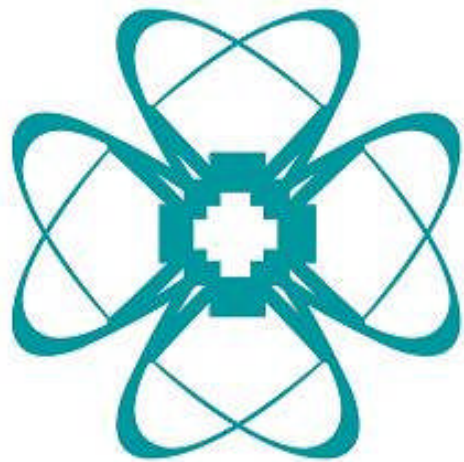
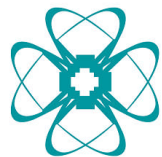




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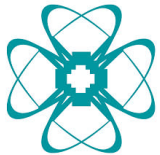
LID ENERGY

LID Group of Companies

ÇİN RÜZGAR TÜRBİNİ ENDÜSTRİSİNİN DEVİ



- *Tüm dünyada artan enerji ihtiyacı ve sera gazı etkisi yaratan gaz salınımları yenebilir enerjileri ön plana çıkarmıştır. Bu durum Çin için daha büyük önem arz etmektedir.*
- *Bu durum yüksek teknoloji çözümleri sunan  'in, Çinde en büyük, dünya klasmanında ise 7. sırada yer almasını sağlamıştır.*
- * 'in merkezi Pekin'de bulunmaktadır.*
- *Sektörün tüm gereksinimlerini karşılayan çözümlerle, yatırımcının yanında bulunmaktadır.*
- * Large Scale Offshore ve Onshore rüzgar türbinleriyle hizmet vermektedir.*
- * dünyanın en gelişmiş türbin üreticileri arasında yer almaktadır ve Avrupa standartlarında ürünler üretmektedir.*



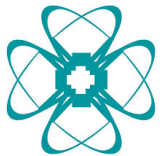
LID ENERGY

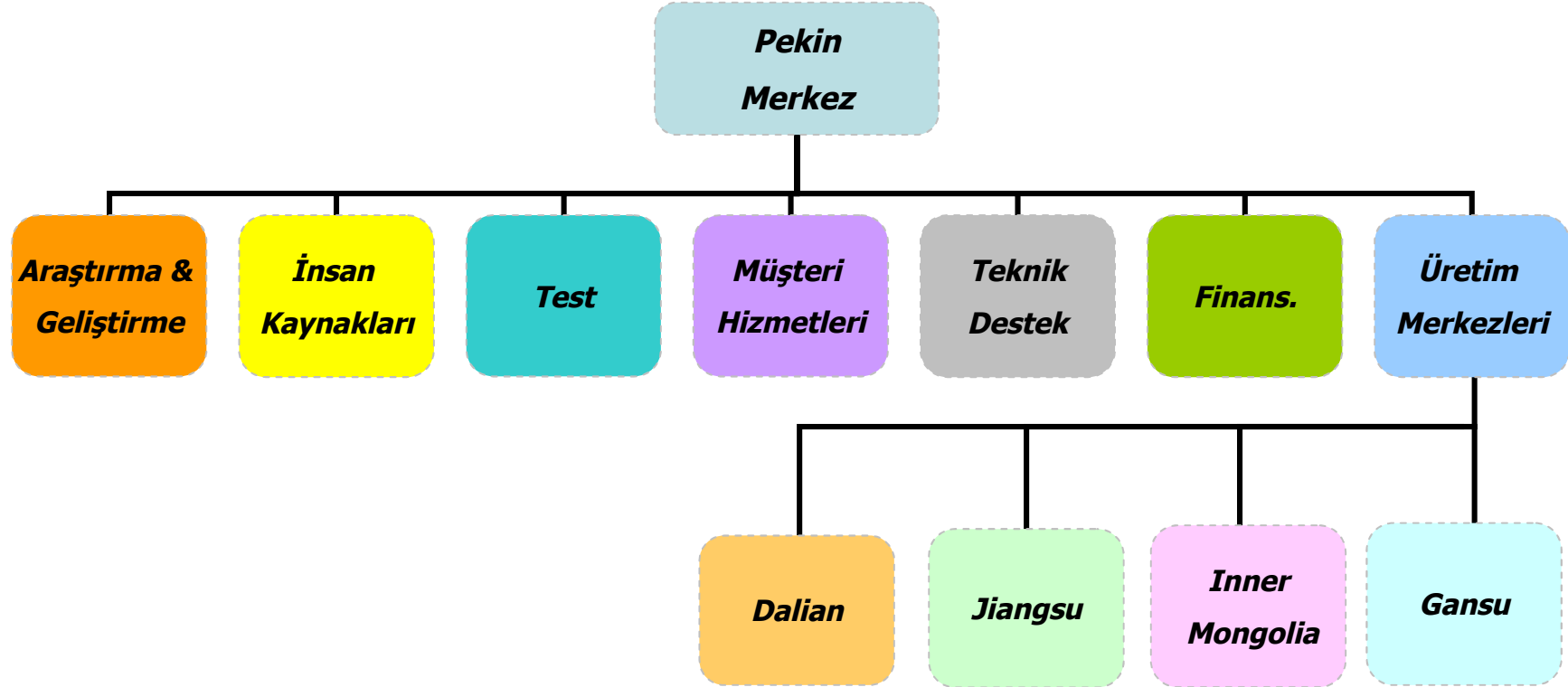


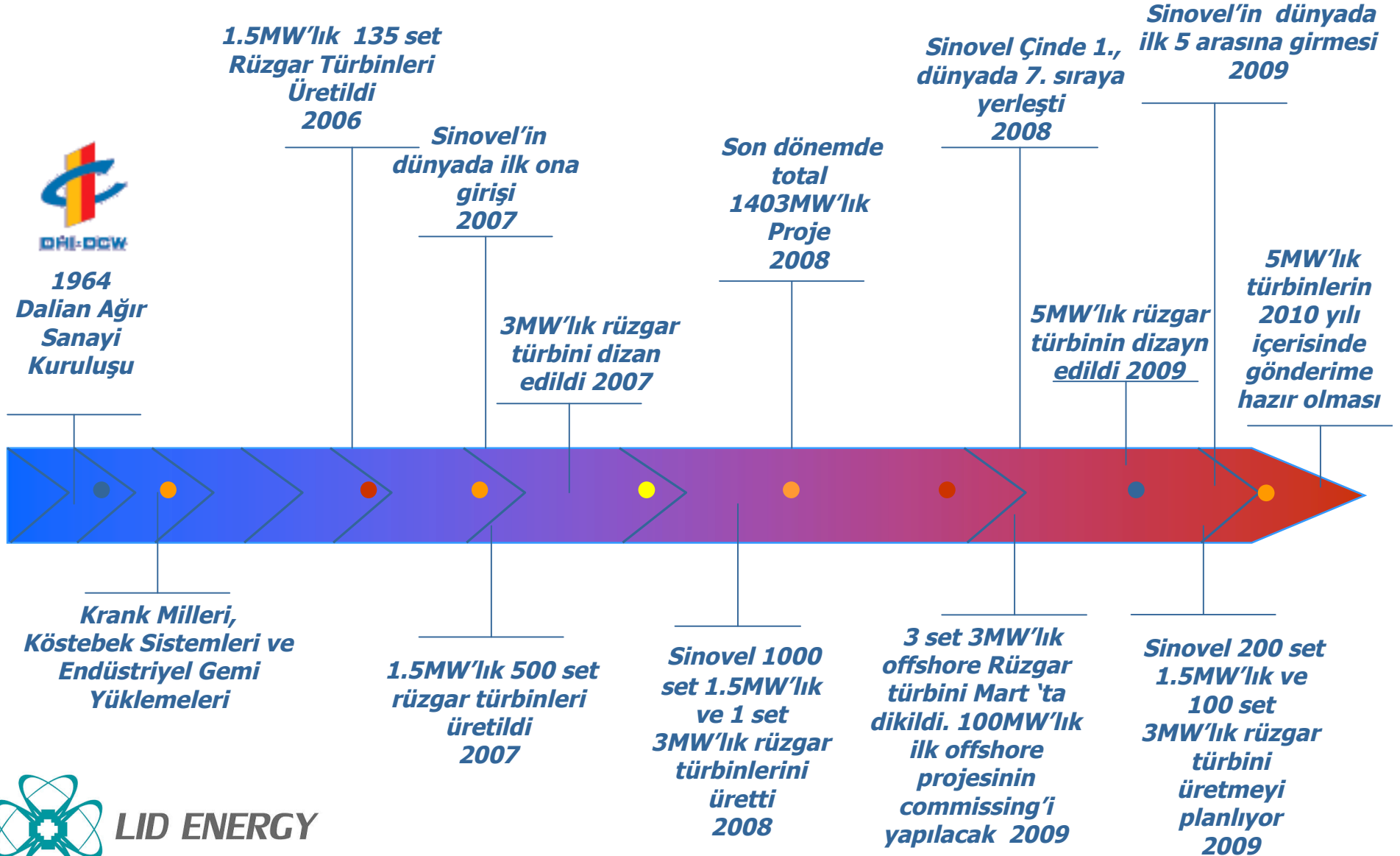
•İleri teknoloji ürünler üreten sinovel bünyesinde 1.700 çalışan bulunmaktadır. 1000 kişilik tekniker ve 300 kişilik yüksek mühendis kadrosuyla, hızlı ve etkin çözümler üretmektedir.

 , Alman Fuhrländer firmasıyla teknolojik ve teknik iş birliği anlaşması imzalamıştır ve geçmiş endüstriyel tecrübeleri sayesinde hızlı bir biçimde büyümüştür. Yetmiş mühendis kadroları sürekli olarak yenilikçi çözümler üretmektedir.

•Alman teknik gücünü, Çin'in kaliteli ve rekabetçi üretimiyle birleştiren sinovel dünya genelinde lider olma yolunda emin adımlarla ilerlemektedir.



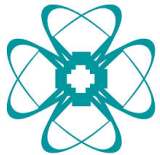






 **Üretim Merkezi**

 **Yedek Parça Üssü**



LID ENERGY

4 Üretim Merkezi :

Dalian, Inner Mongolia, Jiangsu, Gansu

3 Yedek Parça Merkezi :

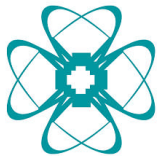
Dalian, Inner Mongolia, Jilin

- *Yeni Dalian üretim merkezi bitirildiğinde yıllık 1500 setlik üretim kapasitesine sahip olacak.*
- *Jiangsu üretim merkezi yıllık 1000 setlik üretim kapasitesine sahiptir.*
- *Gansu and Kuzey üretim merkezi, herbiri 300.000m² olan üretim merkezleriyle üretime hazır haldedir.*
- *Üretim merkezlerinin yıllık kapasitesi, 2009 yılında 4.000MW ve 2010 yılında ise 7.000MW kapasiteye ulaşacaktır.*

1.5MW SL1500 Serisi Rüzgar Türbinleri

3MW Offshore ve Onshore Rüzgar Türbinleri

5MW Rüzgar Türbinleri 2010



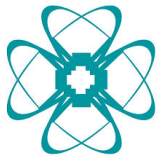
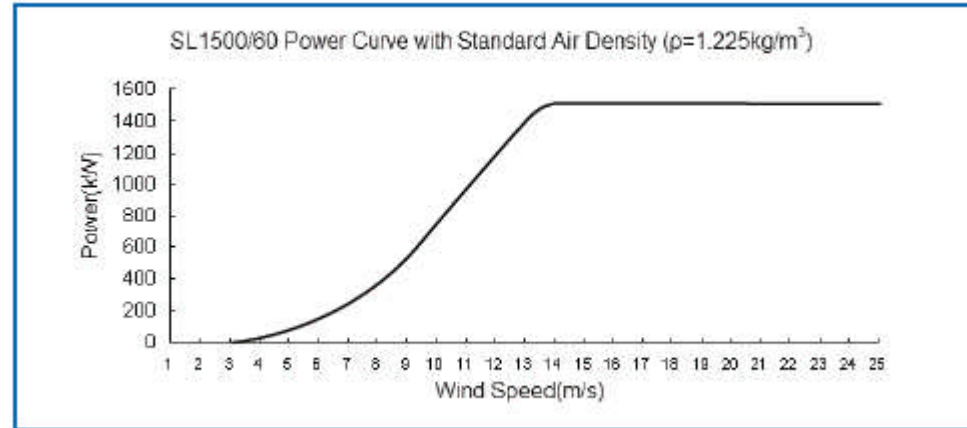
SL1500 Serisi Onshore Sistemler

No.	Technical Parameters	Unit	SL1500/70	SL1500/77	SL1500/82
1	Rated power	kW	1500	1500	1500
2	Cut-in wind speed	m/s	3	3	3
3	Cut-out wind speed	m/s	25	20	20
4	Rated wind speed	m/s	12	11	10.5
5	Survival wind speed	m/s	59.5	52.5/59.5	52.5
6	Average wind speed	m/s	8.5	7.5/8.5	7.5
7	Rotor diameter	m	70.4	77.4	82.9
8	Rang of rotation	rpm	11.5 ~ 21.2	9.8 ~ 18.3	9.8 ~ 18.3
9	Rated rotation speed	rpm	20.1	17.4	17.4
10	Hub height	m	65	65/70/80/100	70/80/100
11	Wind Turbine class		IEC II /anti-typhoon	IEC II / IEC III	IEC II / IEC III

Teknik Avantajlar

- TES sistemi

Rotor Shaftı, geiş diřlisinin iine entegre edilmiřtir. Bu sayede Yaw motoru daha verimli alıřır. Bileřenlere binen yksek gerilim miktarı azalır. Bu nedenle  trbinleri standartların zerinde daha uzun mrldr.



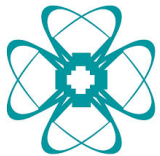
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Teknik Avantajlar

- *SYS Sistemi*
- *YPE Üretim Sistemi*
- *Hız Çeşitliliği, Frekans Sürekliliği*
- *Elektrikli Kanat Kontrol Sistemi*
- *Kapsamlı Yıldırım Korunma Sistemi*

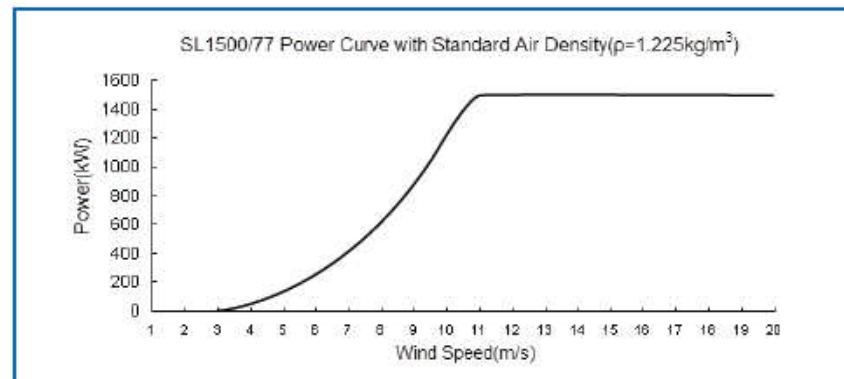
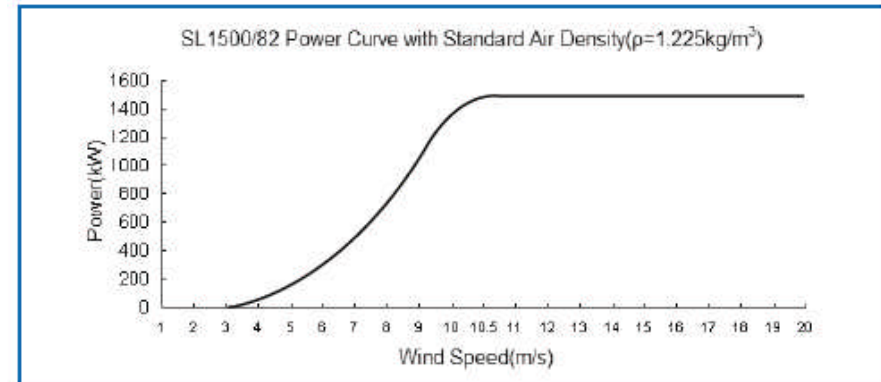
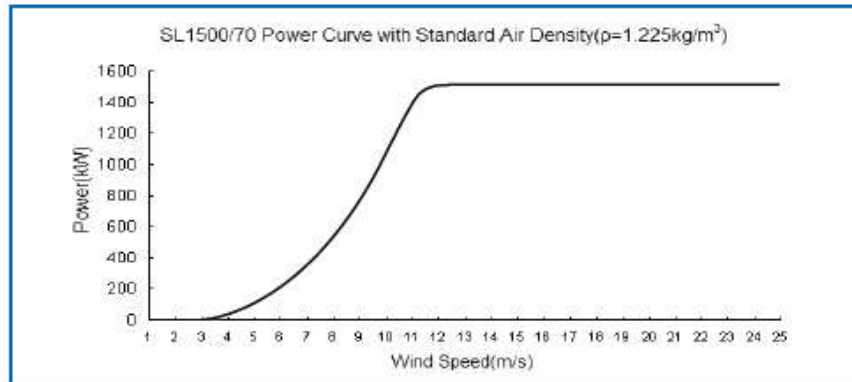


 sinovent



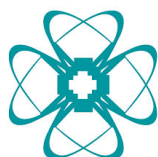
LID ENERGY

Teknik Avantajlar



SL3000 Serisi Offshore ve Onshore

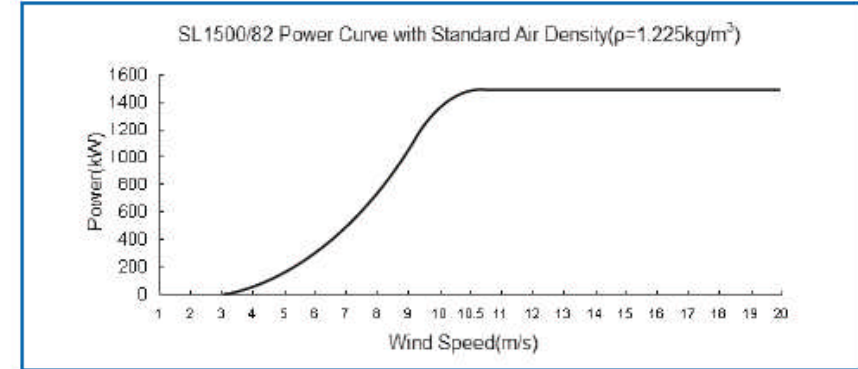
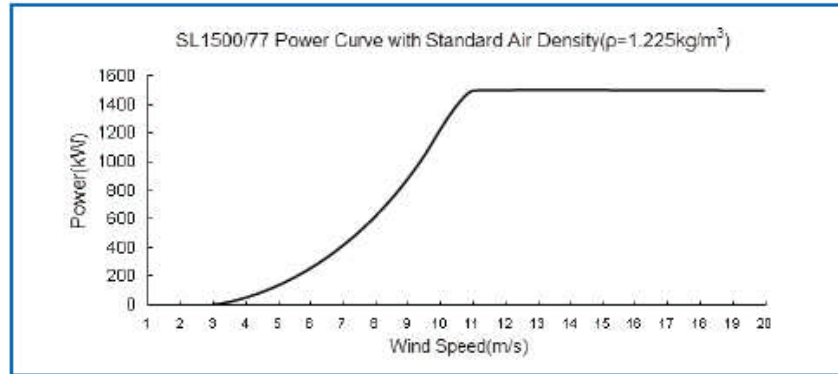
No.	Technical Parameters	Unit	SL3000/90	SL3000/100	SL3000/112
1	Rated power	kW		3000	
2	Cut-in wind speed	m/s		3.5	
3	Cut-out wind speed	m/s		25	
4	Rated wind speed	m/s	13	12	11
5	Survival wind speed	m/s	70	59.5	52.5
6	Rotor diameter	m	91.6	101.19	112
7	Blade length	m	44	48.8	54
8	Hub height	m	80/90	80/90 /100/(110)	90/100/110
9	Wind Turbine class		TC I a on- & off-shore	TC II a on- & off-shore	TCIII a onshore



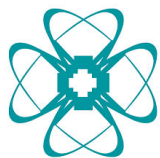
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Teknik Avantajlar

- Yüksek Hız Shaft Fren Sistemi
- Double-Fed Jeneratör
- Online takip Sistemleri



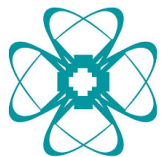
Installation



LID ENERGY



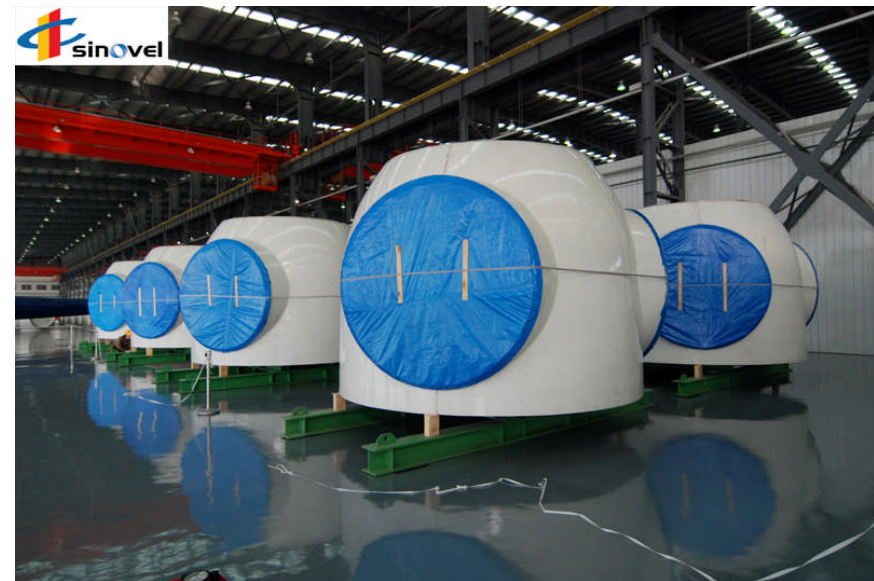
Assembling Merkezi



LID ENERGY



Assembling Merkezi



Üretim

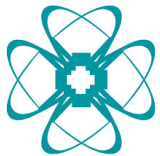


Çin genelinde 100'ü aşkın projeyi geliştirmiştir.



2.500 set 1.5MW türbini işleme hazır hale getirmiştir.

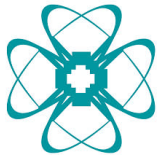
- *Aylık 200 set'i aşkın installation kapasitesine sahiptir.*
- *Türbin bileşenlerinin %90'ı Çinde üretilmektedir.*
- *Hub, Dişli Kutusu ve Elektrik Donanımlar gibi, türbin için hayati önem arz eden parçalar Dalian Heavy Industry ve Cranwork (DHI-DCW) tarafından titizlikle üretilmektedir.*
- *Jeneratör Yongji (China), Tianyuan (China), or Elin (Europe) ve konvertör sistemleri Windtec tarafından üretilmektedir.*



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Üretim ve Kalite Kontrol

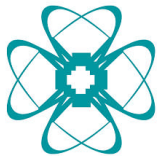
-  **Dalian City bölgesinde Asya'nın en büyük assembling merkezine sahiptir.**
- **Yakın dönemde 5GW'lık bir enerji anlaşmasına imza  yıllık üretimini 1GW seviyelerine çıkarmaktadır.**
-  'in güçlü üretimi, uluslararası kalite standartlarıyla belgelenmektedir.



LID ENERGY

Üretim ve Kalite Kontrol

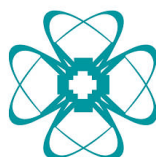
-  *dünya standartlarında üretim tesislerine sahiptir ve üretiminin her aşamasını kalite kontrol süreçleriyle kontrol altında tutmaktadır.*
-  *bu sayede dünya standartlarında üretim yaparak dünya devleriyle aynı lig içinde yer alır.*
-  *ürünlerinde tüm dünya tarafında kabul görmüş, türbin bileşenleri kullanılmaktadır.*



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Proje Listesi

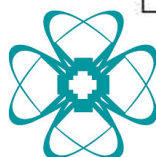
No.	Project name	Location	Size	Wind turbine	Owner	erection time
001	Huaneng Weihai Project- Phase One	Weihai, Shandong	17 sets	SL1500/77/HH70 Normal Temperature	Huaneng Group	Sep-06
002	China Water & Electric Changling Project	Changling, Jilin	33 sets	SL1500/77/HH70 Low Temperature	Sinohydro Corp.	Feb-07
003	Huadian Inner Mongolia Huitengxile Project	Huitengxile, Inner Mongolia	30 sets	SL1500/70/HH65 Low Temperature	China Huadian Corp. (Inner Mongolia)	Dec-06
004	Inner Mongolia Huitengxile, Huitengliang, Zhurihe Project	Huitengxile, Huitengliang, Zhurihe, Inner Mongolia	78 sets	SL1500/70/HH65 Low Temperature	North Longyuan Corp.	Dec-06
005	Shandong Huaneng Shouguang Project	Shouguang, Shandong	33 sets	SL1500/77/HH70 Normal Temperature	Huaneng Group	Oct-08
006	Jilin Tongyu Concession Project-Phase One	Tongyu, Jilin	67 sets	SL1500/77/HH70 Low Temperature	Huaneng Group	Oct-07
007	Fujin Wurguli Mountain Project-Phase One	Fujin, Heilongjiang	18 sets	SL1500/70/HH65 Low Temperature	Heilongjiang Fulong Wind Co., Ltd.	Nov-07
008	Jiangsu Dongtai Project	Dongtai, Jiangsu	101 sets	SL1500/77/HH65 Normal Temperature	Guohua Group	Dec-07
009	Huadian Ningxia Ningdong Project	Ningdong, Ningxia	30 sets	SL1500/77/HH65 Normal Temperature	Huadian Power International Co., Ltd.	Oct-07
010	Liaoning Huaneng Fuxin Project	Fuxin, Liaoning	334 sets	SL1500/77/HH70 Low Temperature	Huaneng Group	Dec-07
011	Guodian Xingcheng (Haibin) Project	Xingcheng, Liaoning	33 sets	SL1500/77/HH70 Low Temperature	Guodian Group	Sep-07
012	Guodian Xingcheng (Liutaizi) Project	Xingcheng, Liaoning	33 sets	SL1500/77/HH70 Low Temperature	Guodian Group	Jan-08
013	Guodian Xingcheng (Nanxiaoliu) Project	Linghai, Liaoning	33 sets	SL1500/77/HH70 Low Temperature	Guodian Group	
014	Guohua Qi Qi Ha Er Fuyu Project	Qi Qi Ha Er, Heilongjiang	33 sets	SL1500/77/HH70 Low Temperature(28 sets) SL1500/82/HH70 Low Temperature(5 sets)	Guohua Group	Nov-07
015	Datang Laizhou Project-Phase One	Laizhou, Shandong	33 sets	SL1500/77/HH65 Normal Temperature	China Datang Corporation	Mar-07



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Proje Listesi

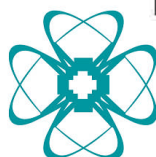
016	Datang Laizhou Project-Phase Two	Laizhou, Shandong	33 sets	SL1500/77/HH65 Normal Temperature	China Datang Corporation	Mar-08
017	Datang Chifeng Dali Project-Phase Four	Chifeng, Inner Mongolia	33 sets	SL1500/70/HH65 Low Temperature	China Datang Corporation	Dec-07
018	Huadian Laizhou Project	Laizhou, Shandong	27 sets	SL1500/77/HH70 Normal Temperature	China Huadian Corp.	Nov-07
019	Zhongyu Huafu Project	Fujin, Heilongjiang	44 sets	SL1500/77/HH65 Low Temperature(40 sets) SL1500/70/HH65 Low Temperature(4 sets)	Heilongjiang Zhongyu Huafu Corp.	Dec-07 May-08
020	Fujin Wurguli Mountain Project-Phase Two	Fujin, Heilongjiang	22 sets	SL1500/70/HH65 Low Temperature(15 sets) SL1500/77/HH65 Low Temperature(7 sets)	Heilongjiang Fulong Wind Co., Ltd.	Jul-08
021	Dongning Daijazi Mountain & Xigang Mountain Project	Suiyang, Dongning, Heilongjiang	33 sets	SL1500/70/HH65 Low Temperature	Heilongjiang Huafu Dongning Corp.	
022	Huaneng Weihai Project- Phase Two	Weihai, Shandong	29 sets	SL1500/77/HH70 Normal Temperature	Huaneng Group	Nov-07
023	Shanghai Huagang Project	Shanghai	13 sets	SL1500/77/HH70 Normal Temperature	Shanghai Huagang Wind Co., Ltd.	
024	Xinjiang Xiaocaohu Project	Xiaocaohu, Xinjiang	6 sets	SL1500/60/HH65 Low Temperature	China Huadian Corp.(Xiaocaohu, Xinjiang)	Dec-07
025	Hua'n'an Daijazi Mountain Project	Hua Nan, Jiamusi, Heilongjiang	33 sets	SL1500/77/HH65 Low Temperature	China Datang Corporation	
026	Jiamusi Bei'an Tun Project	Hua Nan, Jiamusi, Heilongjiang	33 sets	SL1500/77/HH65 Low Temperature	China Datang Corporation	
027	Huafu Muling Project	Muling, Heilongjiang	30 sets	SL1500/70/HH65 Low Temperature	Heilongjiang Huafu Mule Corp.	
028	Longyuan Siziwangbayin'aobao Project	Siziwang Qi, Inner Mongolia	33 sets	SL1500/77/HH65 Low Temperature	Longyuan Electric Power Group	Sep-08
029	Datang Gansu Baiyinjingtai Xingquan Project	Jingtai, Baiyin, Gansu	30 sets	SL1500/77/HH65 Low Temperature	China Datang Corporation	Jul-08
030	Zhangjiakou Bashang Project	Zhangjiakou, Hebei	24 sets	SL1500/77/HH70 Low Temperature	Zhangjiakou Bodeyulong Corp.	
031	Mengneng Xing'anmeng Keyouqian Qi Project	Xing'anmeng, Inner Mongolia	33 sets	SL1500/77/HH65 Low Temperature	Mengneng Corp.	
032	Shanghai Xinnengyuan Project	Shanghai	10 sets	SL1500/77/HH70 Normal Temperature	Shanghai Xinnengyuan Huanbao Corp.	



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Proje Listesi

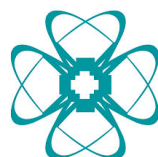
033	Baotou Luneng Baiyun'e'bo Project-Phase Two	Baotou, Inner Mongolia	33 sets	SL1500/70/HH65 Low Temperature	Luneng Group	
034	Laizhou Luneng Project-Phase Two	Laizhou, Shandong	33 sets	SL1500/77/HH80 Normal Temperature	Luneng Group	
035	Datang Yilan Chenguang Project	Yilan, Heilongjiang	33 sets	SL1500/77/HH65 Low Temperature	China Datang Corporation(Heilongjiang)	
036	Datang Yilan Fuqiang Project	Yilan, Heilongjiang	33 sets	SL1500/77/HH65 Low Temperature	China Datang Corporation(Heilongjiang)	
037	Inner Mongolia Huitengxile Project	Huitengxile, Inner Mongolia	134 sets	SL1500/77/HH65 Low Temperature	China Huadian Corp.(Inner Mongolia)	Nov-07
038	Liaoning Faku Bojiagou Project	Faku, Shenyang, Liaoning	33 sets	SL1500/77/HH65 Low Temperature	Shenyang Longyuan Wind Power Corp.	Jan-08
039	Guohua Huanghua Project	Huanghua, Cangzhou, Hebei	33 sets	SL1500/77/HH65 Low Temperature	Guohua Group/ AES	
040	Longyuan Mangniuhal Project	Tuquan, Xing'anmeng, Inner Mongolia	33 sets	SL1500/77/HH65 Low Temperature	Shenyang Longyuan Wind Power Corp.	Sep-08
041	Jingneng International Project-Phase One	Huolinguole, Inner Mongolia	33 sets	SL1500/77/HH70 Low Temperature	Jingneng Huolinguole Corp.	
042	Jingneng International Project-Phase Two	Huolinguole, Inner Mongolia	33 sets	SL1500/77/HH70 Low Temperature	Jingneng Huolinguole Corp.	
043	Xiehe Energy Project-Phase One	Zhangwu, Liaoning	33 sets	SL1500/77/HH70 Low Temperature	China Wind Co., Ltd.	
044	Xiehe Energy Project-Phase Two	Zhengji, Jilin	33 sets	SL1500/82/HH70 Low Temperature	China Wind Co., Ltd.	
045	Xiehe Energy Project-Phase Three	Tongliao, Inner Mongolia	33 sets	SL1500/77/HH70 Low Temperature	China Wind Co., Ltd.	
046	Xiehe Energy Project-Phase Four	Zhangwu, Liaoning	33 sets	SL1500/82/HH70 Low Temperature	China Wind Co., Ltd.	
047	Huadian Guyuan Project	Zhangjiakou, Hebei	67 sets	SL1500/77/HH65 Low Temperature	Huadian Group	
048	North Longyuan Concession Project	Huitengliang, Inner Mongolia	200 sets	SL1500/70/HH65 Low Temperature	Inner Mongolia North Longyuan	
049	Guohua Tongliao Project	Tongliao, Inner Mongolia	66 sets	SL1500/77/HH70 Low Temperature	Guohua Corp.(Tongliao)	Nov-08
050	Guohua Shangyi Qijiashan Project	Zhangjiakou, Hebei	68 sets	SL1500/77/HH70 Low Temperature	Guohua new energy Corp.(Hebei)	
051	Huaneng Hainan Wenchang Project	Wenchang, Hainan	33 sets	SL1500/70/HH65 Normal Temperature	Huaneng Group	Oct-08



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Proje Listesi

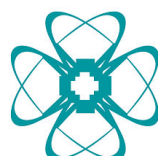
052	Liaoning Changtu Taiyangshan Project	Tieling,Liaoning	33 sets	SL1500/77/HH70 Low Temperature	International power new energy of Beijing	Nov-08
053	Zhangbei Batou concession Project	Zhangjiakou,Hebei	33 sets	SL1500/77/HH65 Low Temperature	China Hydropower Engineering Consulting Group Co.	Sep-08
054	Zhangjiakou Kangbao Project	Zhangjiakou,Hebei	67 sets	SL1500/77/HH65 Low Temperature	Guotou Zhangjiakou Wind Co., Ltd.	
055	Huaneng Jilin Tongyu Project-Phase Two	Tongyu,Jilin	67 sets	SL1500/77/HH70 Low Temperature	Huaneng Group	Oct-08
056	Longyuan Hebei Shangyi Project	Zhangjiakou,Hebei	100 sets	SL1500/77/HH70 Low Temperature	Longyuan Electric Power Group	
057	Datang Hailin Weihushan Project-Phase One	Hailin,Heilongjiang	33 sets	SL1500/77/HH65 Low Temperature	China Datang Corporation	
058	Datang Hailin Weihushan Project-Phase Two	Hailin,Heilongjiang	33 sets	SL1500/77/HH65 Low Temperature	China Datang Corporation	
059	Datang Yechuan Sujiadian Project-Phase One	Jiamusi,Heilongjiang	33 sets	SL1500/77/HH70 Low Temperature	China Datang Corporation	
060	Guodian Linhai Shengli Project	Linhai,Liaoning	33 sets	SL1500/77/HH70 Low Temperature	Guodian Group	Feb-08
061	Guodian Linhai Qingsong Project	Linhai,Liaoning	33 sets	SL1500/77/HH70 Low Temperature	Guodian Group	Nov-08
062	Guodian Linhai Shuguang Project	Linhai,Liaoning	33 sets	SL1500/77/HH70 Low Temperature	Guodian Group	Dec-08
063	Huaneng Hebei Leting Project	Leting,Hebei	33 sets	SL1500/77/HH70 Low Temperature	Huaneng Group	Sep-08
064	Huaneng Shandong Zhanhua Project-Phase One	Zhanhua,Shandong	33 sets	SL1500/77/HH70 Low Temperature	Huaneng Group	
065	Huaneng Inner Mogolia Keerqing Project-Phase One	Keerqing Youqi,Inner Mogolia	33 sets	SL1500/77/HH70 Low Temperature	Huaneng Group	
066	Datang Huitengliang Project-Phase One	Huitengliang,Inner Mogolia	33 sets	SL1500/70/HH65 Low Temperature	Datang Guolinxilei Corp.(Inner Mogolia)	Nov-08
067	Datang Wendeng Project-Phase One	Wendeng,Shandong	33 sets	SL1500/82/HH80 Low Temperature	Datang Heilongjiang Corp.	
068	Huaneng Zhenji Project-Phase One	Zhengji, Jilin	22 sets	SL1500/77/HH70 Low Temperature	Huaneng Renewable energy Co., Ltd(Jilin)	
069	Datang Huitengliang Project-Phase Two	Huitengliang,Inner Mogolia	33 sets	SL1500/70/HH65 Low Temperature	Datang Guolinxilei Corp.(Inner Mogolia)	



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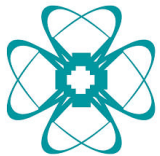
Proje Listesi

070	Hebei Chende Concession Project	Chende,Hebei	100 sets	SL1500/77/HH65 Low Temperature	Heibei construction new energy Co., Ltd.	
071	Datang Gansu Yumen Project-Phase Two	Yumen,Gansu	1200 sets	1.5MW wind turbine	Datang Yumen Wind Co., Ltd.(Gansu)	
072	Gangjian Inner Mogolia Huitengliang Project-Phase One	Wuchalanbu,Inner Mogolia	33 sets	SL1500/77/HH70 Low Temperature	Gangjian new energy Wind Co., Ltd.	
073	Gangjian Inner Mogolia Huitengliang Project-Phase Two	Wuchalanbu,Inner Mogolia	33 sets	SL1500/77/HH70 Low Temperature	Gangjian new energy Wind Co., Ltd.	
074	Longyuan Shenyang Zhangqiang Project	Zhangqiang, Shenyang, Liaoning	33 sets	SL1500/82/HH70 Low Temperature	Shenyang Longyuan Xiongya Wind Co., Ltd.	
075	Longyuan Shenyang Dongsheng Project	Dongsheng, Shenyang, Liaoning	33 sets	SL1500/82/HH70 Low Temperature	Shenyang Longyuan Xiongya Wind Co., Ltd.	
076	Longyuan Mangniuhai Project-Phase Two	Tuquan, Xing'anmeng, Inner Mongolia	33 sets	SL1500/82/HH70 Low Temperature	Longyuan Xinanmeng Wind Co., Ltd.(Inner Mongolia)	
077	Longyuan Wulatehouqi Project	Wulatehouqi, Inner Mongolia	33 sets	SL1500/77/HH65 Low Temperature	Longyuan Bayanzhuoer Wind Co., Ltd.(Inner Mongolia)	
078	Guohua Qiqihaer Project-Phase Two	Qiqihaer,Heilongjiang	33 sets	SL1500/82/HH70 Low Temperature	Guohua Group	
079	Donghai Bridge Offshore Project	Shanghai	34 sets	SL3000/90/HH80 Low Temperature	Shanghai Donghai Wind Power Co., Ltd.	
080	India Project	CHIKODI,BELGAUM,KARNATAKA,INDIA	10 sets	SL1500/82/HH70 Low Temperature	DODDANAVAR BROTHERS	
081	Guohua Huangye Project-Phase Two	Changzhou,Hebei	33 sets	SL1500/82/HH70 Low Temperature	Guohua Aiyishi Corp.	



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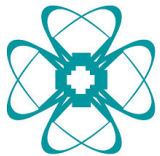
OFFSHORE INSTALLATION



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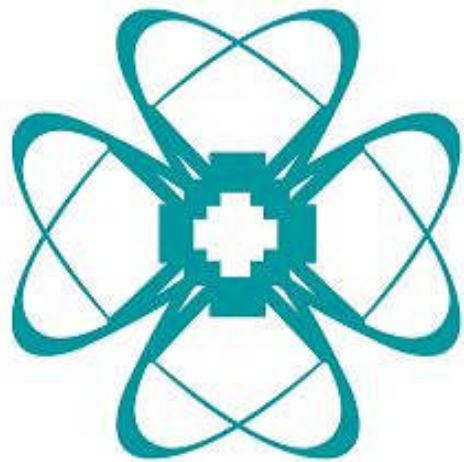
Offshore Installation

OFFSHORE INSTALLATION

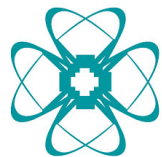


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LID Group of Companies