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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	611113
		Application Number	
Title of Invention	System and Method for Trading Electrical or Other Portable Power or Energy Source		
<p>The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.</p> <p>This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p>			

Secrecy Order 37 CFR 5.2

<input type="checkbox"/>	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
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Applicant Information:

Applicant 1					
Applicant Authority <input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
Mr.	George		Vamos		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Studio City	State/Province	CA	Country of Residence	US
Citizenship under 37 CFR 1.41(b)		US			
Mailing Address of Applicant:					
Address 1		12103 Hillslope St			
Address 2					
City	Studio City	State/Province	CA		
Postal Code	91604	Country	US		
Applicant 2					
Applicant Authority <input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
Mr.	Kelly	H.	McClure		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Simi Valley	State/Province	CA	Country of Residence	US
Citizenship under 37 CFR 1.41(b)		US			
Mailing Address of Applicant:					
Address 1		7199 Santa Susana Pass Rd			
Address 2					
City	Simi Valley	State/Province	CA		
Postal Code	93063	Country	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).	
<input type="checkbox"/>	An Address is being provided for the correspondence Information of this application.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	611113	
		Application Number		
Title of Invention	System and Method for Trading Electrical or Other Portable Power or Energy Source			
Customer Number	77279			
Email Address	akrayner@januslawgroup.com		<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	System and Method for Trading Electrical or Other Portable Power or Energy Source		
Attorney Docket Number	611113	Small Entity Status Claimed	<input checked="" type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	9	Suggested Figure for Publication (if any)	1

Publication Information:

<input type="checkbox"/>	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/>	Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.			
Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	77279		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status	Pending	<input type="button" value="Remove"/>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61298080	2010-01-25
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			

Foreign Priority Information:

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	611113
		Application Number	
Title of Invention	System and Method for Trading Electrical or Other Portable Power or Energy Source		

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

Remove

Application Number	Country ¹	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			<input checked="" type="radio"/> Yes <input type="radio"/> No

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1

If the Assignee is an Organization check here. ☒

Organization Name Flux Engineering, LLC.

Mailing Address Information:

Address 1		468 North Camden Drive	
Address 2		Third Floor	
City	Beverly Hills	State/Province	CA
Country	US	Postal Code	90210
Phone Number		Fax Number	
Email Address			

Additional Assignee Data may be generated within this form by selecting the **Add** button.

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

Signature	/Alexander Krayner 60854/		Date (YYYY-MM-DD)	2011-01-22
First Name	Alexander	Last Name	Krayner	Registration Number
				60854

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Attorney's Docket No. 611113**COMBINED DECLARATION AND POWER OF ATTORNEY**

(ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL, DIVISIONAL, CONTINUATION, OR CIP)

As a below named inventor, I hereby declare that:

TYPE OF DECLARATION

This declaration is of the following type: (check one applicable item below)

- ☒ original
☐ design
☐ supplemental

NOTE: If the declaration is for an International Application being filed as a divisional, continuation or continuation-in-part application, do not check next item; check appropriate one of last three items.

- ☐ national stage of PCT

NOTE: If one of the following 3 items apply, then complete and also attach ADDED PAGES FOR DIVISIONAL, CONTINUATION, OR CIP.

- ☐ divisional
☐ continuation
☐ continuation-in-part (CIP)

INVENTORSHIP IDENTIFICATION

WARNING: If the inventors are each not the inventors of all the claims an explanation of the facts, including the ownership of all the claims at the time the last claimed invention was made, should be submitted.

My residence, post office address and citizenship are as stated below next to my name. I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

“SYSTEM AND METHOD FOR TRADING ELECTRICAL OR OTHER PORTABLE
POWER OR ENERGY SOURCE”

SPECIFICATION IDENTIFICATION

the specification of which: (complete (a), (b) or (c))

- (a) ☒ is attached hereto.
 (b) ☐ was filed on _____ as ☐ Serial No. _____
 or ☐ Express Mail No., as Serial No. not yet known, _____
 and was amended on _____ (if applicable).

NOTE: Amendments filed after the original papers are deposited with the PTO which contain new matter are not accorded a filing date by being referred to in the declaration. Accordingly, the amendments involved are those filed with the application papers or, in the case of a supplemental declaration, are those amendments claiming matter not encompassed in the original statement of invention or claims. See 37 CFR 1.67.

- (c) ☐ was described and claimed in PCT International Application
 No. _____ filed on _____ as amended under
 PCT Article 19 (1) on ____ (if any).

ACKNOWLEDGMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code Federal Regulations § 1.56.

☒ In compliance with this duty there is attached an information disclosure statement 37 CFR 1.97.

PRIORITY CLAIM

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign applications(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

(complete (d) or (e))

- (d) ☒ no such applications have been filed.
 (e) ☐ such applications have been filed as follows.

NOTE: Where item (c) is entered above and the International Application which designated the U.S. claimed priority check item (e), enter the details below and make the priority claim.

**EARLIEST FOREIGN APPLICATION(S), IF ANY, FILED WITHIN 12 MONTHS
 (6 MONTHS FOR DESIGN(S)) PRIOR TO THIS U.S. APPLICATION**

COUNTRY	APPLICATION NO.	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 37 USC 119
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO

**ALL FOREIGN APPLICATION(S), IF ANY FILED MORE THAN 12 MONTHS
 (6 MONTHS FOR DESIGN(S)) PRIOR TO THIS U.S. APPLICATION**

COUNTRY	APPLICATION NO.	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 37 USC 119
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO

CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)
(35 U.S.C. Section 119(e))

I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below:

PROVISIONAL APPLICATION NO. FILING DATE

61/298,080

01/25/2010

POWER OF ATTORNEY

As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(List name and registration number)*

CUSTOMER NUMBER: 77279

(check the following item, if applicable)

☐ Attached as part of this declaration and power of attorney is the authorization of the above-named attorney(s) to accept and follow instructions from my representative(s).

END CORRESPONDENCE TO:

DIRECT TELEPHONE CALLS TO:
(Name and telephone number)

Alexander Krayner
(310) 227-8877

DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SIGNATURE(S)

Full name of **first inventor**: George Vamos

Inventor's signature: *George Vamos*

Date: 1/22/2011 Country of Citizenship: U.S.A.

Residence: 12103 Hillslope St. Studio City, CA 91604

Post Office Address: same as residence

Full name of **second inventor**: Kelly H. McClure

Inventor's signature: *Kelly H. McClure*

Date: 1/22/2011 Country of Citizenship: U.S.A.

Residence: 7199 Santa Susana Pass Rd Simi Valley, CA 93063

Post Office Address: same as residence

**CHECK PROPER BOX(ES) FOR ANY OF THE FOLLOWING ADDED PAGES(S)
WHICH FORM A PART OF THIS DECLARATION**

☐ Signature for third and subsequent joint inventors. *Number of pages added* __

☐ Signature by administrator(trix), executor(trix) or legal representative for deceased or incapacitated inventor. *Number of pages added* ____

☐ Signature for inventor who refuses to sign or cannot be reached by person authorized under 37 CFR 1.47. *Number of pages added*

☐ Added pages to combined declaration and power of attorney for divisional, continuation in-part (CIP) application.
Number of pages added _____

☐ Authorization of attorney(s) to accept and follow instructions from representative.

If no further pages form a part of this Declaration then end this Declaration with this page and check the following item.

☒ This declaration ends with this page.

Substitute for form 1449/PTO

(Use as many sheets as necessary)

Complete if Known

Sheet

of

Application Number

Filing Date

First Named Inventor

Art Unit

Examiner Name

Attorney Docket Number

[illegible][illegible]

Examiner
Signature

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

1 SYSTEM AND METHOD FOR TRADING ELECTRICAL OR OTHER
2 PORTABLE POWER OR ENERGY SOURCE

3
4 CROSS REFERENCE TO RELATED APPLICATIONS

5 **[0001]** This application claims the benefit of U.S. Provisional Application No.
6 61/298,080, filed on January 25, 2010, which is incorporated herein by reference in
7 its entirety.

8
9 FIELD

10 **[0002]** The present invention relates generally to charging and discharging a
11 battery of an electric/hybrid vehicle.

12
13 BACKGROUND

14 **[0003]** Concerns over rising pollution, global warming, diminishing supplies of
15 fossil fuels and the cost of fuel has led to a greater interest in the use of electric
16 power for powering vehicles, either using electric power alone or electric power
17 in a hybrid vehicle which also includes a tandem internal combustion engine.
18 Technology advances in storage cell design have made electric vehicles a viable
19 alternative to internal combustion engines. However, the ability to recharge the
20 storage cell/batteries remains a major obstacle to widespread adoption of these
21 technologies. For instance, improved storage cells may give an electric vehicle a
22 range of 100 miles at comparable speeds with internal combustion engines. This
23 limits the user to a 50 mile radius from his home if he is a commuter, since he
24 must make a return trip to his house in order to recharge the storage cells. The
25 recharging typically involves a power cable connected between the vehicle and a
26 charging station/electrical outlet located within the user's garage or dwelling. If
27 charging stations were available in public or private locations, such as work

1 place, parking garages, rest stops, or private parking lots associated with a
2 particular business, the electric vehicle could be recharged in the parking space,
3 parking lot or any other convenient or desirable venue while the owner/user is at
4 work or shopping. The availability of such charging stations would significantly
5 increase the range the electric vehicle could travel and encourage the purchase of
6 the electric vehicles because the potential buyers and users would know that
7 they were not limited to a drive or commute that was set by the amount of
8 charge of the battery or storage cell. The availability of such charging stations
9 would also allow the use of smaller and lighter batteries, thereby increasing or
10 improving the efficiency and/or economics and performance and range of the
11 electric vehicle.

12
13 **[0004]** A novel charging system is presently disclosed to encourage potential
14 buyers to purchase and use electric/hybrid vehicles.

15
16 **SUMMARY**

17 **[0005]** According to the present disclosure, a system of charging and/or
18 discharging a battery or providing power to operate equipment is disclosed.

19
20 **[0006]** According to a first aspect, a method is disclosed, the method comprising:
21 providing a user with access to a plurality of power providers; allowing the user
22 to purchase power from at least one power provider out of the plurality of power
23 providers; and allowing the user to charge a vehicle's battery using the
24 purchased power.

25
26 **[0007]** According to a second aspect, a system is disclosed, the system
27 comprising: a power connection configured to obtain power from at least one

1 power provider; at least one power port configured to deliver power to at least
2 one vehicle; and a database for storing one or more parameters associated with a
3 user of a system or associated with the at least one vehicle, wherein the one or
4 more parameters are agreed to by the user prior to using the system, wherein the
5 system delivers power to the at least one vehicle based on the one or more
6 parameters.

7
8 **[0008]** According to a third aspect, a method is disclosed, the method
9 comprising: providing a user with access to a plurality of power providers;
10 allowing the user to purchase power from at least one power provider out of the
11 plurality of power providers; and allowing the user to charge a battery or operate
12 equipment using the purchased power.

13
14 **[0009]** According to a fourth aspect, a method is disclosed, the method
15 comprising: retrieving one or more parameters associated with a user, wherein
16 the one or more parameters are agreed to by the user prior to using a system; and
17 deliver power to the user's vehicle based on the one or more parameters.

18
19 **[0010]** According to a fifth aspect, a method is disclosed, the method comprising:
20 allowing a user to negotiate one or more parameters with at least one power
21 provider; and allowing the user to purchase power from the at least one power
22 provider based on the one or more parameters.

23
24 **[0011]** According to a sixth aspect, a system is disclosed, the system comprising:
25 a bidirectional power connection configured to obtain power from and deliver
26 power to at least one power provider; and at least one bidirectional power port
27 configured to deliver power to and obtain power from at least one vehicle,

1 wherein power obtained from the at least one power provider is delivered to the
2 at least one vehicle and wherein the power obtained from the at least one vehicle
3 is delivered to the at least one power provider.

4
5 BRIEF DESCRIPTION OF THE FIGURES

6 **[0012]** FIG. 1 depicts an exemplary embodiment of a charging system according
7 to the present disclosure.

8
9 **[0013]** FIG. 2 depicts an exemplary embodiment of a network capable and
10 adaptable contract negotiation according to the present disclosure.

11
12 **[0014]** FIG. 3 depicts an exemplary embodiment of negotiating for power
13 according to the present disclosure.

14
15 **[0015]** FIG. 4a depicts an exemplary process for charging a vehicle's battery using
16 the charging system according to the present disclosure.

17
18 **[0016]** FIG. 4b depicts another exemplary process for charging a vehicle's battery
19 using the charging system according to the present disclosure.

20
21 **[0017]** FIG. 4c depicts an exemplary process for charging and/or discharging a
22 vehicle's battery using the charging system according to the present disclosure.

23
24 **[0018]** FIG. 5 depicts an exemplary process for matching user's request for
25 services with parameters in a contract according to the present disclosure.

1 [0019] FIG. 6 depicts an exemplary process for providing power to a client using
2 the charging system according to the present disclosure.

3
4 [0020] FIG. 7 depicts an exemplary process for matching client's request for
5 services with parameters in a contract according to the present disclosure.

6
7 [0021] In the following description, like reference numbers are used to identify
8 like elements. Furthermore, the drawings are intended to illustrate major
9 features of exemplary embodiments in a diagrammatic manner. The drawings
10 are neither intended to depict every feature of every implementation nor relative
11 dimensions of the depicted elements and are not drawn to scale.

12 13 DETAILED DESCRIPTION

14 [0022] In the following description, numerous specific details are set forth to
15 clearly describe various specific embodiments disclosed herein. One skilled in
16 the art, however, will understand that the presently claimed invention may be
17 practiced without all of the specific details discussed below. In other instances,
18 well known features have not been described so as not to obscure the invention.

19
20 [0023] Although charging stations for electric/hybrid vehicles are well known in
21 the art, they are analogous to gas stations, home wall plugs or other
22 power/energy transfer means in terms of allowing the users to plug their cars
23 and having the user pay a pre-set retail price without facilitating negotiable and
24 mutable terms. Besides charging a pre-set, flat rate for charging the vehicle, the
25 charging stations known in the art also deliver power to the charging vehicle at a
26 constant rate. By not being able to vary the charging rate, the charging stations
27 known in the art require the users to wait up to several hours in order to charge

1 their vehicles with enough power to allow the users to get to their destination.
2 Similarly, by not being able to vary the charging rate the number of vehicles that
3 may be charged is limited by the available power.

4
5 **[0024]** Contrary to the prior art, present disclosure provides a charging system
6 that, for example: (a) can be easily implemented at the employers facilities and/or
7 shopping centers to allow the users of the electric/hybrid vehicles to save time
8 and charge their vehicles while working and/or shopping; (b) allows the
9 electric/hybrid vehicles to recharge from an on-site generated power or power
10 utilities; (c) provides a means for an employer or other commercial entity to
11 deliver power as pre-tax compensation or consideration; (d) allows the user of
12 the electric/hybrid vehicles to negotiate the price for charging their vehicle; (e) is
13 capable of varying the amount of power being delivered to the user's vehicle; (f)
14 allows the recharging vehicle to become temporary emergency or peak load
15 power source for operator of network, such as utility, employer, government, or
16 landlord; and/or (g) can be configured to connect to and obtain power from
17 portable generators, hybrid or internal combustion vehicles, and/or any other
18 power generating device.

19
20 **[0025]** In one exemplary embodiment, the charging system according to the
21 present disclosure may be configured to allow employers an opportunity to
22 arbitrage pre-tax commercial electrical power against after-tax gasoline, and use
23 the difference between gasoline costs and electrical power, plus about 50% of
24 retail energy cost of the electrical cost to reduce employer
25 compensation/remuneration for labor costs.

1 [0026] For example, for employees who drive electric or plug-in hybrid vehicles,
2 the employer may permit the employees to charge their cars while parked at
3 work or at any other venue that provides the charging system according to the
4 present disclosure. The employer buys the power at the commercial rate (for
5 example, \$.16/kw/hr at current rates pre-tax) and assumes the cost of powering
6 the employees' cars, thereby replacing gasoline (for example, \$3/gallon at current
7 rates, but \$3.99 in pre-tax salary per gallon assuming a 33% marginal tax rate).
8 The employees' wages may be fixed so the employees' discretionary income may
9 remain the same, adjusted for whatever incentive is required to motivate the
10 employee. The difference in wages (gross profit) plus any government and other
11 incentives is divided between the employer(s), employees, and/ or any
12 combination of both, as well as other interested parties, and the company
13 providing the service to the employer. The employer pays the employees a salary
14 with about the same purchasing power and keeps the difference, minus the fees
15 paid to the company providing the actual service. The employer may provide the
16 service and infrastructure as described below with reference to **Figure 1**, or may
17 contract with a third party to provide this service at the employer's facility.

18
19 [0027] In another exemplary embodiment, the charging system according to the
20 present disclosure may be configured to allow the charging stations to vary the
21 charge rate, and even reverse it when there is, for example, a power
22 outage/shortage. For example, the employer can use the cars attached to the
23 charging stations to do short term power trading with the power utilities by
24 selling power stored in the cars back to the power utilities when the power is
25 scarce and buying the power back from the power utilities when there is an
26 excess of generation available, allowing it to be purchased at a lower cost. For
27 purposes of the following matter, power and energy transfer may be considered

interchangeable, except where the invention describes transferring energy under various timing needs and constraints (power).

[0028] Electric/hybrid vehicles are a movable power reserve. If an electric/hybrid vehicle can travel at 55mph on the freeway at 10kw, the electric/hybrid vehicle may potentially provide that energy back into the power/utility grid while standing still. The following example may be used to demonstrate the amount of power that may be potentially provided back into the power/utility grid by the electric/hybrid vehicles when they are not being used. For example, if the electric/hybrid vehicle has a range of about 150 miles that means the electric/hybrid vehicle's battery is capable of storing about 60kw/h. If the driver of that electric/hybrid vehicle insists that the electric/hybrid vehicle be charged at least 75% that means that about 25% (i.e. 15kw/h) of the stored power can be provided back to the utility grid when the electric/hybrid vehicle is fully charged. That means with 100 million electric/hybrid vehicles there is potentially a power reserve of about 1.5 billion kilowatt hours. If only 10% of this power reserve is sent back into the power/utility grid over a 10 hour period, it would be equivalent to having extra 15 normal sized (1GW) nuclear reactors generating power. Since there are about 100 nuclear reactors in the United States, that is an increase of about 15%.

[00029] Most vehicle batteries are partially charged, and partially charged batteries can either accept or deliver power. On command via the system described below with reference to **Figure 1**, these vehicle batteries can instantly become dispatchable generators or dispatchable loads. The dynamic range of 100 million cars from both modes may equal to twenty 1GW reactors, but it is also geographically distributed. The environmental, reliability and safety

1 consequences of this distribution are significant. If half the cars are plug in
2 hybrids, one may even turn their motors on, there by further increasing the
3 amount of peak and average power that may be provided back into the
4 power/utility grid.

5
6 **[0030]** In another exemplary embodiment, the charging system according to the
7 present disclosure may be configured to allow stores to provide incentives for
8 their customers to shop by allowing the customers to charge their vehicles for
9 free or at a reduced rate if the customer makes a purchase. For example, at the
10 point of sale, information may be transmitted through an internet network to the
11 charging system according to the present disclosure allowing and/or crediting
12 the customer with future power. The amount of credit received by the customer
13 may be based upon the type of purchase or amount of monies spent at the store.
14 The charging system according to the present disclosure may also be configured
15 to provide bonus power to the customers based on their shopping loyalty with a
16 particular store. Providing such a benefit to customers may increase customer
17 loyalty as well as the amount of time spent at a given shopping venue.

18
19 **[0031]** Referring to **Figure 1**, in one exemplary embodiment, the charging system
20 **5** according to the present disclosure may have a recharging/power exchange
21 station **10** configured to interact with a driver/user **20**, configured to charge or
22 discharge at least one electric/hybrid vehicle **30**, configured to obtain power from
23 or deliver power to an on-site power facility **40** or an external power/utility grid
24 **50a** or an external power/utility grid **50b**, and configured to have access to
25 external system/data and/or allow access by an administrator **70** through a
26 network interface **60**. The charging system **5** may further have a power interface
27 **120** to the vehicle **30**, such as, for example, an electric cable, with the ability to

1 recharge the batteries of the vehicle **30** and/or obtain data from the vehicle **30**.
2 The data that may be obtained from the vehicle **30** may be identification of the
3 driver/user **20**, status of the vehicle **30**, amount of power required by the vehicle
4 **30**, and/or amount of power available to be removed from the vehicle **30**.
5 Although two external power/utility grids **50a-b** are described in **Figure 1**, it is to
6 be understood that the charging system **5** according to the present disclosure
7 may also be configured to only operate with only one external power/utility grid
8 **50a** or with more than two external power/utility grids **50a-b**.

9
10 **[0032]** Referring to **Figure 1**, in another exemplary embodiment, the charging
11 system **5** according to the present disclosure may be configured to provide
12 power to user/customer **401**. In this exemplary embodiment, the user/customer
13 **401** may be a private residence, office building, hospital or any other facility that
14 requires power to operate equipment such as, for example, lights, air conditioner,
15 appliances, etc. In this exemplary embodiment, the recharging/power exchange
16 station **10** may be configured to interact with the customer **401**, may be
17 configured to provide power to the customer **401**, may be configured to obtain
18 power for the customer **401** from the vehicle **30**, the on-site power facility **40** or
19 the external power/utility grids **50a-b**, and may be configured to have access to
20 external system/data and/or allow access by the administrator **70** through the
21 network interface **60**.

22
23 **[0033]** Referring to **Figure 2**, in one exemplary embodiment, before using station
24 **10**, the driver/user **20** and/or the customer **401** would negotiate and accept a
25 contract **90** with a provider **80a** and/or provider **80b**. The contract **90** may
26 provide parameters that govern the relationship between the driver/user **20**, the
27 customer **401**, the provider **80a** and/or the provider **80b**. The contract **90** may also

1 provide parameters that govern the relationship between the vehicle **30** and the
2 provider **80a** and/or the provider **80b**. The contract **90** may further provide
3 parameters that govern the power transactions that occur when the vehicle **30** is
4 connected with the charging system **5**. The contract **90's** parameters may, for
5 example: (a) specify the identity of the contracting parties such as, for example,
6 the driver/user **20**, the customer **401**, the provider **80a** and/or provider **80b**; (b)
7 specify the limits on the power to be exchanged (e.g. 50 Kw/h per week
8 maximum delivered to the customer **401** or the vehicle **30**); (c) specify possible
9 cost constraints (e.g. maximum price of \$0.08/Kw/h); (d) specify maximum
10 charging rate allowed during the time the customer **401** and/or the vehicle **30** are
11 being charged; (e) specify if and/or when power may be taken from the
12 driver/user **20's** vehicle **30**; (f) specify access levels; (g) specify direct or indirect
13 monetary compensation, and/or (e) specify payment for power taken from the
14 vehicle. In one exemplary embodiment, the contract **90** may be an electronic
15 record that may be stored in a database **130** and/or external database **140** and it
16 may be served locally at the station **10**, via internet or other distributed data
17 transfer means.

18
19 **[0034]** Parameters in the contract **90** may also specify the following exemplary
20 rules and preferences of the contracting parties such as, for example, the
21 driver/user **20**, the customer **401**, the provider **80a** and/or the provider **80b**: (1) on
22 weekdays, the vehicle **30** should have, for example, at least 15Kw/h of power
23 available after being connected with the charging system **5** for at least one hour.
24 This would allow the user/driver **20** to use the vehicle **30** in case there is an
25 emergency and the driver/user **20** unexpectedly needs to travel; (2) on
26 weekdays, the vehicle **30** should have between 20 Kw/h and 30 Kw/h of power,
27 or at least enough power to get back home or to another charging facility, by the

1 end of the workday; (3) between 9AM and 12PM, the provider **80a** and/or the
2 provider **80a** may withdraw power from the vehicle **30**, so long as the power
3 level does not drop below, for example, 15Kw/h. This would allow the provider
4 **80a** and/or the provider **80b** to use the power from the vehicles **30** in case of a
5 power outage or an emergency or another unanticipated need and this would
6 allow the driver/user **20** to sell the extra power stored in the vehicle **30** while it is
7 not being used; (4) between 1PM and 5PM, the provider **80a** and/or the
8 provider **80b** may withdraw power from the vehicle **30**, but if it drops below, for
9 example, 20Kw/H, each Kw/H is to be credited or purchased at a pre-negotiated
10 rate which may be a higher rate to compensate the user/driver **20** for not having
11 a fully charged vehicle **30** by the time the user/driver **20** is ready to leave work;
12 (5) the driver is willing to pay \$0.02 if “green” (environmentally friendly) power
13 is available; and/or (6) the business may have a limited amount of power to
14 deliver over time, and the price may depend on the current situation. (e.g. An
15 apartment house may only be able to guarantee adding 15Kw/h overnight (car
16 parked at 7PM, driving away at 7:30AM) per car in the garage at \$0.10, but may
17 deliver an extra 10Kw, but at a price of \$0.20. Note: This can only occur if the
18 driver modifies or renegotiates the contract to buy the more expensive power.

19
20 **[0035]** The contract **90** may determine the behavior limits of the charging system
21 **5** when the vehicle **30** is attached. The actual behavior may be determined
22 dynamically, depending on the instantaneous supply and demand for power,
23 and possibly the near term projected supply and demand. For example, on a hot
24 summer afternoon, the system may charge the vehicles **30** to a high level in the
25 morning, so that between 2-4PM the system may withdraw some of that power
26 for air conditioning. This would smooth the demand the provider **80a** and/or the

1 provider **80b** places on the utility company, and thereby creates an incentive for
2 a power discount from the utility company.

3
4 **[0036]** Additionally, the contract **90** may contain the history of the power
5 exchanges between the contracting parties, which may be used to support billing,
6 contract modification as well as to predict future supply and demand for power.

7
8 **[0037]** Since the terms of the contract are determined by the contracting parties, it
9 may be possible that there would not be an exchange of power. For example, the
10 user/driver **20** or the customer **401** may want to buy power below \$0.09/kw/h,
11 but the power is only available at \$0.10/Kw/h. In this example, the user/driver
12 **20's** vehicle **30** or the customer **401** will not be provided with power until the
13 price of power drops to below \$0.09/Kw/h. Similarly, it may also be possible that
14 the terms represent the buying and selling of power delivery options, but the
15 conditions of exercising these options have not yet occurred.

16
17 **[0038]** The contract **90** may be negotiated and/or accepted at the time of hire or at
18 any other time by the employer and/or using internet, telephone, or using
19 interface **100**. The providers **80a-b** may be parking lot operators, property
20 management companies, employers, landlords, broker, public utility, retailer,
21 anyone who operates and/or owns charging system **5** described in the present
22 disclosure. The providers **80a-b** may own generating equipment (e.g. roof top
23 generating equipment). Although two providers **80a-b** are described in **Figures**
24 **1-3**, it is to be understood that the charging system **5** according to the present
25 disclosure may also be configured to only operate with only one provider **80a** or
26 with more than two providers **80a-b**.

1 [0039] Once the contract 90 is accepted by driver/user 20, the customer 401, the
2 provider 80a and/or provider 80b, the contract 90 may be stored by the provider
3 80a, the provider 80b and/or the administrator 70 in a database 130 stored in the
4 memory of the station 10. In another exemplary embodiment, the contract 90
5 may be stored by the provider 80a, the provider 80b and/or the administrator 70
6 remotely in an external database 140 and retrieved by the station 10 using
7 network interface 60. The external database 140 may reside on an administrative
8 server, the employer's computer, or a third party server.

9
10 [0040] In one exemplary embodiment, the parameters contained in the contract
11 90 and/or the contract 90 may be accessed/changed/amended/updated by the
12 user/driver 20, the customer 401, the provider 80a, the provider 80b, and/or the
13 administrator 70. The user/driver 20, the customer 401, the provider 80a, the
14 provider 80b and/or administrator 70 may access/change/amend/update the
15 parameters of the contract 90 and/or the contract 90 through the user interface
16 100 or by remotely login into the database 130 through network interface 60 or by
17 remotely login into the external database 140. It is to be understood that the
18 user/driver 20, the customer 401, the provider 80a, the provider 80b and/or the
19 administrator 70 may also access/change/amend/update the parameters of the
20 contract 90 and/or the contract 90 using PDA, SmartPhone, built-in aftermarket
21 vehicle accessory, vocal commands, and/or GPS system configured to
22 communicate with the presently disclosed charging system 5.

23
24 [0041] In another exemplary embodiment, the parameters in the contract 90
25 and/or the contract 90 may also be accessed/changed/amended/updated by the
26 charging system 5 by making a record of the services requested by the

1 user/driver **20** or the customer **401**, making a record of the history of use, and/or
2 the services provided by the charging system **5**.

3
4 **[0042]** Once the contract **90** is accepted, the driver/user **20** or the customer **401**
5 may interact with the station **10** using, for example, user interface **100** and/or
6 identification device **110**. The user interface **100** and/or the identification device
7 **110** may be configured to confirm the identity of the driver/user **20** or the
8 customer **401** using, for example, driver/user **20**'s credit card, RFID device,
9 biometrics, vehicle's transponder, employee identification card, pin code or some
10 other means, including, for example, automatic recognition of the vehicle **30**
11 connected to the station **10**'s data/power port **150** using power interface **120**.

12
13 **[0043]** Once the identity of the driver/user **20** or the customer **401** has been
14 established/confirmed, the station **10** may retrieve driver/user **20**'s or the
15 customer **401**'s contract **90** and provide power/services according to the
16 parameters outlined in the contract **90** previously negotiated by that driver/user
17 **20** or that customer **401**.

18
19 **[0044]** In another exemplary embodiment, the station **10** may be connected with
20 the on-site power facility **40** and/or the external power utility grid **50a** and/or the
21 external power utility grid **50b** through a power connection **160**. The on-site
22 power facility **40** may be run and operated by the employer or the owner of the
23 charging system **5**. The on-site power facility **40** may generate power to charge
24 vehicles **30** or power the customer **401** using, for example, solar panels, wind
25 turbines or any other clean source of energy. The external power utility grids
26 **50a-b** may be run and operated by a public utility company, individuals,
27 corporations or government entity. The power connector **160** may also be a

1 bidirectional system allowing the power to flow to and from the on-site power
2 facility **40** and/or the external power utility grid **50a** and/or the external power
3 utility grid **50b**.

4
5 **[0045]** Once the vehicle **30** is connected to the station **10's** data/power port **150**
6 and the driver/user **20's** identity has been confirmed, station **10's** controller **190**
7 may retrieve driver/user **20's** contract **90** and deliver or retrieve power according
8 to the parameters outlined in that driver/user **20's** contract **90**. The data/power
9 port **150** may be a bidirectional system for delivering power to the vehicles **30** as
10 well as obtaining power from the vehicles **30's** batteries or generation capability
11 such as gasoline or diesel motor. In one exemplary embodiment, a traditional
12 vehicle with a regular combustion engine may be used to deliver power to the
13 station **10** through the data/power port **150**. The bidirectional system of the
14 data/power port **150** may allow the vehicle **30** to become a temporary emergency
15 or peak load power source for other vehicles connected to the charging system **5**
16 or station **10**, the external power utility grid **50a**, the external power utility grid
17 **50b**, and/or on-site power facility **40**. This power may be sourced from the
18 vehicle **30's** battery, generator, alternator, or any combination of the above. The
19 charging system **5** can provide a means of power sharing (load balancing) so that
20 drivers/users **20** can receive more or less power depending on contracted
21 priority, available energy, payment rate, charge deadline or other priority
22 parameters provided in the contract **90**.

23
24 **[0046]** In one exemplary embodiment, the charging system **5** may support
25 multiple providers **80** and may allow the user/driver **20** or the customer **401** to
26 accept different contracts **90** from multiple providers **80a** and **80b**. This may
27 require user/driver **20** or the customer **401** to maintain different identifications

1 for each of the accepted contracts 90. Once the driver/user 20 or the customer 401
2 present their identification to the station 10, the charging system 5 may, for
3 example, use controller 190 of the station 10 to lookup database 130 and/or
4 external database 140 to determine which provider 80a or 80b and/or which
5 contract 90 will fulfill/control the requested transaction. If more than one
6 provider 80 and/or contract 90 is associated with driver/user 20's or the customer
7 401's identification, the charging system 5 may optionally contain rules
8 indicating the preferred provider 80a or 80b and /or contract 90 to be used in a
9 particular situation and/or at a particular station 10.

10
11 [0047] It is to be understood that the driver/user 20 or the customer 401 may use
12 one or more of the following as their identification: driver/user 20's credit card,
13 driver license, RFID device, biometrics, vehicle's transponder, employee
14 identification card, pin code, license plate recognition system, or some other
15 means, including, for example, automatic recognition of the vehicle 30 connected
16 to the station 10's data/power port 150 using power interface 120.

17
18 [0048] Using the bidirectional power connection 160 and bidirectional
19 data/power port 150 may allow the driver/user 20 to obtain power from and sell
20 power to the on-site power facility 40, the external power utility grid 50a and/or
21 the external power utility grid 50b. The power obtained from the drivers/users 20
22 may be used as emergency power for the customer 401, private homes, hospitals,
23 civil defense, local, state or federal government, military or other emergency
24 service.

25
26 [0049] Referring to **Figure 3**, in another exemplary embodiment, the charging
27 system 5 according to the present disclosure may be configured to allow the

1 users/drivers **20** shop for the best possible prices when either purchasing power
2 to charge their vehicles or selling the power stored in their vehicles. The charging
3 system **5** according to the present disclosure may also be configured to allow the
4 customer **401** to shop for the best possible prices when purchasing power to
5 operate equipment. When purchasing power, the user/driver **20** or the customer
6 **401** may be allowed to negotiate with the external power utility grid **50a**, the
7 external power utility grid **50b**, the provider **80a**, the provider **80b**, the on-site
8 power facility **40**, other drivers/users **201a-b** whose vehicles (not shown) may
9 also be connected to the charging system **5**, and/or any other power providers
10 that may be connected to the charging system **5** for the lowest possible price
11 before purchasing the required power. Similarly, when selling power,
12 driver/user **20** may also be allowed to negotiate with the external power utility
13 grid **50a**, the external power utility grid **50b**, the provider **80a**, the provider **80b**,
14 the on-site power facility **40**, the customer **401**, other drivers/users **201a-b**
15 connected to the charging system **5**, or any other power provider that may be
16 connected to the charging system **5** for the highest possible price. In one
17 exemplary embodiment, the negotiation for the purchase and sale of power may
18 be in a form of an electronically supported bidding process. Specifically, the
19 external power utility grid **50a**, the external power utility grid **50b**, the on-site
20 power facility **40**, other drivers/users **201a-b** and/or other power providers may
21 bid against each other in an effort to give the user/driver **20** or the customer **401**
22 the lowest possible selling price. Similarly, the user/driver **20** would also bid
23 against other power providers when trying to sell the extra power stored in their
24 vehicle.

25
26 **[0050]** Although presently disclosed system pertains to electric/hybrid vehicles, it
27 is to be understood that the electric/hybrid vehicles are not only limited to cars. It

1 is to be understood that presently disclosed charging system may also be
2 configured to work with trucks, boats, barges, ships, airplanes or space-crafts.

3
4 **[0051]** Referring to **Figure 4a**, the following exemplary process may be used to
5 charge vehicle **30's** battery using charging system **5** according to the present
6 disclosure. Referring to step **11**, user/driver **20** presents identification to the
7 station **10**. As described above, the following could be used as user/driver **20's**
8 identification: driver/user **20's** credit card, driver license, RFID device,
9 biometrics, vehicle's transponder, employee identification card, pin code or some
10 other means, including, for example, automatic recognition of the vehicle **30**
11 connected to the station **10's** data/power port **150** using power interface **120**.

12 Referring to step **14**, the charging system **5** obtains user/driver **20's** contract **90**.
13 The contract **90** may be obtained from database **130** and/or external database **140**.
14 Referring to step **15**, the charging system **5** determines if the actions requested by
15 the user/driver **20** are allowed under the contract **90** by matching the request to
16 one or more parameters in the contract **90**. Referring to step **16**, if the user/driver
17 **20's** request is allowed under the contract **90**, the charging system **5** will deliver
18 power to the vehicle **30** based on one or more parameters in the contract **90**, as
19 shown in step **17**, and will update the contract **90** by making a record of the
20 executed request, as shown in step **18**. If user/driver **20's** request is not allowed
21 under the contract **90**, the request is not performed, as shown in step **19**.

22
23 **[0052]** Referring to **Figure 4b**, the following exemplary process may also be used
24 to charge vehicle **30's** battery using the charging system **5** according to the
25 present disclosure. This exemplary process may be used when user/driver **20**
26 negotiates multiple contracts **90** with provider **80a** and **80b**. Referring to step **111**,
27 user/driver **20** presents identification to the station **10**. Referring to steps **112** and

1 113, the charging system 5 determines which provider 80a or 80b and/or which
2 contract 90 will fulfill/control the transaction requested by the user/driver 20.
3 Referring to step 114, the charging system 5 obtains user's/driver's contract 90.
4 Referring to step 115, the charging system 5 determines if the actions requested
5 by the user/driver 20 are allowed under the contract 90 by matching the request
6 to one or more parameters in the contract 90. Referring to step 116, if the
7 user/driver 20's request is allowed under the contract 90, the charging system 5
8 will deliver power to the vehicle 30 based on one or more parameters in the
9 contract 90, as shown in step 117, and will update the contract 90 by making a
10 record of the executed request, as shown in step 118. If user/driver 20's request is
11 not allowed under the contract 90, the request is not performed, as shown in step
12 119.

13
14 [0053] Referring to Figure 4c, the following exemplary process may be used to
15 charge/discharge vehicle 30's battery using charging system 5 according to the
16 present disclosure. Referring to step 211, user/driver 20 presents identification to
17 the station 10. Referring to step 214, the charging system 5 obtains user/driver
18 20's contract 90. Referring to step 215, the charging system 5 determines if the
19 actions requested by the user/driver 20 are allowed under the contract 90 by
20 matching the request to one or more parameters in the contract 90. Referring to
21 step 216, if the user/driver 20's request is allowed under the contract 90, the
22 charging system 5 will deliver power to the vehicle 30 based on one or more
23 parameters in the contract 90, as shown in step 217, and will update the contract
24 90 by making a record of the executed request, as shown in step 218. If
25 user/driver 20's request is not allowed under the contract 90, the request is not
26 performed, as shown in step 219. In one exemplary embodiment, the reasons for
27 the denial of the request may be recorded for review and/or examination by the

1 user 20, provider 80a and/or provider 80b. Referring to step 212, if the charging
2 system 5 determines that the vehicle 30's power is required for other uses due to
3 emergency or due to parameters of the contract 90, the charging system will
4 discharge the vehicle 30's battery and utilize the power as required. Once enough
5 power has been removed from the vehicle 30's battery, the charging system 5
6 will update the contract 90 by making a record of the discharge, as shown in step
7 218, and will restart power delivery back to the vehicle 30's battery, as shown in
8 step 217. If the charging system 5 determines that power from the vehicle is not
9 required, the charging system 5 will update the contract 90 by making a record of
10 the executed request. It is to be understood that steps 217, 218, 212 and 213 may
11 be repeated multiple times throughout the time the vehicle 30 is connected to the
12 charging system 5 depending on the requirements of the charging systems 5.

13
14 [0054] Referring to Figure 5, the following exemplary process may be used to
15 match the user/driver 20's request for services to one or more parameters in the
16 contract 90 described above in steps 15, 115 and 215 with reference to Figures 4a-
17 c. Referring to step 311, the charging system 5 determines if the parameters in the
18 contract 90 and/or contract 90, obtained in the exemplary steps 14, 114 or 214, is
19 still valid. If the contract 90 is determined to be invalid, the charging system 5
20 may allow the user/driver 20 to update/change/amend the contract 90 and/or the
21 parameters of the contract 90 or the charging system 5 may terminate the
22 user/driver 20's request for services. Once the validity of the contract 90 and/or
23 validity of the parameters in the contract 90 has been established, the charging
24 system 5 may determine how much charge is to be delivered to the vehicle 30, as
25 shown in step 312. The charging system 5 may determine the amount of charge
26 to be delivered based on the parameters in the contract 90 and/or input from the
27 user/driver 20 and/or by directly checking vehicle 30's battery status through the

1 power interface **120**. As described above, the charging system **5** may be
2 configured to obtain power from or deliver power to the on-site power facility
3 **40**, the external power utility grid **50a** or an external power utility grid **50b**.
4 Because the supply of power available to the charging system **5** may vary on a
5 daily, weekly and/or monthly basis, the charging system **5** may determine, as
6 shown in step **313**, availability of total power for the charging system **5** from
7 which to charge the vehicle **30**. The amount of power that is available to the
8 charging system **5** may vary because there might be greater demand for power
9 such as air-conditioning during hot summer day or there might be less power
10 being produced by the solar panels during a rainy day. To determine the amount
11 of power available to the charging system **5**, the charging system **5** may rely on
12 the past history of available power, on weather reports, building power
13 management, and/or any other available data to more accurately determine the
14 amount of power available for charging the vehicle **30**. Once the charging system
15 **5** determines the amount of power that is available, the charging system **5** may
16 determine charging time allocated for the vehicle **30**, as shown in step **314**. The
17 charging system **5** may determine the charging time based on the parameters in
18 the contract **90**. For example, the parameters in the contract **90** may specify that
19 the user/driver **20** will be at work for eight hours which would allow the
20 charging system **5** eight hours to supply the required/requested charge to the
21 user/driver **20's** vehicle **30**. The charging system **5** may also determine the
22 charging time based on the history of user/driver **20's** previous charging times,
23 and/or based on user/driver **20's** input through the interface **100**, and/or based on
24 the operating conditions/hours of the charging system **5** or station **10**. Once the
25 charging system **5** determines the charging time allocated for the vehicle **30**, the
26 charging system **5** may determine the time when the vehicle **30** will be once
27 again ready for use, as shown in step **315**. The charging time allocated for the

1 vehicle 30 and the time when the vehicle 30 will be ready for use may be
2 displayed to the user/driver 20 using interface 100 as shown in step 316. Should
3 the user/driver 20 need to use the vehicle 30 sooner than displayed on the
4 interface 100, the charging system 5 may be configured to allow the user/driver
5 20 to amend/change/update one or more parameters of the contract 90 and/or
6 amend/change/update the contract 90 to allow for faster charge of the vehicle 30.

7
8 [0055] Referring to **Figure 6**, the following exemplary process may be used to
9 provide power to the customer 401 using the charging system 5 according to the
10 present disclosure. Referring to step 411, the customer 401 accesses the charging
11 system 5 either through the identification device 110 or remotely through the
12 network interface 60. As described above, the following could be used as the
13 customer 401's identification: RFID device, biometrics, identification card,
14 pin/password code or some other means. Referring to step 414, the charging
15 system 5 obtains the customer 401's contract 90. The contract 90 may be obtained
16 from database 130 and/or external database 140. Referring to step 415, the
17 charging system 5 determines if the actions requested by the customer 401 are
18 allowed under the contract 90 by matching the request to one or more
19 parameters in the contract 90. Referring to step 416, if the customer 401's request
20 is allowed under the contract 90, the charging system 5 will deliver power to the
21 customer 401 based on one or more parameters in the contract 90, as shown in
22 step 417, and will update the contract 90 by making a record of the executed
23 request, as shown in step 418. If the customer 401's request is not allowed under
24 the contract 90, the request is not performed, as shown in step 419.

25
26 [0056] Referring to **Figure 7**, the following exemplary process may be used to
27 match the customer 401's request for services to one or more parameters in the

1 contract 90 described above in step 415, with reference to **Figure 6**. Referring to
2 step 511, the charging system 5 determines if the parameters in the contract 90
3 and/or contract 90, obtained in the exemplary step 514 is still valid. If the contract
4 90 is determined to be invalid, the charging system 5 may allow the customer 401
5 to update/change/amend the contract 90 and/or the parameters of the contract 90
6 or the charging system 5 may terminate the customer 401's request for services.
7 Once the validity of the contract 90 and/or validity of the parameters in the
8 contract 90 have been established, the charging system 5 may determine how
9 much power is to be delivered to the customer 401, as shown in step 512. The
10 charging system 5 may determine the amount of power to be delivered based on
11 the parameters in the contract 90 and/or input from the customer 401. As
12 described above, the charging system 5 may be configured to obtain power from
13 or deliver power to the on-site power facility 40, the external power utility grid
14 50a or the external power utility grid 50b. Because the supply of power available
15 to the charging system 5 may vary on a daily, weekly and/or monthly basis, the
16 charging system 5 may determine, as shown in step 513, availability of total
17 power for the charging system 5 from which to power the customer 401. The
18 amount of power that is available to the charging system 5 may vary because
19 there might be greater demand for power such as air-conditioning during hot
20 summer day or there might be less power being produced by the solar panels
21 during a rainy day. To determine the amount of power available to the charging
22 system 5, the charging system 5 may rely on the past history of available power,
23 on weather reports, building power management, and/or any other available
24 data to more accurately determine the amount of power available for powering
25 the customer 401. Once the charging system 5 determines the amount of power
26 that is available, the charging system 5 may determine power time allocated for
27 the customer 401, as shown in step 514. The charging system 5 may determine

1 the power requirement time based on the parameters in the contract 90. For
2 example, the parameters in the contract 90 may specify that the customer 401 will
3 require the use of air conditioner from 2PM to 5PM which would allow the
4 charging system 5 to allocate enough power throughout the day to supply the
5 required/requested power to the customer 401. The charging system 5 may also
6 determine the power requirement time based on the history of the customer
7 401's previous power times, and/or based on the customer 401's input through
8 the interface 100, and/or based on the operating conditions/hours of the charging
9 system 5 or station 10. Once the charging system 5 determines the power
10 requirement time for the customer 401, the charging system 5 may distribute the
11 power across the network to make sure the customer 401's requirements are met.
12 Should the customer 401 need extra power, the charging system 5 may be
13 configured to allow the user 401 to amend/change/update one or more
14 parameters of the contract 90 and/or amend/change/update the contract 90 to
15 allow for the extra power.

16
17 **[0057]** While several illustrative embodiments of the invention have been shown
18 and described, numerous variations and alternative embodiments will occur to
19 those skilled in the art. Such variations and alternative embodiments are
20 contemplated, and can be made without departing from the scope of the
21 invention as defined in the appended claims.

22
23 **[0058]** As used in this specification and the appended claims, the singular forms
24 "a," "an," and "the" include plural referents unless the content clearly dictates
25 otherwise. The term "plurality" includes two or more referents unless the
26 content clearly dictates otherwise. Unless defined otherwise, all technical and

1 scientific terms used herein have the same meaning as commonly understood by
2 one of ordinary skill in the art to which the disclosure pertains.

3
4 **[0059]** The foregoing detailed description of exemplary and preferred
5 embodiments is presented for purposes of illustration and disclosure in
6 accordance with the requirements of the law. It is not intended to be exhaustive
7 nor to limit the invention to the precise form(s) described, but only to enable
8 others skilled in the art to understand how the invention may be suited for a
9 particular use or implementation. The possibility of modifications and variations
10 will be apparent to practitioners skilled in the art. No limitation is intended by
11 the description of exemplary embodiments which may have included tolerances,
12 feature dimensions, specific operating conditions, engineering specifications, or
13 the like, and which may vary between implementations or with changes to the
14 state of the art, and no limitation should be implied therefrom. Applicant has
15 made this disclosure with respect to the current state of the art, but also
16 contemplates advancements and that adaptations in the future may take into
17 consideration of those advancements, namely in accordance with the then
18 current state of the art. It is intended that the scope of the invention be defined
19 by the Claims as written and equivalents as applicable. Reference to a claim
20 element in the singular is not intended to mean “one and only one” unless
21 explicitly so stated. Moreover, no element, component, nor method or process
22 step in this disclosure is intended to be dedicated to the public regardless of
23 whether the element, component, or step is explicitly recited in the claims. No
24 claim element herein is to be construed under the provisions of 35 U.S.C. Sec.
25 112, sixth paragraph, unless the element is expressly recited using the phrase
26 “means for. . .” and no method or process step herein is to be construed under

- 1 those provisions unless the step, or steps, are expressly recited using the phrase
- 2 "step(s) for. . ."
- 3

1 **What is claimed is:**

2

3 1. A method comprising:

4 providing a user with access to a plurality of power providers;

5 allowing the user to purchase power from at least one power provider out
6 of the plurality of power providers; and

7 allowing the user to charge a vehicle's battery using the purchased power.

8

9 2. The method of claim 1, wherein the at least one power provider is another
10 user.

11

12 3. The method of claim 1, wherein the at least one power provider is a power
13 utility company.

14

15 4. The method of claim 1, wherein the at least one power provider is user's
16 employer.

17

18 5. The method of claim 1, the method further comprising:

19 allowing one or more power providers out of the plurality of power
20 providers to purchase power stored in the vehicle's battery.

21

22 6. The method of claim 5, wherein the one or more power providers are one or
23 more other user.

24

25 7. The method of claim 5, wherein the one or more power providers are one or
26 more power utility companies.

27

1 8. The method of claim 5, wherein the one or more power providers is user's
2 employer.

3
4 9. The method of claim 1, the method further comprising:
5 negotiating one or more parameters between the user and the at least one
6 power provider, wherein allowing the user to charge a vehicle's battery is based
7 on the one or more parameters.

8
9 10. The method of claim 5, the method further comprising:
10 negotiating one or more parameters between the user and the one or more
11 power providers, wherein allowing the one or more power providers out of the
12 plurality of power providers to purchase power is based on the one or more
13 parameters.

14
15 11. A system comprising:
16 a power connection configured to obtain power from at least one power
17 provider;
18 at least one power port configured to deliver power to at least one vehicle;
19 and
20 a database for storing one or more parameters associated with a user of a
21 system or associated with the at least one vehicle,
22 wherein the one or more parameters are agreed to by the user prior to
23 using the system,
24 wherein the system delivers power to the at least one vehicle based on the
25 one or more parameters.

1 12. The system of Claim 11, further comprising:

2 a controller configured to identity the user and retrieve the one or more
3 parameters from the database.

4

5 13. The system of Claim 11, further comprising:

6 a network interface configured to allow the user or the at least one power
7 provider or a system administrator to remotely access the database or the one or
8 more parameters.

9

10 14. The system of Claim 11, wherein the power connection is configured to
11 deliver power to the at least one power provider from the at least one vehicle.

12

13 15. The system of Claim 11, wherein the at least one power port is configured to
14 obtain power from the at least one vehicle.

15

16 16. The system of Claim 15, wherein the power from the at least one vehicle is
17 used to charge a battery or operate equipment.

18

19 17. The system of Claim 11, further comprising:

20 an identification device configured to obtain identity of the user or the at
21 least one vehicle.

22

23 18. The system of Claim 11, wherein the at least one power port is configured to
24 obtain data from the at least one vehicle.

25

1 19. The system of Claim 18, wherein the data is user's identification, the at least
2 one vehicle's power requirements, or any other information that would allow the
3 system to identity the one or more parameters.

4
5 20. The system of claim 11, wherein the at least one power provider is another
6 user's vehicle.

7
8 21. The system of claim 11, wherein the at least one power provider is a power
9 utility company.

10
11 22. The system of claim 11, wherein the at least one power provider is the user's
12 employer.

13
14 23. The system of claim 11, wherein the one or more parameters govern
15 relationship between the user and the at least one power provider.

16
17 24. The system of claim 11, wherein the one or more parameters specify identity
18 of the user or the power provider

19
20 25. The system of claim 11, wherein the one or more parameters specify an
21 amount of power to be delivered to the at least one vehicle.

22
23 26. The system of claim 11, wherein the one or more parameters specify cost for
24 the power to be delivered to the at least one vehicle.

25
26 27. The system of claim 11, wherein the one or more parameters specify rate at
27 which power to be delivered to the at least one vehicle.

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28. The system of claim 11, wherein the one or more parameters specify access levels.

29. The system of claim 15, wherein the one or more parameters specify amount of power to be obtained from the at least one vehicle.

30. The system of claim 15, wherein the one or more parameters specify payment for power obtained from the at least one vehicle.

31. The method of claim 11, wherein the at least one power provider is another vehicle.

32. The method of claim 11, wherein the at least one power provider is a power utility company.

33. A method comprising:
 providing a user with access to a plurality of power providers;
 allowing the user to purchase power from at least one power provider out of the plurality of power providers; and
 allowing the user to charge a battery or operate equipment using the purchased power.

34. The method of claim 33, wherein the at least one power provider is a battery of a vehicle.

1 35. The method of claim 33, wherein the at least one power provider is a power
2 utility company.

3

4 36. The method of claim 33, wherein the at least one power provider is the user's
5 employer.

6

7 37. The method of claim 33, wherein the equipment is air conditioner, medical
8 equipment, appliances, or any other devices requiring power to operate.

9

10 38. The method of claim 33, wherein the user is a person, business, hospital or
11 store.

12

13 39. A method comprising:

14 retrieving one or more parameters associated with a user, wherein the one
15 or more parameters are agreed to by the user prior to using a system; and

16 deliver power to the user's vehicle based on the one or more parameters.

17

18 40. The method of Claim 39, the method further comprising:

19 obtaining power from the user's vehicle based on the one or more
20 parameters.

21

22 41. The method of Claim 39, the method further comprising:

23 identifying a power provider, wherein the power delivered to the user's
24 vehicle is from the power provider.

25

26 42. The method of Claim 39, the method further comprising:

1 allowing the user to negotiate or accept predetermined the one or more
2 parameters.

3
4 43. The method of Claim 39, the method further comprising:

5 determining validity of the one or more parameters;
6 determining the amount of power to be delivered to the user's vehicle;
7 determining expected available power;
8 determining completion time for delivering power to the user's vehicle;
9 and
10 displaying the completion time to the user.

11
12 44. A method comprising:

13 allowing a user to negotiate one or more parameters with at least one
14 power provider; and
15 allowing the user to purchase power from the at least one power provider
16 based on the one or more parameters.

17
18 45. The method of Claim 44, the method further comprising:

19 allowing the user to charge a battery or operate equipment using the
20 purchased power.

21
22 46. A system comprising:

23 a bidirectional power connection configured to obtain power from and
24 deliver power to at least one power provider; and
25 at least one bidirectional power port configured to deliver power to and
26 obtain power from at least one vehicle,

1 wherein power obtained from the at least one power provider is delivered
2 to the at least one vehicle and wherein the power obtained from the at least one
3 vehicle is delivered to the at least one power provider.

4

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ABSTRACT

A method is disclosed. The method provides a user with access to a plurality of power providers, allows the user to purchase power from at least one power provider out of the plurality of power providers, and allows the user to charge a battery or operate equipment using the purchased power.

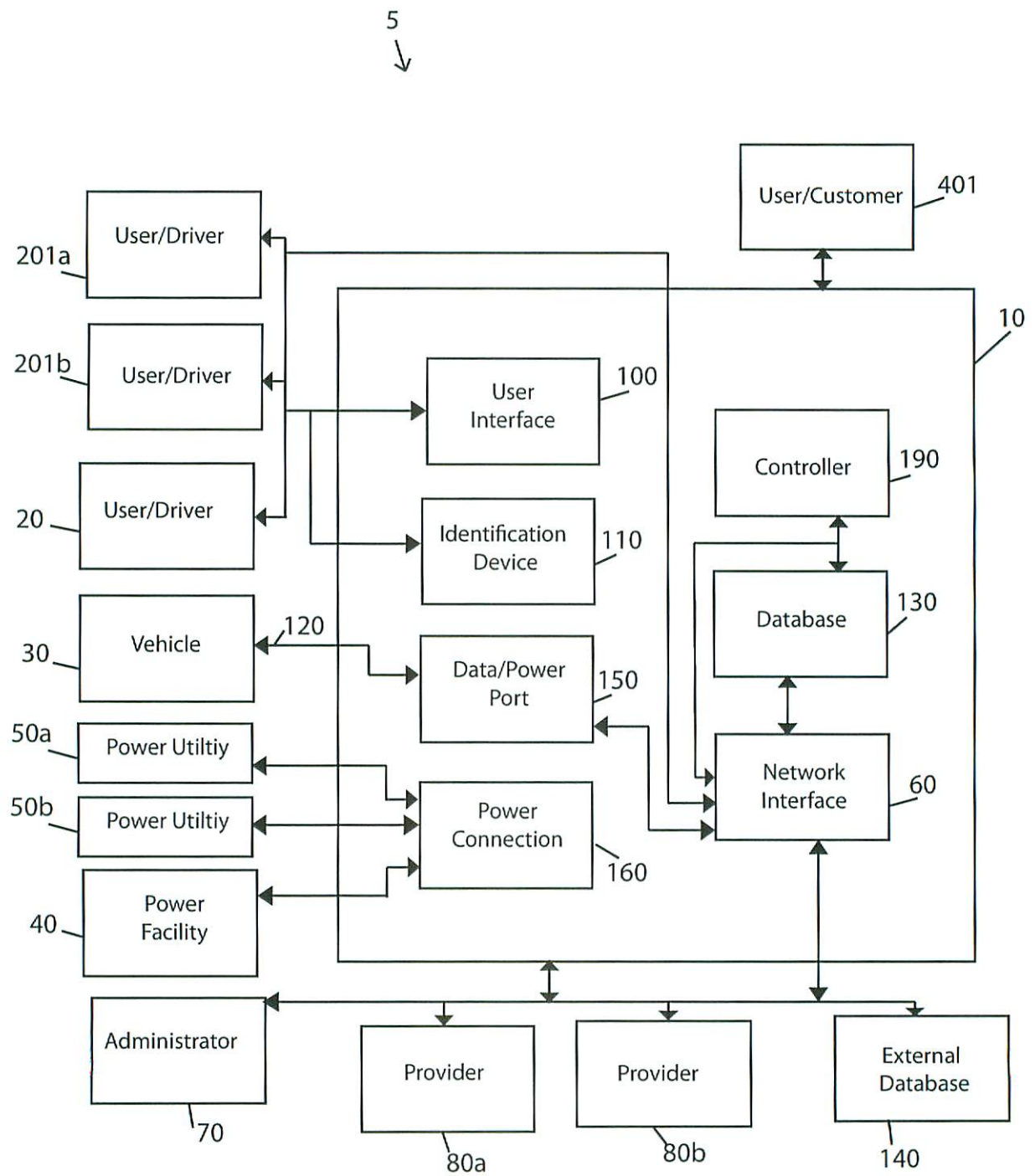


Figure 1

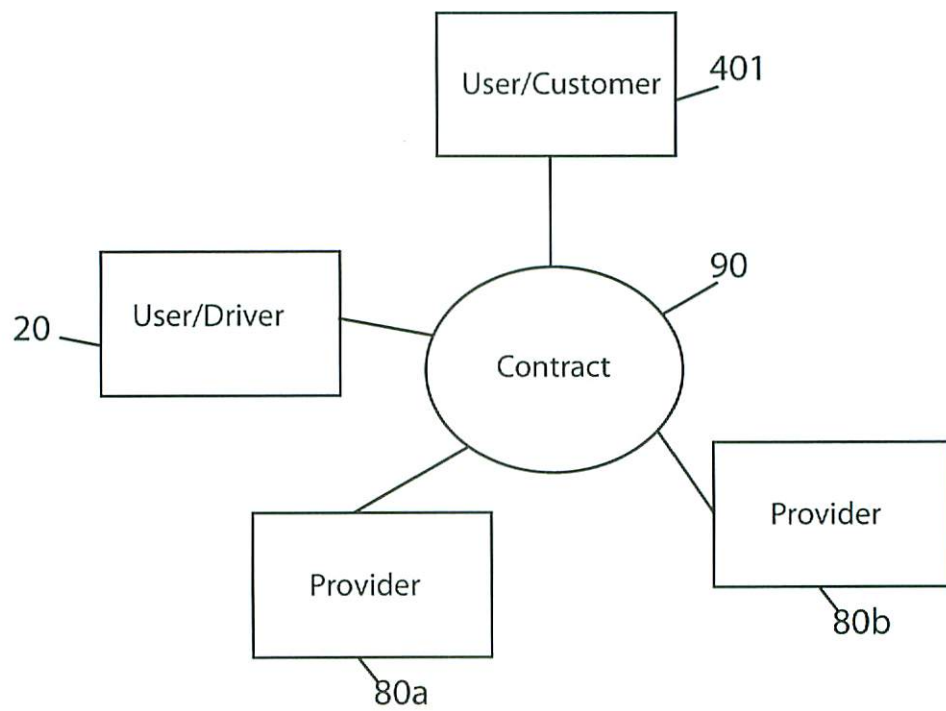


Figure 2

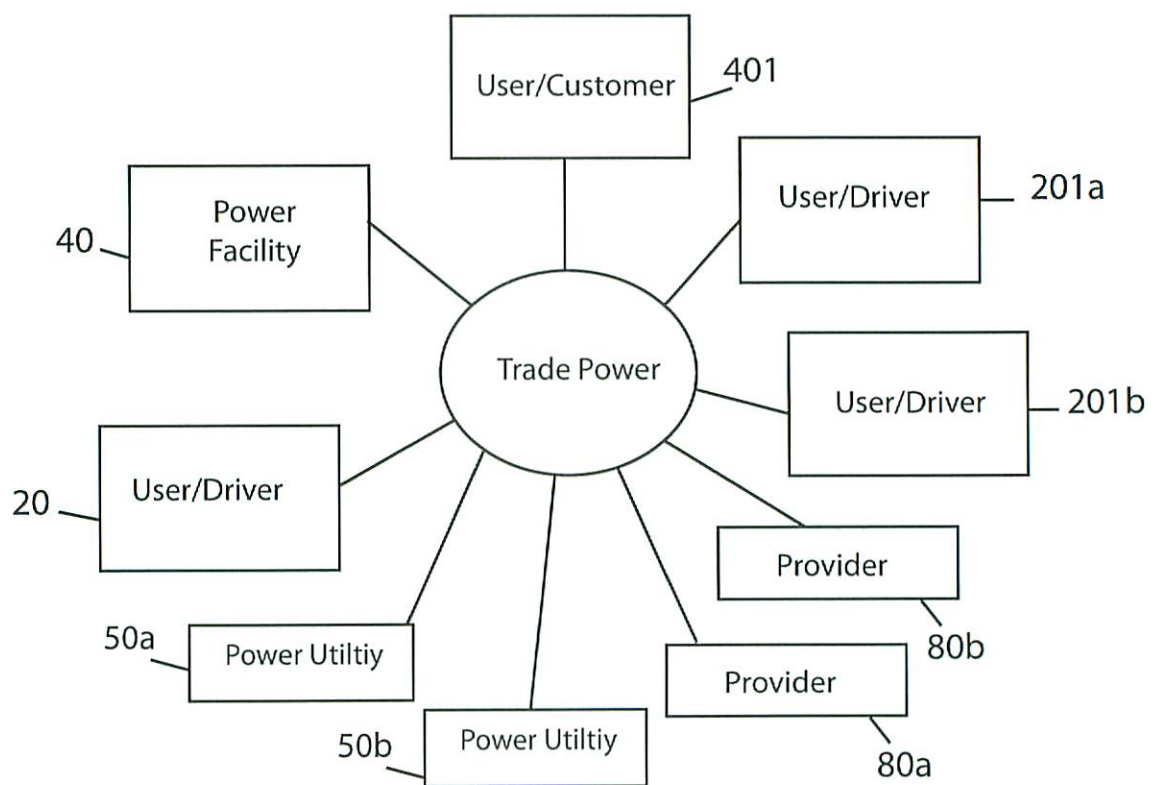


Figure 3

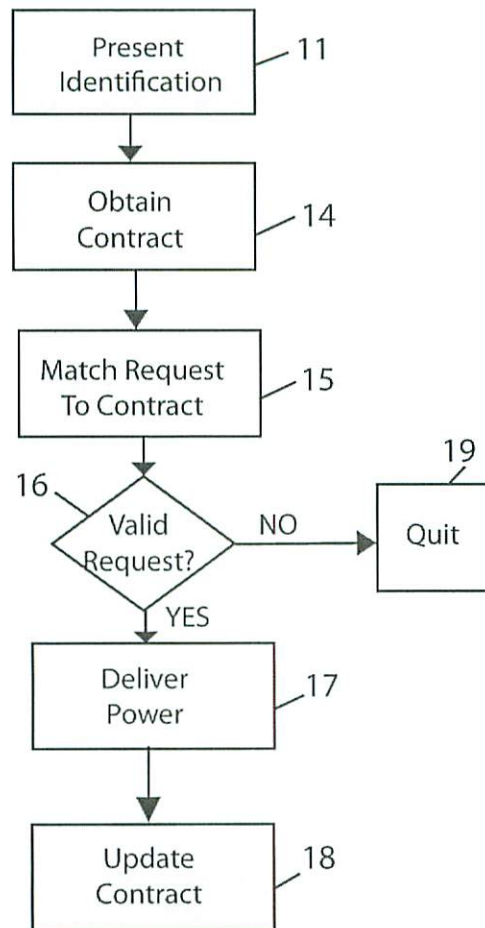


Figure 4a

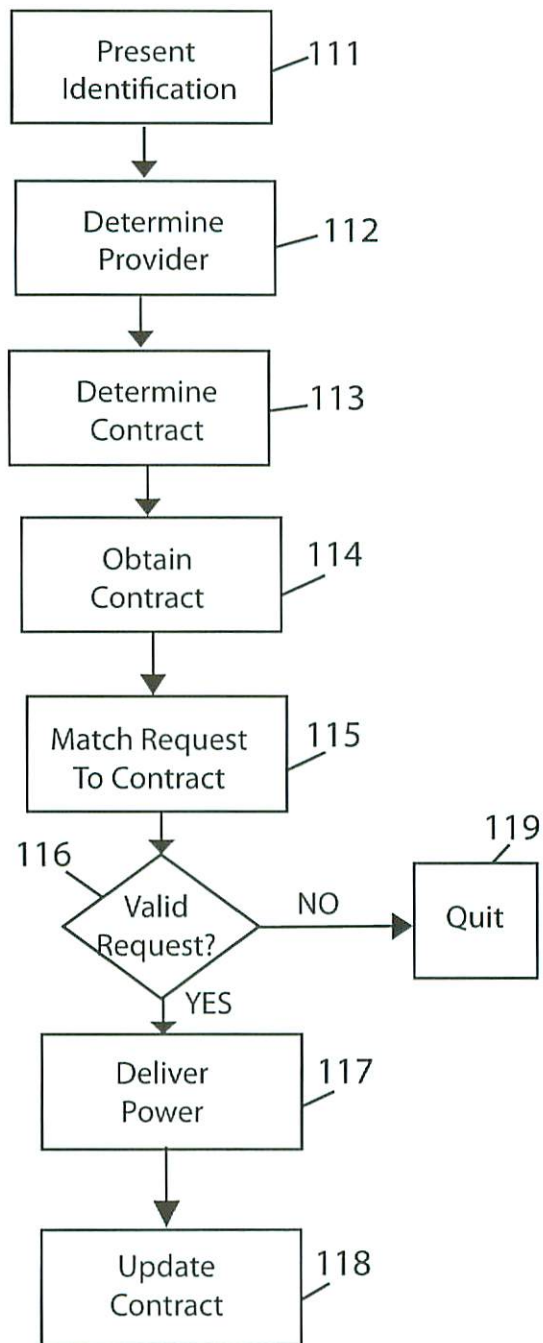


Figure 4b

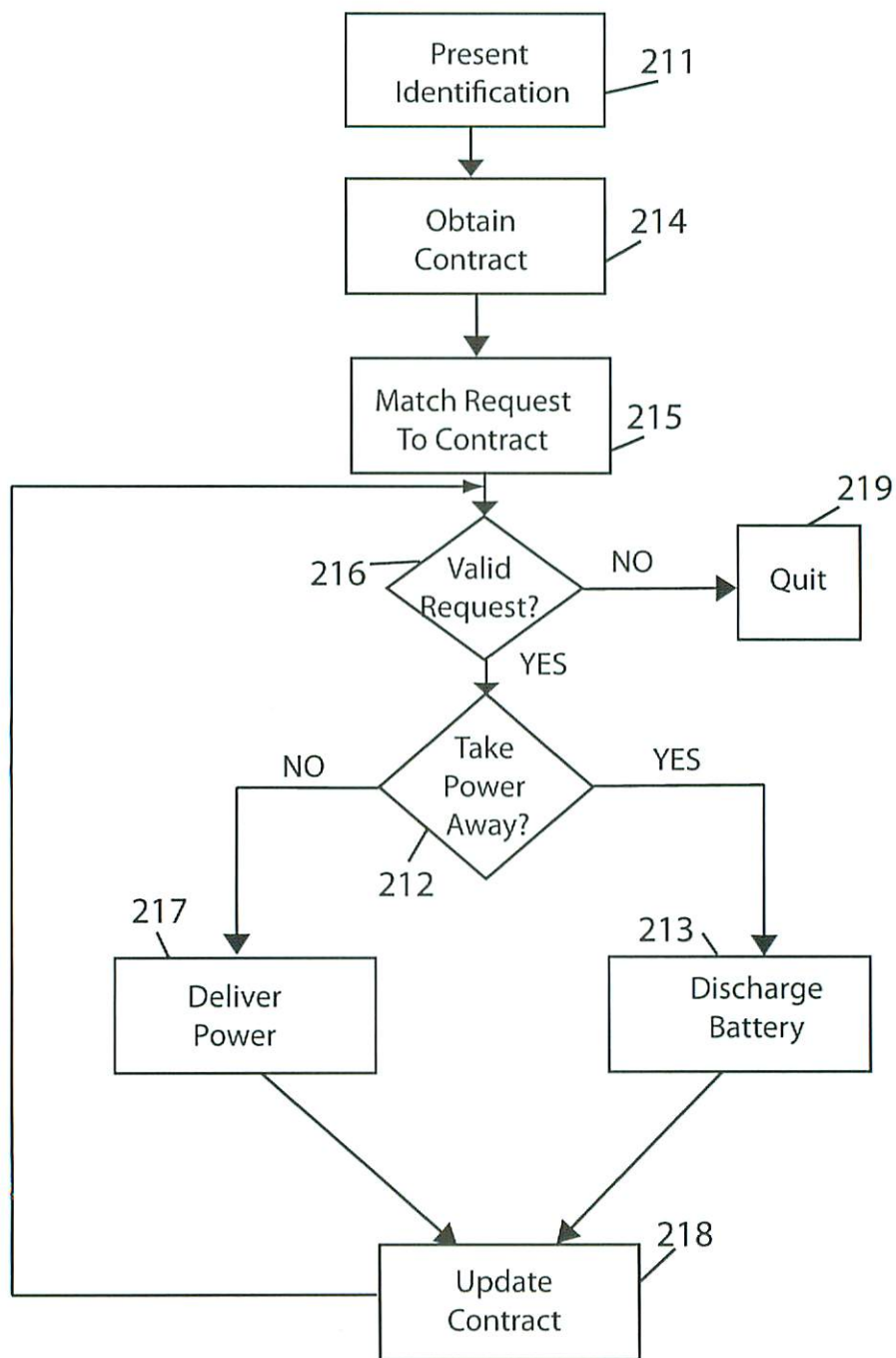


Figure 4c

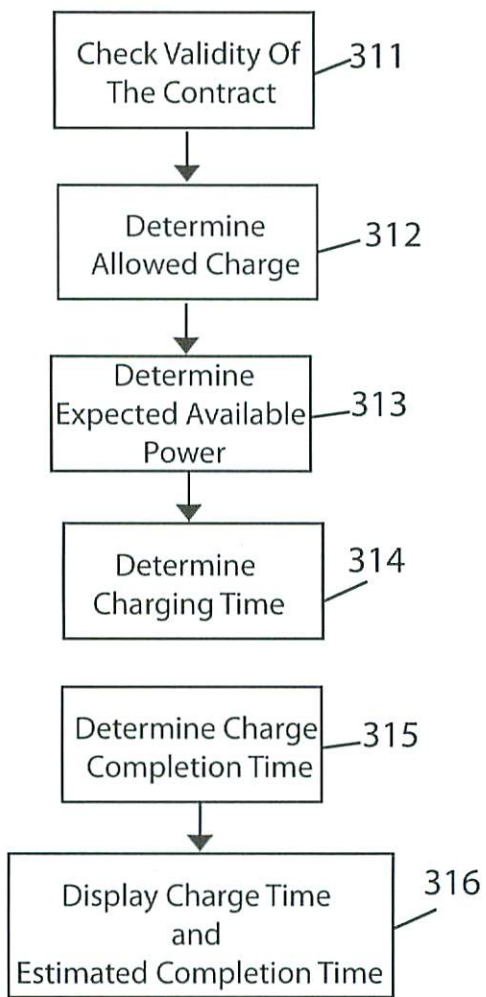


Figure 5

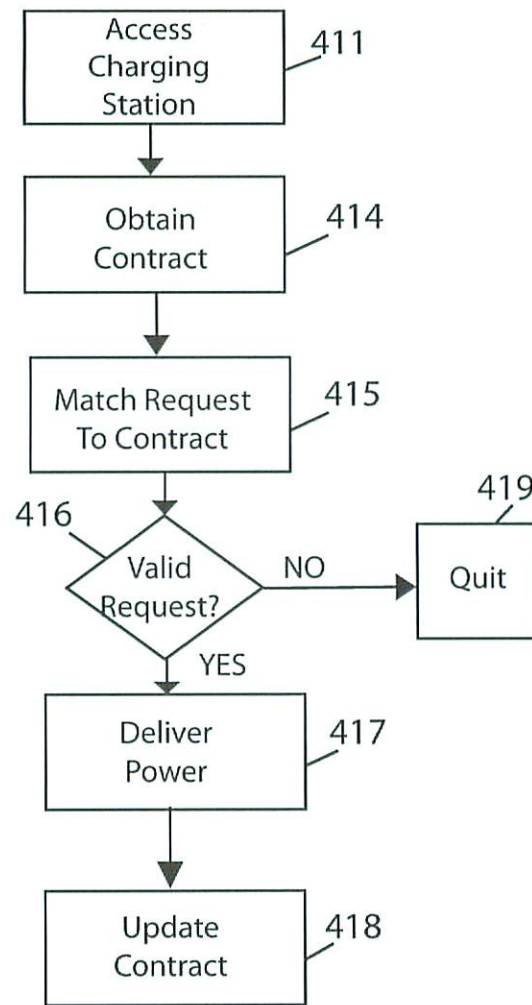


Figure 6

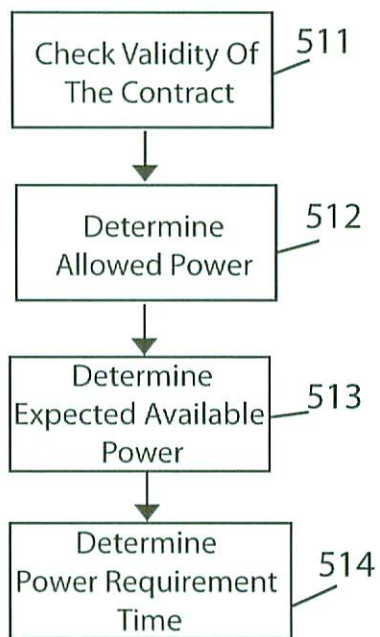


Figure 7