on fossil fuels, entered into force in 2016, and Takuma, too, has an obligation to pursue corporate activities to help achieve its goals. The Environmental Plant Division will help bring about a recycling-based society through the current Medium-Term Management Plan. We will reduce environmental impacts by working to eliminate and reduce greenhouse gases, specifically through advanced thermal recovery with high-efficiency power generation in waste treatment plant construction, through the reduction of CO₂ emissions in core facility improvement projects at existing plants, and through power generation using incineration heat at sewage sludge incineration plants. In addition, we will coexist alongside local residents through our DBO business by utilizing waste treatment facilities as places of environmental awareness-raising and as disaster prevention facilities in times of large-scale disasters, and by performing daily maintenance in an appropriate manner. Finally, we in the Environmental Plant Division look forward to fulfilling our social responsibility to help realize a recycling-based society by providing high-quality products and services.

Energy Plant Division

Mitsuaki Adachi Executive Manager, Energy Plant Division



Takuma's energy business has utilized the FIT scheme to deliver numerous biomass power plants, and we continue to do so today. Under the current Medium-Term Management Plan, we will prioritize a permanent approach to plant operation, including by continuing to accept orders and by enhancing maintenance business structures for operational plants, so that these facilities can serve as the foundation for clean energy.

We see our role with regard to a sustainable society as contributing to society by resolving issues through our businesses, for example by contributing to environmental protection by reducing CO₂ emissions through the use of renewable energy in response to specific measures by governmental agencies to achieve the Sustainable Development Goals (SDGs), including by promoting use of renewable energy, addressing climate change, and building a recycling-based society.

International Operations Division

Takashi Manabe Executive Manager, International Operations Division



The International Operations Division has identified a number of priorities as it works to implement the current Medium-Term Management Plan.

First, reflecting our belief that addressing compliance, safety, and environmental issues is a given, we are working to develop our overseas businesses in a way that accords with local practices while understanding and respecting the commercial customs, religion, culture, and values in the countries where we do business.

Next, we will help address environmental and energy issues and realize a recycling-based society by working to create renewable energy and to improve the local waste treatment environment through the supply of biomass boilers such as bagasse-fired boilers and waste incineration plants that incorporate exceptional technologies.

Finally, we will strengthen our solutions-based sales initiatives, which are conceived to offer high added value based on customer needs.

We will fulfill our social responsibility by contributing to the sustained development of other countries through these initiatives.

► Engineering Group

Management Center

Hiroaki Nanjo Executive Manager, Engineering Group & Management Center



The Management Center is responsible for cost management and overall process management. Even as we continue to see robust demand for products such as biomass boilers and municipal solid waste treatment plants, the business environment is changing along with the structure of society. We will work to achieve a competitive cost structure by optimizing costs to facilitate sustained growth. To that end, we will monitor pricing trends as they relate to supplies, equipment, construction, and other costs and apply that information precisely to the processes we use to establish quotation costs and manage working budgets. We will also work to limit risk by focusing on process management and cost progress management, including for civil engineering construction work.

In our overseas businesses, we will work to differentiate our offerings from those of our competitors by increasing the competitiveness of our boiler plants. With regard to waste treatment plants, we will study structures for facilitating cooperation with partner companies and work to develop schemes for entering new markets.

Technology Center

Akira Taguchi Executive Manager, Technology Center



The Technology Center is responsible for a swath of operations ranging from the development of Takuma's core technology products to design while surveying and monitoring the latest social needs.

In recent years, we have seen a trend toward proper processing of waste and hazardous materials in the environmental sector, along with a growing focus on reducing waste generation, reusing waste, and reducing waste volume. In the energy sector, the trend is toward making use of fuels and energy sources that have gone unutilized in the past, and on creating new types of energy. Against this backdrop, Takuma will continue to consistently ship environmentally friendly products while making use of, and further developing, its stable of core technologies in areas such as combustion, incineration, boilers, and exhaust gas treatment.

Project Center

Hideki Takeguchi Executive Manager, Project Center



The equipment and plants that Takuma provides effectively utilize waste products and byproducts from human life and production activities, including municipal waste, industrial waste, sewage sludge, and biomass, to create the utilities—electricity and heat—that people need to live and that economies need to grow. In this way, we are able to give something back to society.

Today, as we find ourselves faced with the need to further increase use of renewable energy as one way to protect the Earth's environment, the Project Center is working to help build a society where future generations can enjoy rich and fulfilling lifestyles, including by supplying plants designed to further the realization of a recycling-based society and to reduce CO₂ emissions, for example by generating power from municipal solid waste, sewage sludge, and biomass, and by creating and developing the technologies and processes that will help expand the markets for such plants.

Engineering Center

Norito Uchiyama Executive Manager, Engineering Center



The Engineering Center will promote the streamlining of specifications and design work in a way that takes life cycle cost into account and provides technologies with value in terms of equipment and control by analyzing plant data and utilizing information and communications technology (ICT). We will also realize stable operation and management over the long term by promoting energy savings at all types of facilities and providing solutions that deliver exceptional economic performance at a high level of efficiency.

We will also pursue open innovation in an effort to fulfill our social responsibility as a corporation by adopting a global perspective and working in partnership with Group companies, affiliates, and other organizations to accommodate changes in the business environment.

To help realize a low-carbon society, we will strive to bring innovation to processes and products and to develop products that satisfy all stakeholders.

Construction Center

Ryoji Tani Executive Manager, Construction Center



The current Medium-Term Management Plan calls on us to reliably fulfill a large order backlog and to accommodate a robust flow of new projects, signaling an environment in which we are fortunate to be able to do business. At the same time, that environment raises concerns about waning job enthusiasm due to a heavy workload, the unfortunate occurrence of occupational accidents, and a tendency for human resources training measures to take a back seat to other priorities since most projects involve long lead times. Based on these facts, I see our most significant issue as the need to ensure employee health and safety, to facilitate enthusiasm, and to build solid operational structures that will position us to take the next step once the current plan is complete. As we work to overcome these challenges, veterans and newcomers alike will do well to remember and draw encouragement from one of the motivations that drove them to join Takuma in the first place: love for a job involving protecting the environment and utilizing energy effectively.

Perspectives on 12th Medium-Term Management Plan

► Group Companies

■ NIPPON THERMOENER CO., LTD.

Masahiko Izumi, President and Representative Director



Reflecting our philosophy of “Service to the nation through boiler manufacturing,” we strive to contribute to society through corporate activities in the package boiler segment of the market, and we consider our corporate activities themselves to be CSR activities.

The current Medium-Term Management Plan sets forth two basic goals in order to increase corporate value: increasing the size of the company and developing a more advanced level of quality. To achieve these goals, we will develop and supply safe, high-quality products and services; increase customer and business partner satisfaction; and improve employee satisfaction in the process while boosting organizational trust. If our products and services enter into even more widespread use in society, our contribution in the environmental and energy sectors will grow, helping to increase our corporate value.

Going forward, we will fulfill our CSR by striving to serve as a high-value company for all stakeholders through corporate activities such as these.

■ Takuma Technos Co., Ltd.

Kazunori Tsuji, President



With 68 offices, worksites, and other facilities around Japan, we operate and manage facilities under contract. In recent years, the number of DBO and O&M facilities that we serve in partnership with Takuma Co., Ltd., is increasing, and the manner in which we operate those facilities is changing from the past.

However, our mission of providing safety and stability to customers at each facility we manage and of supervising the operations with which we are entrusted in a way that inspires customers' peace of mind has not changed. To fulfill that mission, all of our employees must come together to harness the full potential of each facility without accident or disaster so that waste products can be treated properly and ever-more-demanding requirements satisfied. We will do everything we can going forward under the current Medium-Term Management Plan to fulfill our company's social responsibility.

■ SUNPLANT Co., Ltd.

Syusuke Suzuki, President



Our philosophy revolves around helping protect the regional environment by utilizing air-conditioning and sanitary equipment design and installation technologies.

It is widely recognized that overwork is an issue in the construction industry, of which we are a part. We recognize this issue as a life-or-death challenge for our company, and we are working to create an environment in which employees can balance their jobs with their private lives, for example by actively participating in the Work-Life Balance campaign led by the Tokyo Metropolitan Government. We also continue to run the company in a fair and just manner, with an absolute focus on compliance. Going forward, we will strive to increase CSR awareness, for example by offering internal classes designed to foster employees' understanding of Japan's legal system.

■ Dan-Takuma Technologies Inc.

Yoshiki Kita, PRESIDENT



For half a century, we have created highly clean environments for production processes in the semiconductor and electronic precision fabrication industries, and we have made broad contributions to society by making possible improvements in rational production that have helped maintain rich and safe lifestyles while solving environmental and energy issues by supplying clean equipment and systems. At the same time, we believe that efforts to maintain and promote compliance provide a crucial basis for the operation of our businesses, and going forward, we will strive on an ongoing basis to enhance compliance by assessing our operations from an ESG standpoint.

In addition, we will work to help achieve the SDGs through cooperation, contribution, and partnership involving customers and other stakeholders, both in Japan and overseas.

This page introduces the views of members of our Audit & Supervisory Committee on the policies, priority measures, and other provisions of the current Medium-Term Management Plan, including with regard to initiatives to increase the Group's corporate value and their expectations and wishes for the future.

► Audit & Supervisory Committee Members

Yasushi Enomoto Audit & Supervisory Committee Member (Director)



Having identified maintaining its role of being indispensable presence in society as a leading company in the field of renewable energy utilization and environmental protection as its corporate vision, Takuma has contributed to environmental protection by realizing a diverse range of customer needs and by improving technology through research and development. We also work to protect the environment via a range of activities that includes limiting energy consumption and waste emissions and community service programs.

In addition, we are achieving steady results through ongoing initiatives to promote compliance management.

Going forward, we believe that cultivating increased awareness of global needs as our overseas businesses develop, for example in the form of ESG investment and the UN's Sustainable Development Goals (SDGs), and bringing those priorities to bear in our businesses will help us contribute to society while increasing our corporate value.

Hiromichi Satake Audit & Supervisory Committee Member (Outside Director)



The Takuma Group built structures to deliver results on a stable basis through the previous 11th Medium-Term Management Plan. Under the 12th Medium-Term Management Plan, I expect to see the company strengthen risk management and develop into an organization that is even more resistant to changes in the business environment.

We are seeing results from our efforts to contribute to society, and it is desirable that we work to ensure those efforts penetrate every aspect of the Group's operations so that they do not lose their viability. Encouraging all employees to continuously think about what they should do and how they should act will allow us to increase our corporate value. As an outside director, I will work from an independent, fair perspective to strengthen the Group's management and supervisory functions and to establish CSR management with the goal of precisely understanding stakeholder expectations and increasing stakeholder satisfaction.

Osamu Iwahashi Audit & Supervisory Committee Member (Outside Director)



I have served as an auditor and director (as a member of the Audit & Supervisory Committee) at Takuma for six years, during which time I have drawn on experience I gained during my involvement with law enforcement policy for many years. I have pursued auditing and other operations primarily from a corporate governance and compliance perspective, and I believe that an emphasis on CSR is an essential part of corporate management.

Takuma's Energy from Waste plants and biomass-fueled power plants make up its core businesses, and the company is fortunate in that these businesses themselves help it fulfill its corporate social responsibility. In addition, the company has actively pursued a broad array of CSR activities, including through solar power installations, research into how waste gas and heat can be used in crop cultivation, and participation in, and contribution to, regional activities.

Going forward, I'm confident that Takuma will be able to effectively pursue activities that achieve the aims of CSR in its primary businesses and associated operations.

Minoru Murata Audit & Supervisory Committee Member (Outside Director)



We contribute to society by creating value through maintenance of social infrastructure that underpins human lifestyles and of industrial equipment. The products and services that are the ultimate result of our corporate activities live up to the standards set by society's expectations, and we have built a track record of success through our efforts to increase social satisfaction.

At the same time, an increasingly diverse society demands a more sophisticated type of value, and attention now encompasses not only deliverables, but also the processes that create them (i.e., production processes). To take CSR to the next level, it will be necessary to increase the satisfaction of the people that participate in the processes that give rise to deliverables. It will be important to reduce environmental impacts in manufacturing and construction processes, and to improve worker safety and the work environment. Going forward, I believe that taking into consideration stakeholders such as employees and local residents will help us pursue an even higher level of CSR.