Akfen Yenilenebilir Enerji A.Ş. ("Akfen Energy"), is the wholly owned renewable energy subsidiary of Akfen Holding A.Ş ("Akfen"). Akfen Energy, which currently owns Akfen's renewable energy related operational and pipeline assets, companies, and projects, was formerly known as Akfenhes Yatırımları ve Enerji Üretim A.Ş. ("Akfen HEPP").

Akfen HEPP, which has been owning special purpose companies investing in hydro power plants, changed and registered its name name into "Akfen Yenilenebilir Enerji A.Ş." on 19.01.2016 upon its merger with Akfenres Rüzgar Enerjisi Yatırımları A.Ş. ("Akfen WPP") under Akfen HEPP on 19.01.2016. Akfen WPP was owning special purpose companies investing in wind power plants.

Subsequently, the shares of Akfen Elektrik Enerjisi Toptan Satış A.Ş. ("Akfen Wholesale"), the wholesale electricity subsidiary of Akfen, was transferred to Akfen Energy on 25.01.2016.

Finally, Karine Enerji Üretim Sanayi ve Ticaret A.Ş ("Karine SPP"), which owned special purpose companies investing in solar power plants, merged into Akfen Energy on 09.03.2016.

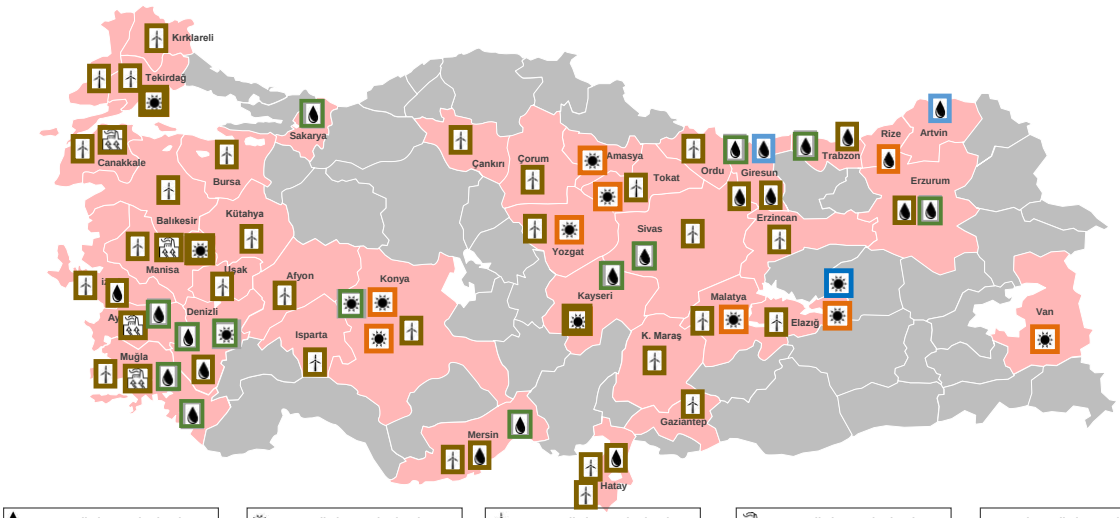
Akfen Energy serves as the growth platform in which IFC and EBRD will invest. Akfen Energy and the companies owned and controlled by Akfen Energy operates and owns pipeline and portfolio of assets including small to medium capacity hydroelectric power plants (HEPPs), small (maximum 10 MW) solar power projects (SPPs) and a pipeline of potential wind power projects (WPPs). Akfen Energy plans to increase its installed capacity from 204 MW to 238 MW for HEPPs, from 7.3 MW to 146.4 MW for SPP and from 0 to 150 MW for WPP by 2020. Pipeline projects range from 7 MW to 17 MW for HEPPs, 0.5 MW to 10.4 MW for SPPs and 17 MW to 250 MW for WPPs. Akfen Energy may also consider future investments in geothermal power. Akfen's existing and planned thermal power plants will be developed by another Akfen subsidiary, not Akfen Energy.

Site locations for renewable energy projects are spread throughout Turkey, with clusters in the south western and northeast parts of the country.

a) Operating assets:
   - 11 run-of-the-river HEPPs with 204 Megawatts (MW) total installed capacity; and,
   - 8 SPPs of 7.3 MW which Akfen Energy invested in 2014 in order to learn the solar business.

b) Assets under development / construction:
   - 2 HEPPs under construction with a total installed capacity of 24 MW (due to become operational in 2017);
   - 2 SPPs of 8.5 MW (0.5 MW unlicensed and 8.0 MW licensed SPPs) are ready for construction (in 2016);
   - SPP assets under development are composed of the SPP projects (135.6 MW) below;
     a. 45.8 MW of SPPs (29.9 MW licensed and 15.9 MW unlicensed SPPs), which are under development to start construction in 2016/2017, and
     b. 89.8 MW of SPPs (39.8 MW licensed and 50.0 MW unlicensed SPPs), which are under development.

c) Concept stage: Subsidiary companies, which are controlled and owned by Akfen Energy, won tenders for SPPs for a total installed capacity of 77.6 for licensed MW (for SPP) and has applied to participate tenders for 984 MW (for WPP). Akfen Energy is also monitoring the market for assets to be taken over from distressed competitors, which are shown as under assessment (except for 984 MW of WPP, which are under development/assessment by the wholly owned subsidiaries of Akfen Energy) in the figure below:.



HEPP Installed Capacity (MW)	
Operational	204
Under Construction	24
Under Development	10
Under Assessment	147

SPP Installed Capacity (MW)	
Operational	7
Under Construction	8
Under Development	136
Under Assessment	46

WPP Installed Capacity (MW)	
Operational	-
Under Construction	-
Under Development	-
Under Assessment [1]	984 + 604

GPP Installed Capacity (MW)	
Operational	-
Under Construction	-
Under Development	-
Under Assessment	42

Total Installed Capacity (MW)	
Operational	211
Under Construction	32
Under Development	146
Under Assessment	1,824

[1]150 MW of potential capacity expected out of 984MW capacity. The map does not show additional 560MW capacity, the assessment process of which is carried out by Akfen Energy.

HEPP
Operational

Company	Project	Installed Capacity (MW)	Location
	Otluca	48	Mersin
Beyobası	Sırma	6	Aydın
	Sekiyaka II HES	3	Muğla
Çamlıca	Çamlıca III	28	Kayseri
	Saraçbendi	25	Sivas
	Demirciler	8	Denizli
Pak	Kavakcalı	11	Muğla
	Gelinkaya	7	Erzurum
BT Bordo	Yağmur	9	Trabzon
Elen	Doğançay	30	Sakarya
Yenidoruk	Doruk	28	Giresun
TOTAL		**204**	

Under Construction			
H.H.K. Enerji	Çalıkobası	17	Giresun
Kurtal	Çiçekli 1-II	7	Artvin
TOTAL		**24**	

Under Planning			
Zeki	Çatak[1]	10	Rize
TOTAL		**10**	
GRAND TOTAL		**238**	

(1) Following the decision that declared the land including the plant area as "protected area", a law suit demanding the cancellation of this decision was filed, which was settled with the decision of Rize Administrative Court (2010/487 Es, 2011/661 Kr) declaring that the land within the zone of Çatak HEPP project is not a protected area. The decision was declared to us and the case is at the Supreme Court stage and Stay of Execution is currently in force. The file is still waiting for examination at the

SPP
Operational

	Project	Installed Capacity (MW)	Location
Unlicensed	YAYSUN 500 kW	0.5	Konya
	MUREL	0.8	Denizli
	FAREZ	1.0	Denizli
	GÜNOVA	1.0	Denizli
	YEŞİLDERE	1.0	Denizli
	YEŞİLVADİ - A	1.0	Denizli
	YEŞİLVADİ - B	1.0	Denizli
	YEŞİLVADİ - C	1.0	Denizli
	TOTAL	**7.3**	
	Ready for Construction*		
	KARİNE GES	0.5	Elazığ
	SOLENTEGRE GES	0.5	Elazığ
	TOTAL	**1.0**	
	Under Development (Approval Stage)		
	AMASYA PROJECTS	10.4	Amasya
	TOKAT PROJECTS	5.0	Tokat
	TOTAL	**15.4**	

	Project	Installed Capacity (MW)	Location
Licensed	**Ready for Construction***		
	SOLENTEGRE GES	8.0	Elazığ
	TOTAL	**8.0**	
	Under Development		
	YAYSUN - 1	10.0	Konya
	MT DOĞAL	10.0	Konya
	ME-SE	9.9	Konya
	IOTA	10.0	Malatya
	PSİ	10.0	Van
	OMİCRON	10.0	Van
	OMİCRON	10.0	Van
Unlicensed	YAYSUN - 2	10.0	Konya
	YAYSUN - 3	5.0	Konya
	ZENGEN ENERJİ	10.0	Konya
	KOMSUN	10.0	Konya
	BEYAN	10.0	Konya
	YOZGAT PROJECTS	5.0	
	TOTAL	**119.7**	
	TOTAL	**151.3**	

WPP
Under Development

Company	Project	Installed Capacity (MW)	Location
Ucurtma	Evciler	42	Bursa
Kontra	Medar	30	Manisa
Ruba	Nohutlu	40	Yozgat
Trim	Mursallı	45	Tekirdağ
EMD	Kubas	42	Balıkesir
EMD	Kınalar	36	Çanakkale
EMD	Gökçebel	40	Sivas
Nesim	Küçükkoraş	250	Mersin
Kavanca	Erecek	186	Çanakkale
Seyir	Tarlabaşı	105	Balıkesir
Mares	Çankırı	60	Çankırı
Sisam	Ordu	17	Ordu
Elares	Ela	40	Elazığ
Orcaner	Maden	50	Erzincan
Pruva	Aksaklar	n.a.	Kütahya
Pruva	Bademli	n.a.	İzmir
Pruva	Çatalan	n.a.	Tokat
Pruva	Eşmeli	n.a.	Uşak
Pruva	Kovada	n.a.	Isparta
İmbat	Tutaş	n.a.	Çorum
İmbat	Tatlıcak	n.a.	Gaziantep
İmbat	Tepeköy	n.a.	Konya
Kanat	Taşdibek	n.a.	Malatya
Kanat	Karaca	n.a.	Afyon
TOTAL		**984**	

Akfen Renewable Portfolio

Akfen HEPPs: Akfen Energy currently operates eleven HEPPs with a further two under construction and one at project under development stage. The total installed capacity of the HEPPs will reach 238. All HEPPs are run off plants except for Camlıca III HEPP, which is storage type.

Sites under construction included ((1) Cicekli I and II in the Artvin province, 7 MW, which will be operational in 2017; and (2) Calikobasi, in the Giresun province, 17.0 MW, which will be operational in 2017.

Pipeline HEPP Catak in the Rize province (10.0 MW) is on hold due to a dispute between Akfen and a NGO as to whether it falls into a national park.

All operational HEPPs are selling their entire generation capacity to the grid for the year 2016.

SITE	WATER COURSE	DATE OPERATIONAL	INSTALLED CAPACITY (MW)	GENERATION CAPACITY (GWH/YEAR)
Dogancay	Sakarya River	29.08.2014	30	172
Doruk	Aksu/Kayabasi/Deli Streams	12.09.2014	28	76
Yagmur	Manahoz Brook	27.11.2012	9	32
Gelinkaya	Serceme Brook	14.06.2013	7	26
Saracbendi	Kizilirmak River	06.05.2011	26	100
Camlica III	Zamanti River	01.04.2011	28	104
Otluca	Anamur River	07.04.2011	48	224
Demirciler	Akcay River	03.08.2012	8	35
Sirma	Akcay River	23.05.2009	6	23
Kavakcali	Namnan	28.03.2013	11	44
Sekiyaka II HEPP 1	Akcay River	17.01.2014	2	12
Sekiyaka II HEPP 2	Akcay River	02.10.2015	1	5
Cicekli	Muruvan/Inekli/Magara Streams	2017	7	22
Calikobasi	Batlama Streams	2017	17	46
Catak	Cataksuyu River	2019 (? based on the discussion between Akfen and NGO)	10	43

There are two potential transboundary watercourse associated with the project;

1) Akfen is building a 7 MW HEPP (namely Cicekli HEPP) on the Inekli and Magra Rivers of the Muruvan River (4.4 km), which becomes the Kabaca River (8.6 km) downstream. The Kabaca River is a tributary of the Murgul River (33 km), which in turn flows into the Çoruh River (total 431 km, with 410 km flowing within Turkey) that rises in Turkey but runs for a short distance and has its estuary in Georgia. Not all flowrates are known but data for the Muruvan River indicate ranges from 0.18 m^3/s to 0.78 m^3/s with an average flowrate of 0.42 m^3/s. Water flow on the Çoruh River ranges from 53 m^3/s to 569 m^3/s with an average flowrate rate of 278 m^3/s. Flow of Coruh River is ultimately controlled by two HEPPs, Borcka (300 MW) and Muratli (115 MW), located close to the border and there are no known significant agricultural and industrial uses of Coruh River on Georgia side. The required ecological flow from the Çiçekli HEPP is 0.16m^3/s whereas the flow through the turbines at Borcka is 237m^3/s. Coruh River's catchment (rainfall area) is approximately 22.100 km^2 while Muruvan River's catchment is about 23 km^2, a negligible percentage (0.1 %) when compared to Coruh's catchment area. In addition, the Çiçekli HEPP is a channel type hydro power project that has no storage capacity. It should be noted, that the Environmental Impact Assessment (EIA) for the Çiçekli HEPP does state that the streams are tributaries of the Coruh River but does not place any flow or particular water management requirements above maintaining the ecological flow. Turkey voted not to adopt the "United Nations ("UN") Convention on the Law of the Non-navigational Uses of International Watercourses" and as such, this convention is not binding on Turkey. However, Turkey cooperates with Georgia in line with the agreement signed in 1927 between Turkey and

ex-Soviet Union about the use of the Coruh River Therefore, the Çiçekli HEPP operation and Muruvan River regime do not affect the Çoruh River regime in any significant way and can be considered insignificant in the overall flow management of these streams, the wider catchment areas, and overall water balance of the region.

2) Akfen has an operational 7 MW HEPP (namely Gelinkaya HEPP) on a river course section named Serceme River (around 10 km in length). It should be noted that the same river course takes on the names of Kuzgun (for the section of about 30 km upriver of the HEPP) and Bascayi (10 km section downstream). The Kuzgun/Serceme/Bascavi river course is a tributary of Karasu River (450 km) that in turns discharges on the Euphrates River (total 2.800 km of which 1.230 km run in Turkey) which flows through Syria (710 km) and Iraq (1060 km). The Euphrates then converge with the Tigris into the Shatt al-Arab river, which empties into the Persian Gulf. Water flow on the Serceme River ranges from 0.75 m^3/s to 8 m^3/s with an average flow of 3 m^3/s, whereas Karasu's flow ranges from 3 m^3/s to 260 m^3/s with an average of 80 m^3/s, Euphrates average flow is around 360 m^3/s ranging from 60 m^3/s to 2570 m^3/s. Turkey's largest dams, including Keban Dam (1.330 MW), Karakaya Dam (1.800 MW), Atatürk Dam (2.400 MW) as well as Birecik Dam (672 MW) and Karkamış Dam (180 MW) are built on the Euphrates. In the Syrian and Iraqi sections of the Euphrates, there are several dams including the Haditha Dam (660 MW), the Tabqa Dam (824 MW), the Baath Dam (81 MW) and the Tishrin Dam (631 MW). All of these dams are significantly larger than the Gelinkaya HEPP. The Gelinkaya HEPP uses the water from the Kuzgun Dam which is regulated by Turkish State Hydraulic Works. For this reason, Akfen Yenilenebilir Enerji A.Ş. is not legally required to maintain a minimum ecological flow for Gelinkaya. Catchment basin of the Karasu is estimated to be 22,000 km2. The estimates for Euphrates catchment basin vary widely with recent estimates putting the basin area around 580.000 km2 divided within Turkey (33 %), Syria (20 %) and Iraq (47 %). The Karasu's basin represents a small percentage (around 3.8 %) when compared to Euphrates catchment area. In 1984, Turkey unilaterally decided it would ensure a minimum flow of at least 500 cubic metres per second, or 16 cubic kilometres per year, into Syria, and in 1987 a bilateral treaty to ratify this was signed between the two countries. Another bilateral agreement signed in 1989 between Syria and Iraq sets the amount of water flowing into Iraq at 60 percent of the amount that Syria receives from Turkey. In 2008, Turkey, Syria and Iraq instigated the Joint Trilateral Committee on the management of the water in the Tigris–Euphrates basin and a further agreement was signed to this effect. Therefore, although downstream use of water includes large hydropower stations, extensive irrigation schemes, and the presence of pipelines capable of transporting water over large distances for electricity generation and for domestic usage, Gelinkaya HEPP can be considered having an insignificant impact in the flow management of these streams, and overall water balance of the region.

For three of the HEPPs (Sekikaya, Sirma and Gelinkaya) the water reservoir is regulated / controlled by a third party (Turkish State Hydraulic Works, local authorities), and the relevant HEPPs use the water that is provided. For these sites operating HEPP subsidiaries of Akfen Yenilenebilir Enerji A.Ş. do not have ecological flow requirements. The required ecological flows for each of the HEPPs are as follows;

m3/s	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Dewatered/Reduced Flow Section
Otluca 1	1.467	1.73	2.286	1.8	1.68	2.507	3.801	2.66	1.467	1.467	1.467	1.467	The dewatered section between Otluca 1 weir and power house (Otluca 1 and Boğuntu HEPP Combined) is 6.5 km through the Anamur river and the section between Boğuntu weir and power house is 2.3 km through the Boğuntu and Anamur rivers. The dewatered section between Otluca 2 weir and power house (Otluca 2 HEPP) is 1.7 km through the Anamur river.
Otluca 2	1.843	2.01	2.731	2.368	2.178	2.852	3.363	2.51	1.843	1.843	1.843	1.843	
Boguntu (Otluca)	0.205	0.327	0.557	0.544	0.54	0.393	0.279	0.205	0.205	0.205	0.205	0.205	
Demirciler	0.893	0.893	1.94	2.522	2.233	1.798	1.319	0.893	0.893	0.893	0.893	0.893	Akcay river. The dewatered section length between weir and power house is 8.8 km through Akcay river.
Kavakçali	0.174	0.174	0.363	0.436	0.481	0.464	0.351	0.174	0.174	0.174	0.174	0.174	Dewatered section on Namnam river is 10 km.
Çamlica	2.2	2.2	2.2	2.2	2.2	2.4	2.5	2.4	2.2	2.2	2.2	2.2	Çamlıca uses the water of Zamanti river and Gedin river and discharged back to Zamanti river. The length of the dewatered section is 3.8 km through Zamanti.
Saraçbendi	5.3	5.3	5.3	5.3	5.3	12	17.4	10.7	5.3	5.3	5.3	5.3	The dewatered section between weir and power house is 28 km through the Kızılırmak river.

Dogançay	0	0	0	0	0	0	0	0	0	0	0	0	Dogancay is a river type HEPP and has no weir system. It uses water directly from the river.
Yagmur	0.436	0.436	0.436	0.436	0.436	0.436	0.542	0.542	0.542	0.542	0.542	0.542	The dewatered section length between intake weir and power plant is 3.5 km through Manahoz river.
Aksu Reg(Doruk)	0.078	0.078	0.078	0.078	0.078	0.078	0.108	0.108	0.108	0.108	0.108	0.108	Doruk has 3 weirs, where Aksu weir uses the water of Aksu river, Kayabaşı weir uses the water of Kayabaşı river, and Baybahan weir uses the water of Deli river. Kayabaşı and Deli rivers are arms of Aksu river. All weirs supply the power house located on Aksu river. The dewatered section between Aksu weir and power house is 9 km through the river and it is 3.5 km between Kayabasi weir and power house through the river. The dewatered section between Baybahan weir and power house is 3.7 km through the river.
Kayabasi (Doruk)	0.078	0.078	0.078	0.078	0.078	0.078	0.106	0.106	0.106	0.106	0.106	0.106	
Baybahan (Doruk)	0.077	0.077	0.077	0.077	0.077	0.077	0.1	0.1	0.1	0.1	0.1	0.1	
Sirma	0	0	0	0	0	0	0	0	0	0	0	0	Water is supplied from DSI's irrigation channel and discharged back to the same channel.
Gelinkaya	0	0	0	0	0	0	0	0	0	0	0	0	Water is supplied from DSİ's irrigation channel and discharged to Serçeme river where the Seksenveren weir is built on.
Sekiyaka	0	0	0	0	0	0	0	0	0	0	0	0	Water is supplied from DSI's irrigation channel and discharged back to the same channel.
Reg-1 (Çalikobasi)	0.108	0.108	0.108	0.108	0.108	0.146	0.155	0.155	0.146	0.174	0.108	0.108	Çalıkobası HEPP facilities includes 3 weir structures and 2 power plant. Diversion weir reg derivasyon) located on the Çalıkoba river leads water to HEPP-1 (reg-1). Weir-2 (reg-2) located on the Çatalçam river gets water from the HEPP-1's tailwater and leads water to the HEPP-2. HEPP-1 and HEPP-2 both are located on the Çatalçam river. The dewatered section along the Çalıkoba river is 0.40 km to the intersection of Çatalçam river from the diversion weir intake. The dewatered section along the Çatalçam river is 5.40 km from weir-1 to HEPP-2.
Reg-Derivasyon (Çalikobasi)	0.026	0.026	0.026	0.026	0.026	0.036	0.038	0.036	0.036	0.026	0.026	0.026	
Reg-2 (Çalikobasi)	0.174	0.174	0.174	0.174	0.174	0.236	0.25	0.25	0.236	0.174	0.174	0.174	
Reg-1(Çiçekli)	0.02	0.02	0.01	0.01	0.01	0.02	0.05	0.08	0.08	0.08	0.02	0.02	Çiçekli HEPP (reg-1) is located on Muruvan river. Çiçekli 2 (reg-2) weir is located on the İnekli river, Çiçekli 1 Weir is located on the Magra river those are the arms of Muruvan river.Çiçekli 2 Weir works as a diversion structure that leads the water to Çiçekli 1 Weir. The dewatered section on İnekli river is 1.25 km to the intersection of Magra river. The dewatered section on Magra river is 0.90 km to the intersection of İnekli river and after that point there is a 0.80 km dewatered on Muruvan river.
Reg-2(Çiçekli)	0.05	0.04	0.03	0.03	0.03	0.06	0.12	0.19	0.19	0.11	0.05	0.04	
Çatak	0.258	0.258	0.258	0.258	0.258	0.258	0.346	0.463	0.415	0.307	0.258	0.258	No further info as project is on hold

Akfen WPPs:

Akfen made applications for 984 MW (ranging from 17 MW to 250 MW) and is expecting 150MW to be allocated. All WPPs are still in the development stage and none are currently under construction. As a pre-requisite of the licensing application, one years' worth of wind data must be collected to support the request. Therefore, all sites currently have wind measurement masts in place in order to collect the required data. Construction of the WPPs will take place once the applications have been approved.

Akfen SPPs:

Currently there are 8 operational SPPs, one 0.5 MW plant in Konya and a total of 6.8 MW under 7 plants in Denizli (one 0.8 Mw and others 1 MW). 77.7 MW of 'licensed' solar projects and an additional 66.5 MW of 'unlicensed' solar projects under development. 'Licenced' sites means the type of power supply agreement and in generally its status in terms of its grid connection. It should be noted that Turkish energy regulator does not require a license for SPP below 1.0 MW.

Akfen Geothermal;

Akfen Yenilenebilir Enerji A.Ş. is considering to invest to geothermal power plants ("GPP") but there is no project in the pipeline yet.