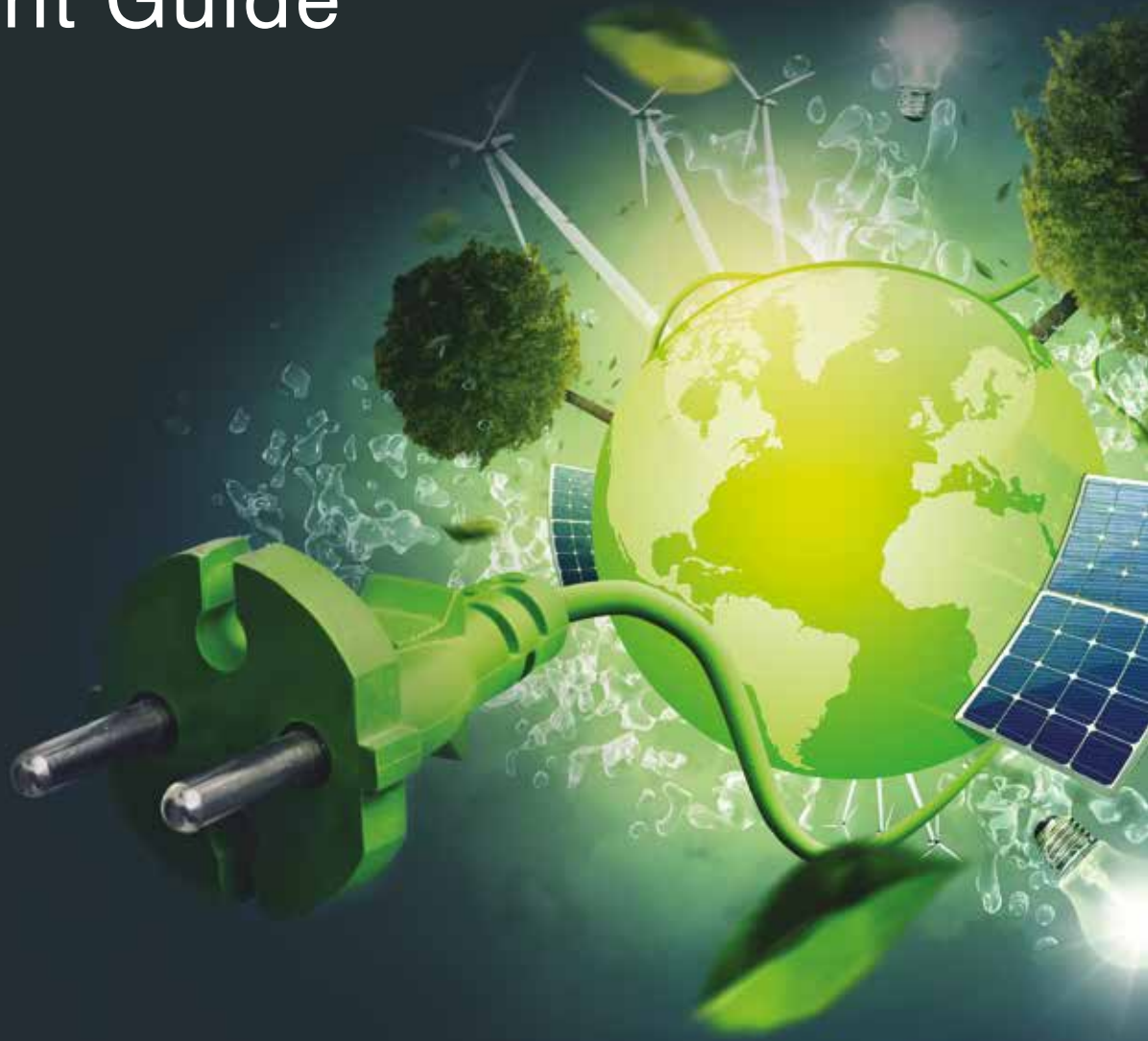


BALIKESİR

Energy Investment Guide







With its developing economy, Turkey is becoming one of the major centers of world economy. Global sized enterprises prioritize Turkey in their investment decisions and investors gain advantages thanks to elements such as Turkey's geographic location, natural resources, trained labor force.

Trained labor force; land-sea-air transport with multiple alternatives; proximity to metropolises and many such advantages underline Balıkesir in hosting sustainable investments. This work aims to promote current investment environment in order to enable Balıkesir to take a bigger role in Turkey, which is becoming a center of attraction with new investments.

This guide promotes the investment environment in energy sector in Balıkesir and goes into detail in renewable energy sub-sector in particular, in which Balıkesir is the leading city in Turkey; and lists the advantages investors will benefit by investing in Balıkesir. From the potential of Balıkesir in energy sector to its logistics opportunities, from regional incentives provided by the Ministry of Economy to services provided by South Marmara Development Agency, a wide range of pre-investment information is given in detail in the guide.

Apart from this Energy Investment Guide, investment guides on other sectors such as Agriculture and Animal Husbandry, Tourism, Industry, and Mining were prepared and presented into potential investors' service. In addition to these, South Marmara Development Agency also provides support services with its technical infrastructure and its expert staff, and supports all investments in Balıkesir as a solution partner.

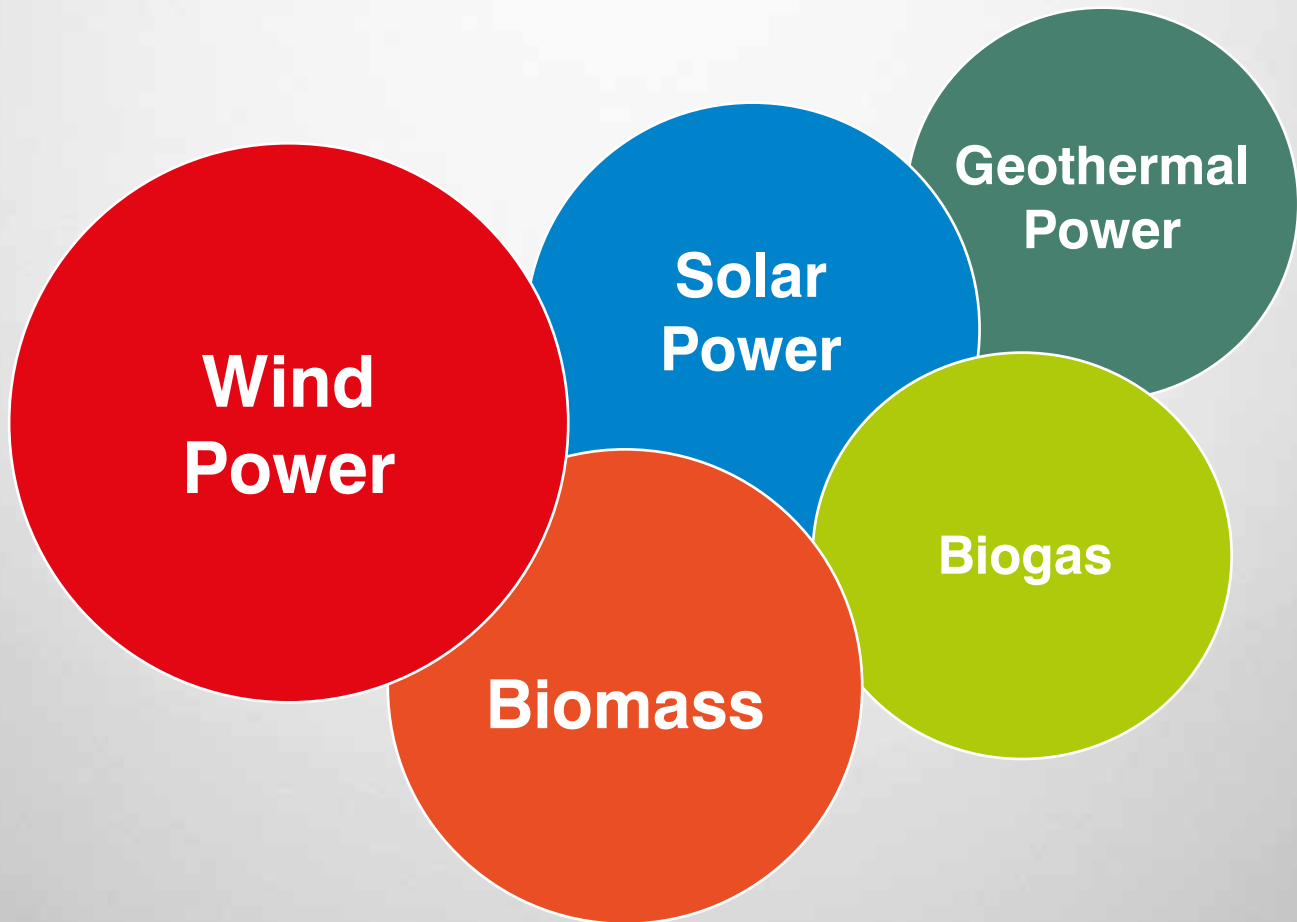
While we hope that this Guide proves useful to you; we would like to inform you that you can always benefit from the extensive support services our Investment Support Office gladly provides in order to help you realize your investments.



Right Spot for Renewable Energy Investments

Prominent in renewable energy sources, Balıkesir has a strong potential with regards to wind, biomass, biogas, solar power and geothermal energy production.

While it is in a location very favorable for wind and solar energy investments, the province also has plenty of agricultural and animal waste capacity with high calorific values required for biogas and biomass investments.



Leader in Wind Energy Investments

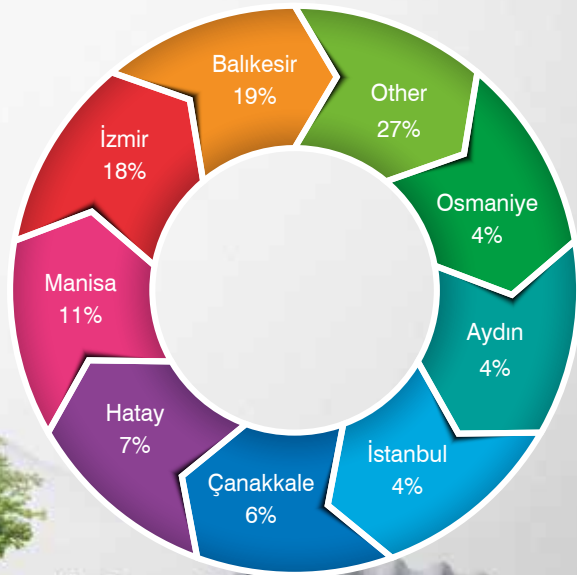


Its topography, climatological and meteorological features make Balıkesir climb to the top in Turkey in wind power investments.

19% of all wind power investments in Turkey are made in Balıkesir. All of these investments are active and have a total installed capacity of 969.75 MW. Total installed power capacity of wind power investments under construction is 97.4 MW, and constitutes 6.5% of all wind power investments under construction in Turkey.

Total area of land where wind power plants can be installed in Balıkesir consists of 3,000 km². Total installable power capacity is calculated approximately as 14,000 MW.

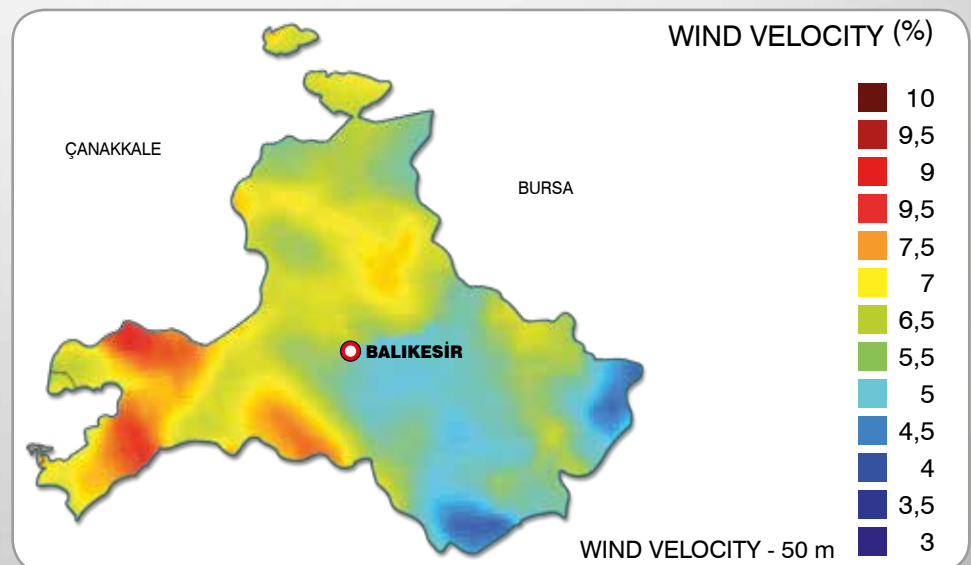
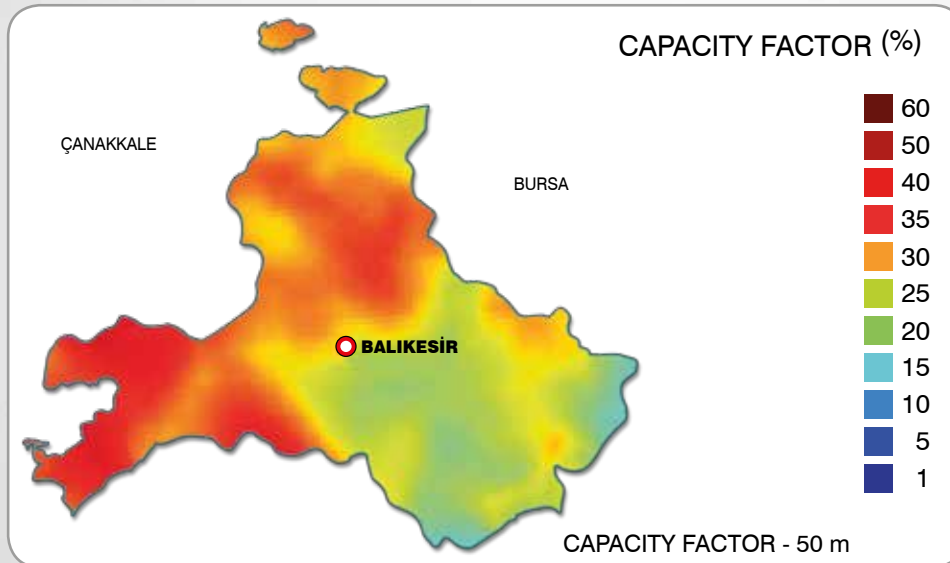
Distribution of WPPs by Provinces





Leader in Wind Power

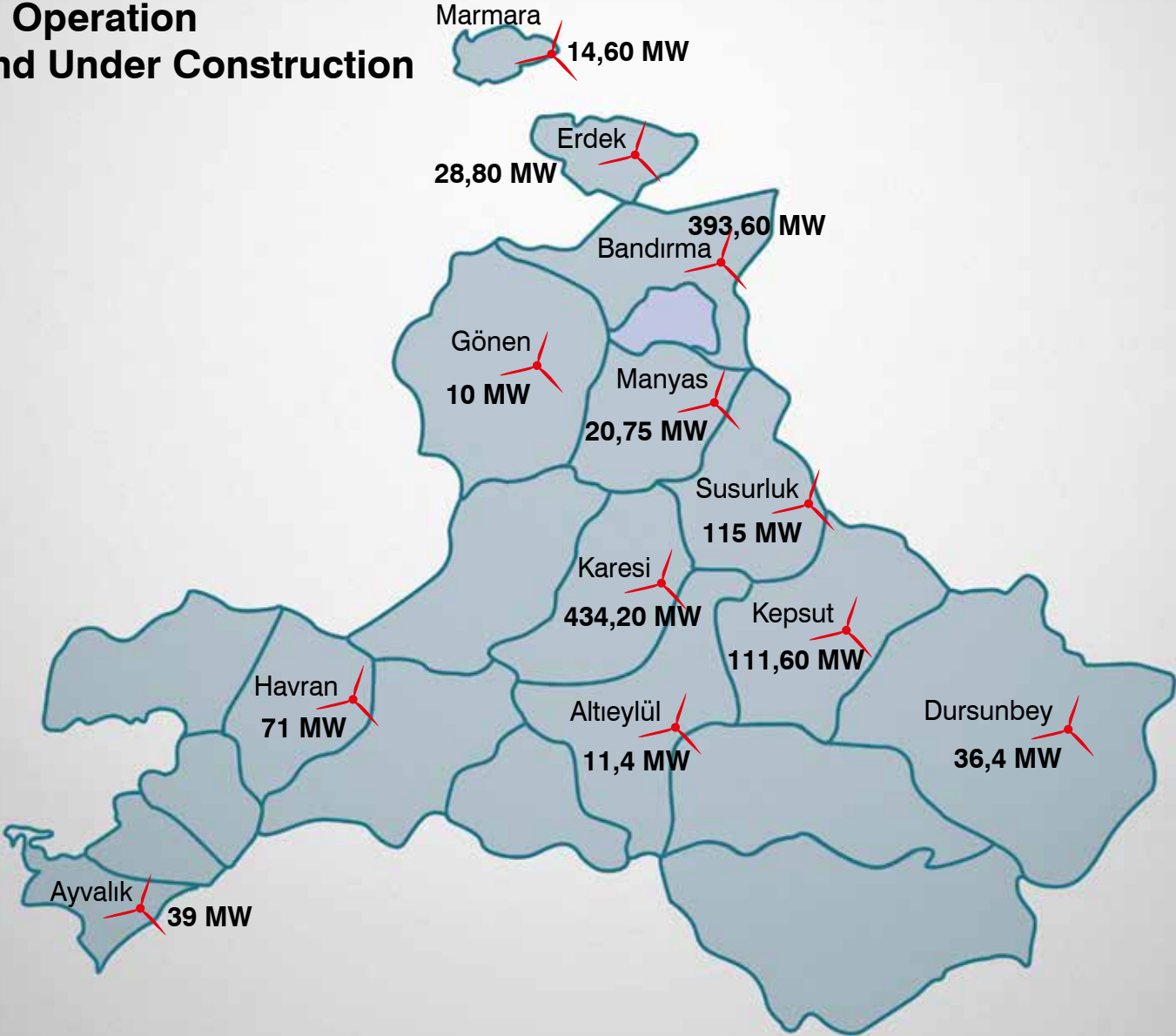
Balikesir has a topography which enables meeting critical values such as 7 m/s wind speed at 50 meters and 35% capacity factor rather easily, which are considered minimum values for economical WPP investments.



The City Embracing the Wind



WPPs in Operation and Under Construction





Waste Turns into Energy with Biomass and Biogas Investments

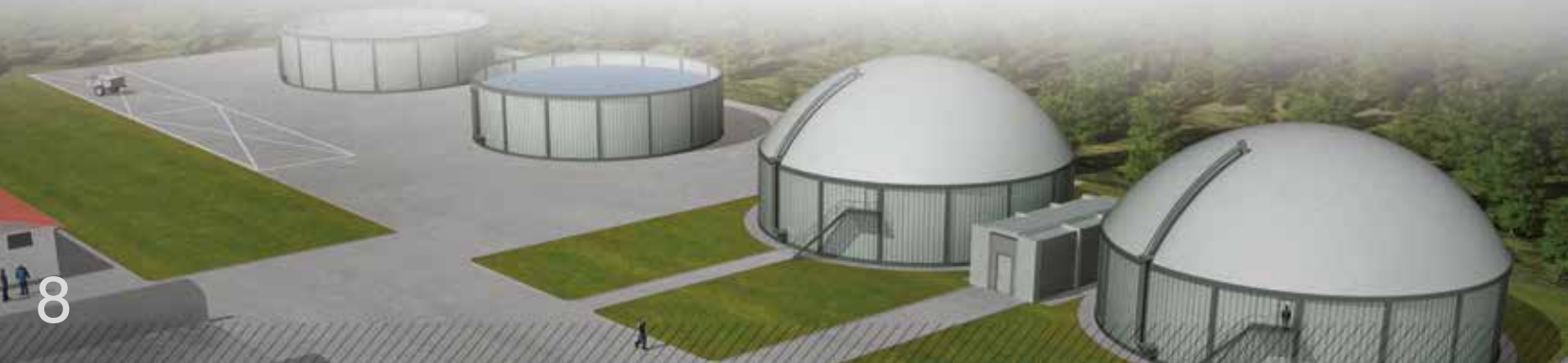
Agricultural and animal wastes, forestry products and wastes as well as industrial wastes are used as sources for biomass energy production.

Balıkesir province has abundant high calorie wastes of all kinds required for biomass investments such as wheat, rice, sunflower, corn and canola, are grown in abundance in Balıkesir; creating a huge potential for biomass investments with regards to their high calorie content.

Biogas is a gas mixture without odor and color, and lighter than air with mostly methane content obtained by anaerobic fermentation of organic waste materials.

Commonly performed bovine feeding, dairy cattle raising, ovine feeding and poultry farming wastes constitute major resources for biogas.

- ▶ **Havran, Edremit, Burhaniye, Ayvalık and Gönen in fruit and olive wastes**
- ▶ **Altıeylül, Karesi and Gönen in vegetable wastes**
- ▶ **Karesi, Altıeylül, Bigadiç, Bandırma and Gönen in field crops wastes**
- ▶ **Bandırma and its vicinity along, Karesi and Altıeylül in poultry wastes**
- ▶ **Bigadiç, Gönen, İvrindi, Karesi and Altıeylül in animal wastes**
- ▶ **Edremit, Havran, Balya, Sındırgı, Dursunbey, Bigadiç in forestry wastes**

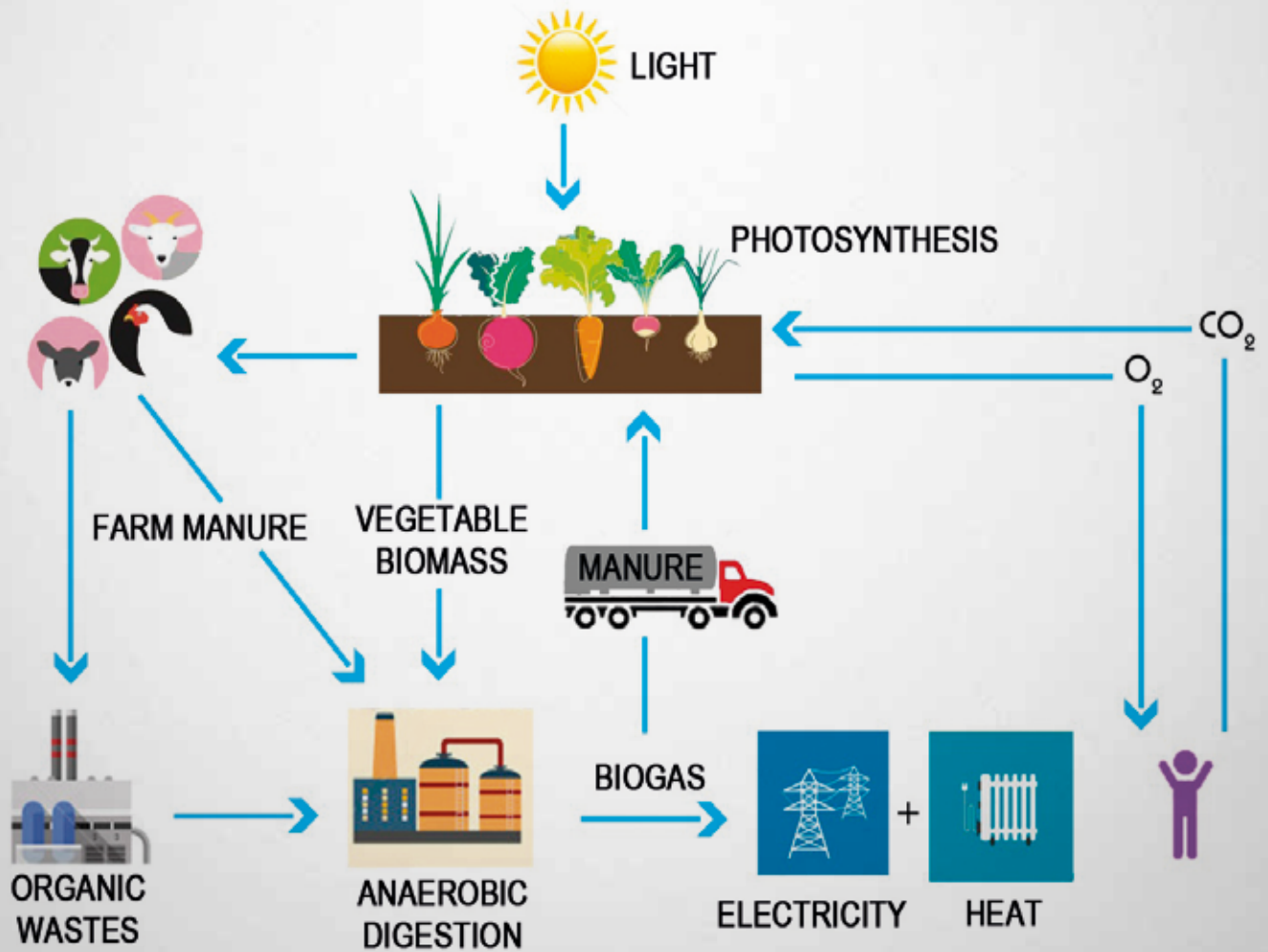


Waste Turns into Energy with Biomass and Biogas Investments





Waste Turns into Energy with Biomass and Biogas Investments



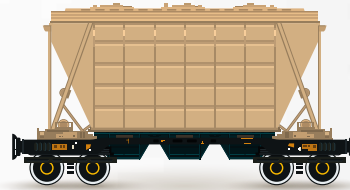
Favourable Environment for Biogas Investments



Energy capacity of biogas varies between 0.98 to 4.7 MWh.

Potential biogas amount can be obtained from animal waste in Balıkesir is 500,000 m³ from bovine waste, 60,000 m³ from ovine waste and 240,000 m³ poultry waste.

Potential biogas amount that can be obtained from animal waste in Balıkesir is;



Total potential biogas amount for Balıkesir province is calculated to be approximately 800,000 m³.

Converting these figures into electrical energy values:

- ▶ Minimum 30.8 kWh for 0.98 kWh value, and
- ▶ Maximum 150 kWh for 4.7 kWh value

These values can meet the heating and electricity demand of 200,000 to 500,000 residences.

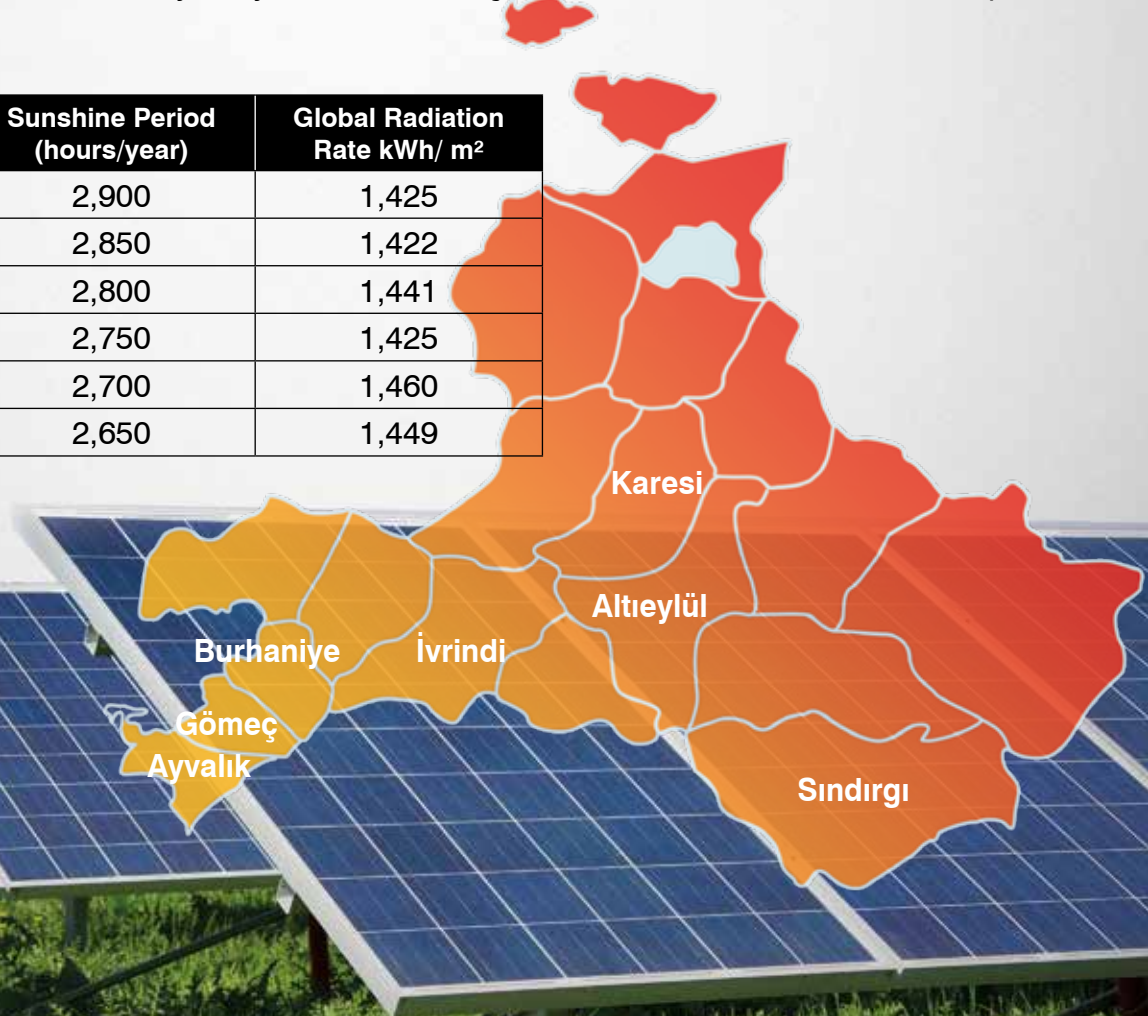


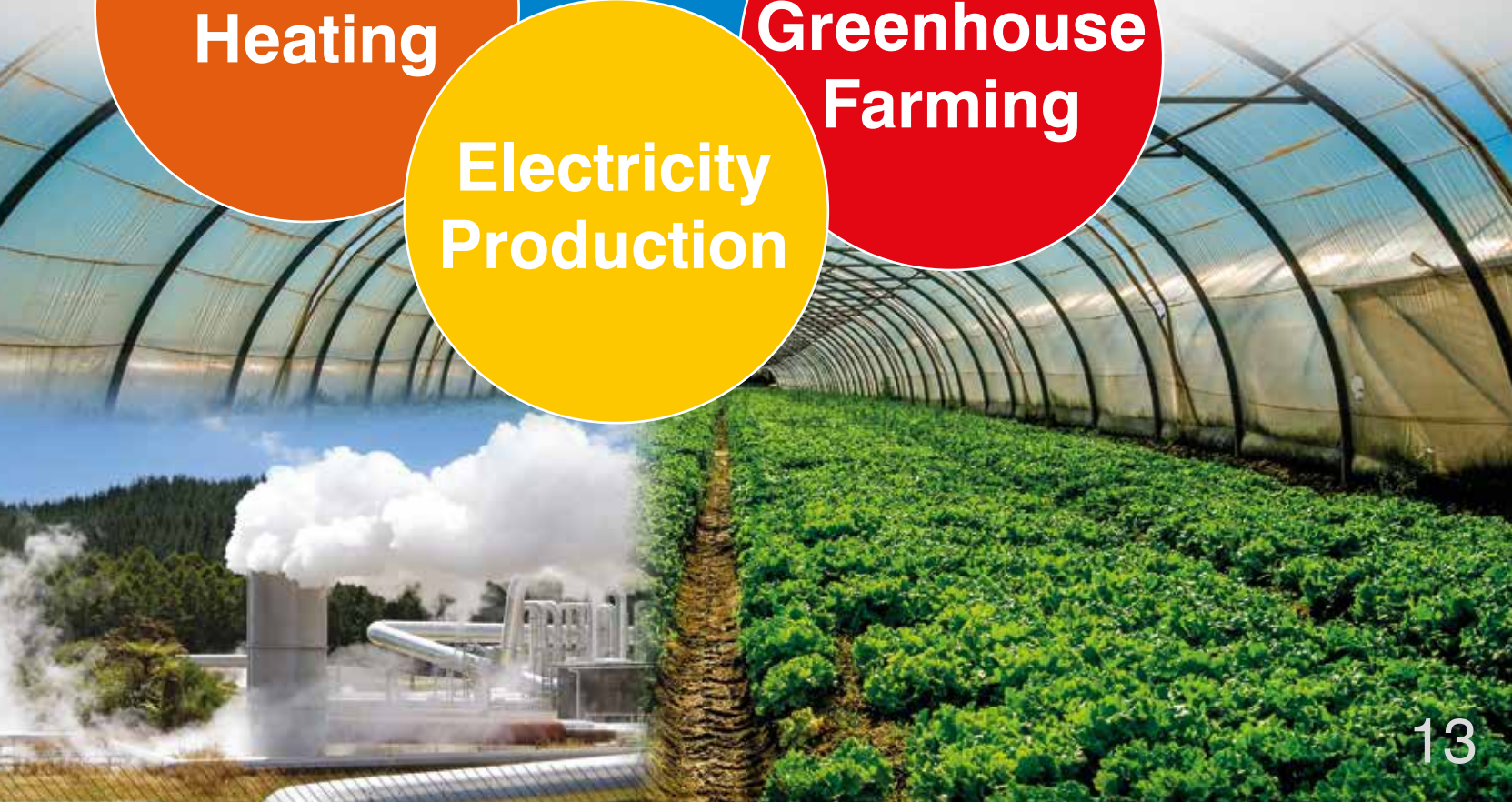
Balıkesir for Highly Efficient SPP Investments

According to the map prepared for Balıkesir by using Turkey Solar Power Potential Atlas (GEPA) data, annual global radiation value on the horizontal plane is 1,422 kWh/m². Within the province, Ayvalık rises to prominence with 1,460 kWh/m² annual global radiation rate. Ayvalık is followed by Gömeç with 1,449 kWh/m² and Burhaniye with 1,441 kWh/m².

With regards to sunshine factor, which is quite important for solar power investments, Sındırgı, Altıeylül, Karesi, İvrindi, Burhaniye, Ayvalık ve Gömeç counties are suitable for solar power investments.

Counties	Sunshine Period (hours/year)	Global Radiation Rate kWh/ m ²
Sındırgı	2,900	1,425
Karesi-Altıeylül	2,850	1,422
Burhaniye	2,800	1,441
İvrindi	2,750	1,425
Ayvalık	2,700	1,460
Gömeç	2,650	1,449







Many Regions with Geothermal Resources

ALTIEYLÜL

GÖNEN

BALYA

MANYAS

SINDIRGI

EDREMİT

BURHANIYE

SUSURLUK

GÖMEÇ

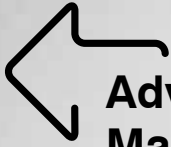
BİGADIÇ

Major Geothermal Regions of Balıkesir by Flow Rates and Temperatures



- ▶ **Edremit-Güre**
Flow rate 4-50 l/sec, Temperature 33-68 °C
- ▶ **Edremit-Bostancı**
Flow rate 2-86 l/sec, Temperature 42-60 °C
- ▶ **Gömeç Karaağaç- Burhaniye Pelitköy**
Flow rate 5-30 l/sec, Temperature 33-35 °C
- ▶ **Gönen**
Flow rate 20-80 l/sec, Temperature 70-84 °C
- ▶ **Gönen-Ekşidere**
Flow rate 2-6 l/sec, Temperature 32-43 °C
- ▶ **Manyas Kızık**
Flow rate 10-15 l/sec, Temperature 42-58 °C
- ▶ **Balya-Ilıca**
Flow rate 2-27 l/sec, Temperature 59-61 °C
- ▶ **Susurluk-Kepekler-Yıldız**
Flow rate 2-24 l/sec, Temperature 46-74 °C
- ▶ **Altıeylül -Pamukçu**
Flow rate 7-18 l/sec, Temperature 53-58 °C
- ▶ **Bigadiç Hisarköy**
Flow rate 2-60 l/sec, Temperature 52-98 °C
- ▶ **Sındırgı-Hisaralan**
Flow rate 7-32 l/sec, Temperature 33-98 °C





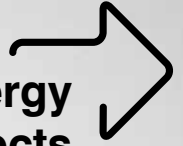
Advantageous Investment Environment in Renewable Energy Machinery and Equipment Production

Technological machinery and equipment use is highly important in renewable energy sector that has a higher share in meeting increasing energy demand each passing day.

Being the leader in renewable energy production, Balıkesir is at an advantageous position for machinery and equipment investments targeting renewable energy sector.

In the province, region 5 incentives apply to turbine, generator and wind investments required for renewable energy production. These supports enable production of renewable energy equipment locally and support national production.

Balıkesir Province Improves Renewable Energy Theme in its New Projects



A science center located within Balıkesir the territory of Camlik Tepesi Recreation Area in Balıkesir is one of the projects to be implemented within the scope of renewable energy theme in Balıkesir.

Wind, hydraulic, hydrogen, biomass energy and geothermal energy themes will be demonstrated in the main exhibition area which is included in the project.

Science center is intended for acquainting visitors with sustainable energy visually – by giving place to wind tribunes, solar panels and water curtain walls. At the center, there shall be green roofs, natural lighting, self-sustaining energy use and etc. within the scope of sustainability theme.

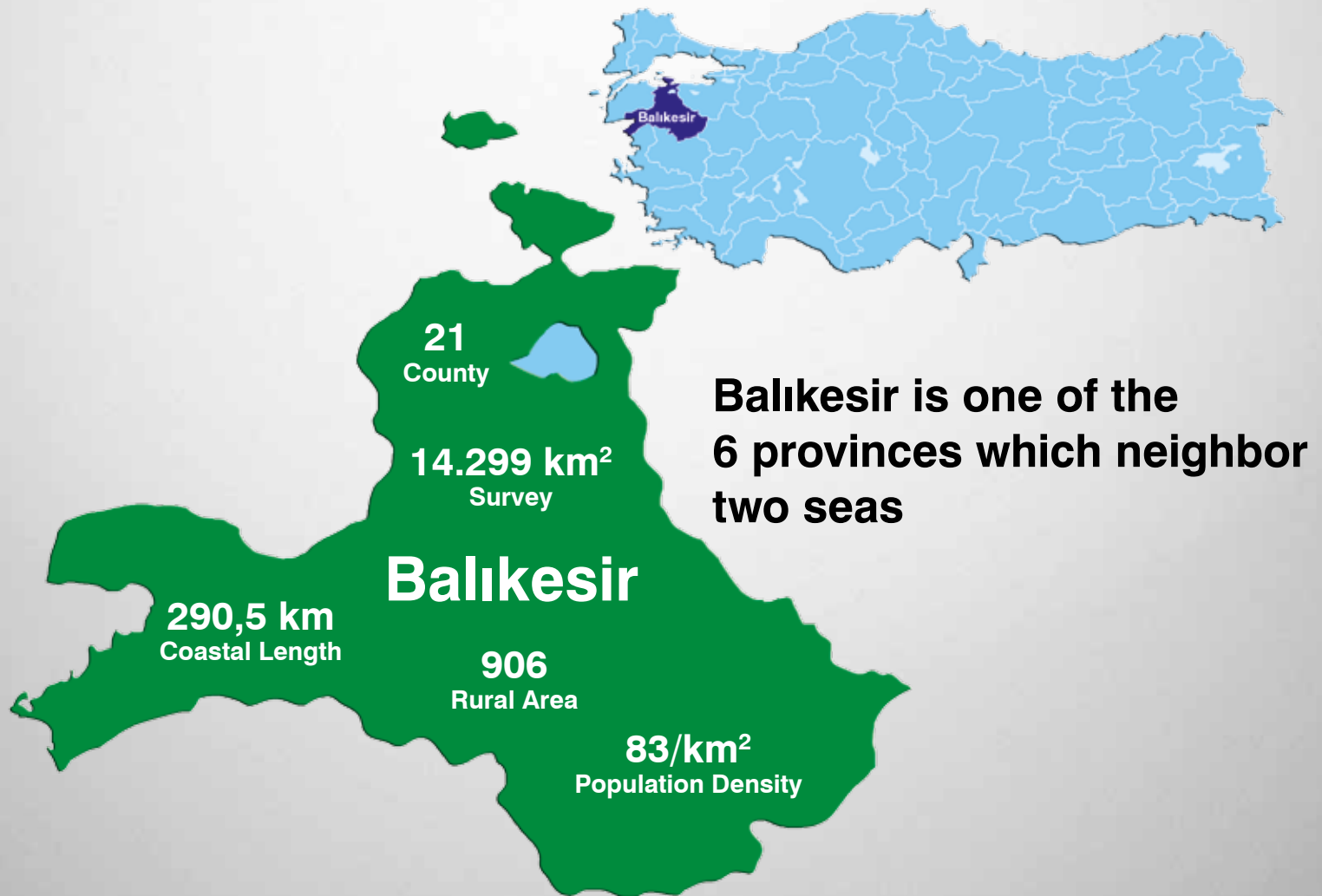




Geographical Location

Located in the south of Marmara Region, Balıkesir is renowned for its proximity to metropolises such as İstanbul, İzmir and Bursa. It is directly linked to all port cities of Turkey through Bandırma Port, which makes it the crossroads between Turkey and World markets.

Neighboring both Marmara and Aegean Seas makes Balıkesir one of the 6 provinces which neighbor two seas.



Population Dynamics of the Province



With its population of approximately 1.2 million, Balıkesir has 1.5% of the population of Turkey.

Total labor force of
451.450 Persons

Expected population in 2040
3.280.000 Persons





Education in Balıkesir

With its education infrastructure, the province has the intermediate staff and qualified labor resources required by all sectors. Balıkesir University and Bandırma On Yedi Eylül University provide education with 15 faculties.

The province has 1,200 pre-undergraduate education institutions.

► 100% schooling rate in primary schools ► 70% schooling rate in Secondary Education

✓ 2 Universities ✓ 15 Faculties ✓ 5 Graduate Schools

✓ 16 Vocational Graduate Schools ✓ 64 Departments



With over 40,000 students enrolled in universities, education is improving.

Higher Quality Vocational Training with Educational Institutions in Each County That Performs Generations, Grows in Balıkesir.

Within the scope of Youth Energy Meets Wind Energy project, which is supported by European Union, students of zone from engineering faculties or field related vocational schools of higher education will be subject to 6 months of certificate training.

After the applied education to be provided in continuing education centers of universities, young persons will attend two month internship programs.

Upon the completion of the program, participants are aimed to be capable of either being employed in the wind power businesses of the region or to found their own businesses in the sector.

Health in Balıkesir

There are 30 hospitals spread all over the province, 23 of them being public hospitals, 6 private hospitals and 1 research and training hospital. 3 of these hospitals are also dental and oral health centers.

Additionally, the construction of a Province Hospital with 850 beds is continuing. It is expected to be fully operational in 2017.

In Balıkesir,

- ▶ 20 Community Health Centers
- ▶ 336 Family Health Centers
- ▶ Integrated Public Hospitals in 4 counties
- ▶ 1 Community Health Laboratory

are in service.

Province
hospital with
850
beds

23
public
hospitals

3
dental and
oral health
centers

6
private
hospitals



An aerial night view of a city, likely a metropolis, with numerous glowing lights scattered across a dark blue background. The lights are concentrated in certain areas, suggesting urban centers or industrial zones. The overall scene is illuminated with a strong blue and yellow color palette.

Crossroads for Metropolises

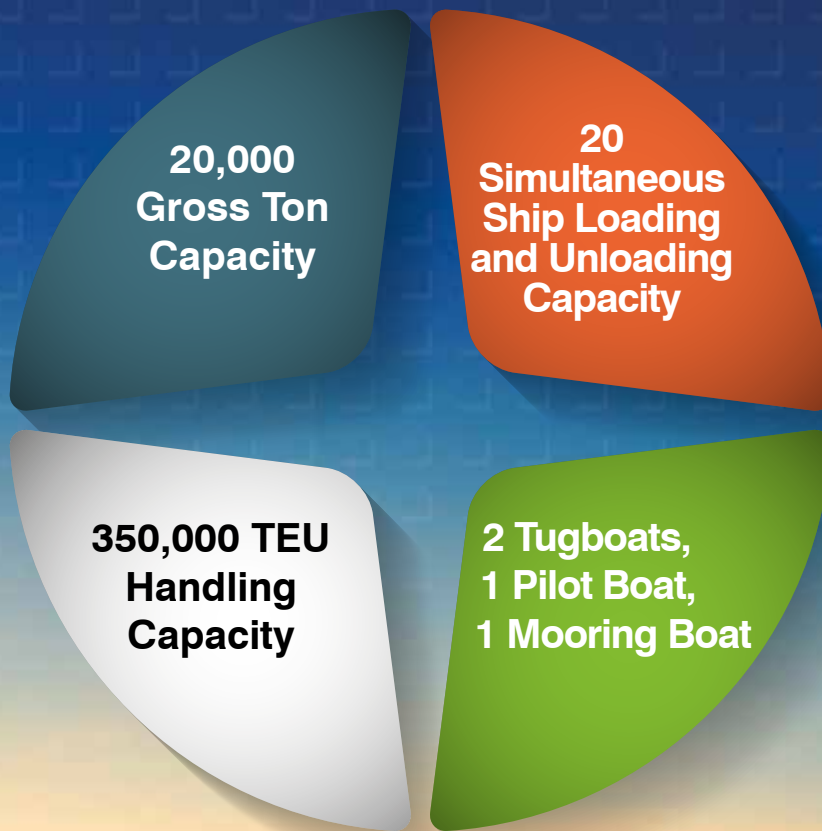
**Strong Logistic
Infrastructure Advantages**

**Total of 25 Million Population
in Neighboring Provinces...**

A Strong Port in Product Shipment: “Bandırma”

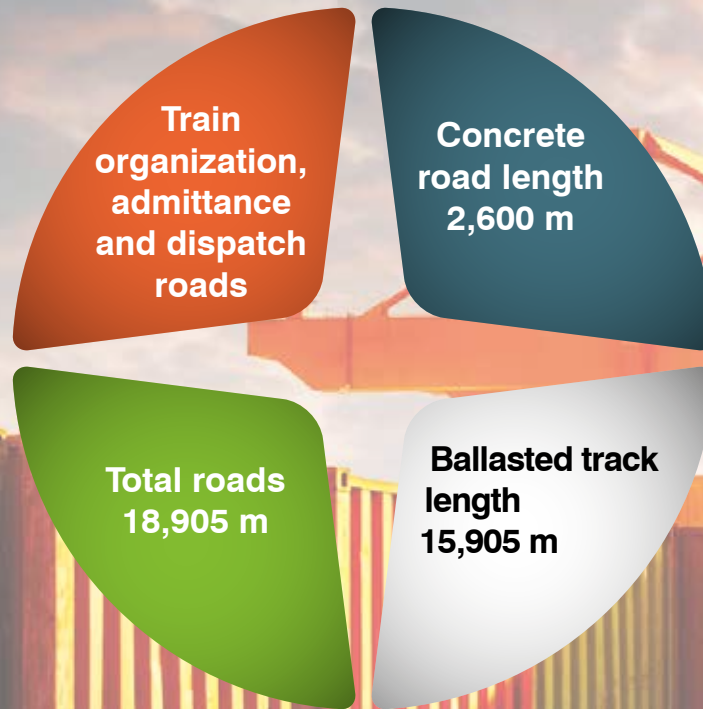
All kinds of freight can be handled at the Port of Bandırma, which is connected to all the cities of Turkey via railway lines.





TCDD Gökköy Logistics Center

- ▶ Bandırma Port 110 Km
- ▶ İzmir Port 230 Km



GÖKKÖY LOGISTICS CENTER;

- ▶ Container loading, unloading, transfer and storage areas
- ▶ Bonded and unbonded warehouses
- ▶ Customer offices, parking lot, truck parking area,
- ▶ Banks, restaurants, hotels, repair, maintenance and washing stations, fuel stations, warehouses

Logistic Infrastructure of Balıkesir Grows Each Passing Day

Grand Anatolia Logistic Organizations Project (BALO)

Loads taken from load collection centers in Middle and Western Anatolia, such as Gökköy Logistics Center, will reach load collection center in Bandırma, which is a crossroads, with block trains; then will reach Tekirdağ with train ferries and connect to the international railroad network and reach Europe through linking road newly built between Tekirdağ and Muratlı.

Block trains leaving Kapıkule border gate will reach logistics centers in Wien, Nürnberg, Stuttgart, Köln and Lyon.



Koca Seyit Airport

Built in 1997, Koca Seyit Airport enables transportation from metropolises such as Ankara and İstanbul to every location in Balıkesir.

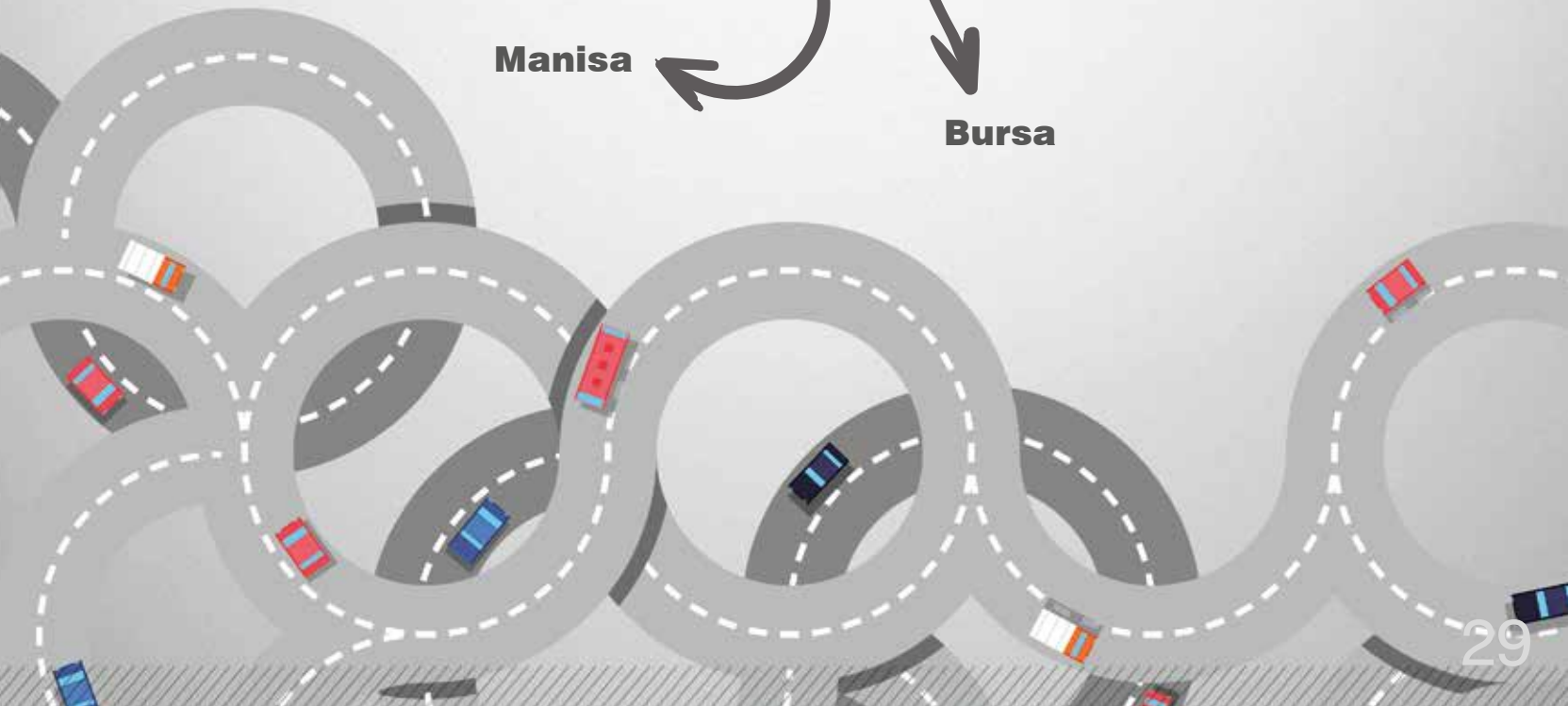
- ▶ **23,600 m² terminal**
- ▶ **2 Aprons with capacity of 6 planes**
- ▶ **Quick service with 21 Counters**
- ▶ **Over 8,000 Flights with 120 International Flights**
- ▶ **Over 300,000 Passengers in Domestic and International Flights**
- ▶ **Accessible and Green Airport Certified**



4-Hour Transportation Ring



The “4 Hour Transportation Ring”, which will make Balıkesir a Logistics center, will enable traveling around the Marmara Sea in 4 hours; integrate with new transportation projects and together with the BALO project, will facilitate Balıkesir’s open up to Europe.



Europe



Grand Transportation Projects Connected to Balıkesir



► **Gebze-Orhangazi-İzmir Highway Project - Osmangazi Bridge**

The Project that will reduce travel time between İstanbul and İzmir to 3.5 hours is 433 km long. With Balıkesir located in the center, the completion of the project will reduce İstanbul-Balıkesir to 2 hours and İzmir and Balıkesir to 1.5 hours. Opened in 2016, 2,682 meter long Osmangazi Bridge, which is a part of the Gebze-Orhangazi-İzmir Highway Project, has a central span of 1,550 meters and is the 4th bridge with largest central span around the world.

► **Tekirdağ-Çanakkale-Balıkesir Highway Project - Çanakkale Bridge**

This project will create routes alternative to Bosphorus crossing for transportation from Aegean and Inner Anatolia Regions to Thrace and Europe.

Connection of Tekirdağ-Çanakkale-Balıkesir Highway to Gebze-İzmir Highway near Balıkesir will create an additional momentum for tourism and other sectors.

► **Bandırma-Balıkesir - İzmir High Speed Train Project**

The project will act as the passenger and cargo line connecting Aegean Region to Europe through Bandırma and Tekirdağ ports. It will also connect to Ankara-İstanbul route on Bursa connection.

► **Northern Marmara Highway - Yavuz Sultan Selim Bridge**

Widest suspended bridge of the world with its 59 meters width and the longest bridge with rail transport on the world with its 1,408 meters of main span.

► **Bandırma-Bursa-Bilecik High Speed Train Line Project**

With the completion of the 215 km project, Bandırma will be connected to Bursa, which is a metropolis with a fully developed industry, through railroad.

► **Tekirdağ-Çanakkale-Bandırma Road Project**

Railroad project that will serve passenger and cargo transport between Bandırma and Çanakkale will start from Bandırma and reach Tekirdağ through Çanakkale, over Biga and Karabiga, covering Bandırma Organized Industrial Zone and Gönen Leather Organized Industrial Zone.

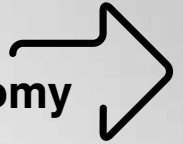
► **Bay Light Rail System Project**

With this project planned between Altınova and Küçükkuşu, a comfortable and rapid transportation will be provided at Bay Line that has a high tourism potential.

A complex network diagram with numerous nodes and connecting lines. The nodes are colored in shades of red, blue, orange, purple, and cyan. Some nodes are highlighted with dashed circles. The background is a light gray grid.

Incentives

**The most advantageous incentive region among
the provinces neighboring the Aegean or the Marmara Seas**



Ministry of Economy provides incentives for investments in order to reduce regional development differences, increase value added investments, improve production and employment figures, and expand R&D efforts which increase international competitive power.

REGIONAL INCENTIVES

► Customs Tax Exemption

Machinery and equipment to be imported for the investment which will benefit from this incentive are exempt to customs tax.

► VAT Exemption

Machinery and equipment to be purchased for the investment which will benefit from this incentive are exempt from VAT.

► Insurance Premium Employer Share Support

Insurance premium employer share accrued as a result of additional employment created within the scope of the investment is paid by the Ministry; not to exceed minimum wage at the time per employee.

► Tax Reduction

In investments subject to incentives, income and corporate tax are paid with reductions at rates stipulated separately for regions the investment is made in.

► Investment Site Allocation

In investments realized with incentive certificates, free site allocation can be made in order to hasten the investment in some cases.

► Interest Support

In investment loans with at least one year maturity to be used within the scope of regional investment incentive, interest reduction support is provided.

Region
5 incentives to
investments in turbine,
generator and blade
production targeting
renewable energy



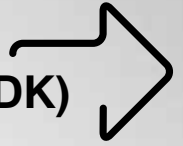
Ministry of Energy and Natural Resources

Electricity produced from renewable energy sources is considered to be within the scope of high priced public purchase commitment, which means the state will buy all the electricity produced by the investor's renewable energy facilities. This purchase commitment extends up to 10 years.

Furthermore, in case domestic technology, machinery and equipment is used in renewable energy investments, higher prices compared to unit prices in the purchase commitment are applied, which increases the investor's profit to a great extent.



Agriculture and Rural Development Support Institution (TKDK)



TKDK supports renewable energy sector within its investment program.

Within the scope of the program, TKDK provides financial support in solar, wind, geothermal and biomass energy productions. License-free businesses for up to 1 MW installed power are provided with non-repayable grant support.

Additionally, TKDK provides support to real or legal persons with commercial aims within the scope of “Diversifying Economic Activities and Business Development” support in installation of renewable energy facilities for only electricity production and sale.

- ▶ **Support for solar power systems, wind power, geothermal power and biomass systems**
- ▶ **Support for renewable energy investments targeting businesses to meet their own energy consumption**
- ▶ **Support for installation of Independent renewable energy facilities**





World Bank

World Bank provides loans to projects to private enterprises operating in renewable energy sector to provide energy production and projects which attain energy efficiency.

The loan provided covers 75% of the total amount of the investment. The maturity of the loan is determined according to the productivity analysis of the project. The investors are obliged to meet the minimum requirements stipulated by the World Bank and completed permit and license processes regarding the investment to be eligible for this loan.



South Marmara Development Agency Supports



South Marmara Development Agency (GMKA) provides grants to SMEs registered to Çanakkale and Balıkesir through “Call for Proposals” method.

Call for proposals is a support type where SMEs within a specific support program can submit project proposals subject to specified subjects and conditions. While the support programs, which can be applied for in certain times of the year, have so far provided SMEs with support in producing machinery and equipment in renewable energy sector, as well as projects which aim to enable enterprises meet their own energy needs using renewable energy sources; subjects and sectors to be supported can change each year depending on the program.

The projects sorted by the scores, and are provided grants according to the program budget. Successful projects receive 50% of their project budget in grants. Part of the grant is paid in advance to the companies to relieve financing problems. Active grant programs and current information on grant programs can be checked at www.gmka.gov.tr/destekler.





South Marmara Development Agency is by Your Side with Balıkesir Investment Support Office

South Marmara Development Agency Balıkesir Investment Support Office operates to improve investment environment of the province, attracting investment by promoting investment environment through various media and to support investors that decided to invest in the province in investment processes.

Within the scope of these activities Investment Office;

- ▶ Informs investors in areas they need
- ▶ Conducts analyses, reports, inventory studies on business and investment environment of the province and share these studies with investors
- ▶ Supports investors in finding lands suitable for investment
- ▶ Follows permit and license processes for investments
- ▶ Organizes events promoting investment environment
- ▶ Prepares and practices strategies to improve business and investment environment of the province and improve coordination between the agencies the investor deals with undertakes studies

SOUTH MARMARA DEVELOPMENT AGENCY

www.gmka.gov.tr

**Strong Communication
Network Between
institutions**

Qualified Staff

**Strong Institutional
Structure**





Investment Support Office Services

Balıkesir Investment Support Office

Works to improve business and investment environment of the province, promote investment opportunities to investors to attract more investments and to direct and inform investors.

Balıkesir Investment Support Office serves the investors with;

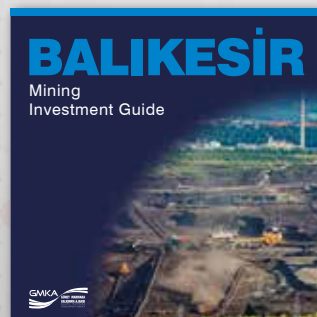
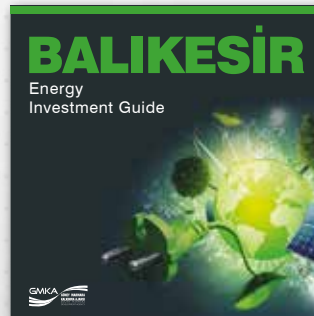
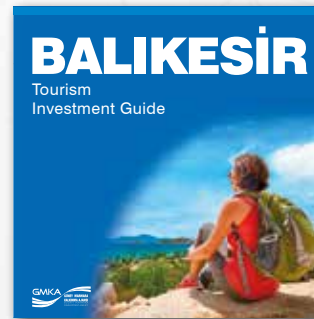
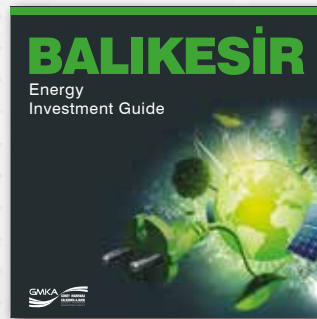
Qualified staff

Strong institutional structure

Strong communication network between institutions.

Introducing the Provincial Investment Climate

In order to promote business and investment environment of the province, and to attract investors, events such as domestic and international conferences, fairs, seminars, meetings, business trips are organized and participated in. Written or visual materials are prepared to promote investment opportunities of the province to investors.





Inventory of Land Available for Investment

Via geographical information systems established within the Agency, investors are supported in finding suitable lands for their investments. Information on lands are gathered and continuously updated online in accordance with the protocols signed with agencies and institutions. Furthermore, landowners who wish to sell or rent their lands to investors visit the Agency and enrich the inventory.

PUBLIC LANDS

PRIVATE LANDS

ORGANIZED
INDUSTRIAL ZONES

Informing-Guiding Services at Investment Support Office



Balikesir Investment Support Office informs and guides investors in issues such as priorities, scope, eligibility conditions, application documents for fiscal and technical supports by public and private sector at local or central level.

Additionally investors are provided with information and guidance services they need before and during investment processes, as well as during operation phase.

Researches are conducted on prominent sectors in the province; data is gathered on topics which influence investment decisions such as raw materials, energy, logistics, and labor force; and put into the use of investors.

Various trainings are provided under supervision of qualified trainers in line with the needs of the enterprises operating in Balikesir.



Investments Followed Centrally

By following the bureaucratic processes centrally in the name of investors, permits and licenses for the investors are obtained as quickly as possible.

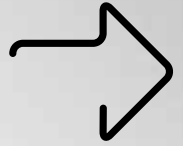


ENVIRONMENTAL IMPACT ASSESSMENT

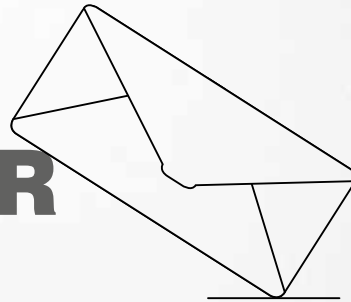


WORK PERMIT





CALL LETTER



LICENSE

**THE CONNECTION
AGREEMENT**

Relevant Institutions

Energy and Natural Resources- General
Directorate of Renewable Energy



Telephone: (0312) 295 50 00
Web address: www.eie.gov.tr

Republic Home Turkey Energy
Market Regulatory Authority



Telephone: (0312) 201 40 00
Web address: www.epdk.org.tr

Balıkesir Governorship



Telephone: (0266) 245 13 01
Web address: www.balikesir.gov.tr

Balıkesir Metropolitan Municipality



Telephone: (0266) 239 15 10
Web address: www.balikesir.bel.tr

Balıkesir Chamber of Industry



Telephone: (0266) 281 11 80
Web address: www.bso.org.tr

Balıkesir Chamber of Commerce



Telephone: (0266) 244 68 68
Web address: www.bato.org.tr

Relevant Institutions

South Marmara Development Agency



Telephone: (0266) 246 10 00
Web address: www.gmka.gov.tr

Balıkesir Provincial Directorate of Environmental Planning



Telephone: (0266) 224 47 15
Web address: www.csb.gov.tr

Ministry of Science, Industry and Technology-Balıkesir Provincial Directorate



Telephone: (0266) 243 02 52
Web address: www.balikesir.sanayi.gov.tr

Ministry of Economy



Telephone: (0312) 204 75 00
Web address: www.ekonomi.gov.tr

Agriculture and Rural Development Support Institution - Balıkesir Provincial Coordinator



Telephone: (0266) 245 58 61
Web address: balikesir.tkd.gov.tr

World Bank-Turkey Office



Telephone: (0312) 459 83 00
Web address: www.worldbank.org.tr

Relevant Institutions

General Directorate of Mineral
Research and Exploration



Telephone: (0312) 201 10 00
Web address: www.mta.gov.tr

Energy and Natural Resources
General Directorate of Mining Affairs



Telephone: (0312) 212 80 00
Web address: www.migem.gov.tr

Turkish Wind Energy Association
(TUREB-TWEA)



Telephone: (0312) 474 02 74
Web address: www.tureb.com.tr

Balıkesir University



Telephone: (0266) 612 14 00-08
Web address: www.balikesir.edu.tr

Bandırma Onyedi Eylül University



Telephone: (0266) 717 01 17
Web address: www.bandirma.edu.tr

