

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT6498858

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
ARCC AIP HOLDINGS, LLC	06/18/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	SYNERGY THERMOGEN INC.
<b>Street Address:</b>	135 OLD FAYETTEVILLE ROAD
<b>City:</b>	LEELAND
<b>State/Country:</b>	NORTH CAROLINA
<b>Postal Code:</b>	28451
<b>PROPERTY NUMBERS Total: 37</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	12943134
Application Number:	13299179
Application Number:	14567793
Application Number:	13308945
Application Number:	14203360
Application Number:	13331768
Application Number:	14567813
Application Number:	13364176
Application Number:	61438709
Application Number:	13749470
Application Number:	14686641
Application Number:	13760977
Application Number:	13947400
Application Number:	13786090
Application Number:	14333197
Application Number:	14059362
Application Number:	14062803
Application Number:	14053452
Application Number:	14297444
Application Number:	14469404

PATENT

Property Type	Number
Application Number:	14707671
Application Number:	14679837
Application Number:	14682471
Application Number:	14872681
Application Number:	14872898
Application Number:	62098945
Application Number:	62129348
Application Number:	62138606
Application Number:	62208954
Application Number:	62216366
Patent Number:	7834264
Application Number:	13430558
Application Number:	61668766
Application Number:	61842842
Patent Number:	8277677
Application Number:	12882580
Application Number:	14823738

#### CORRESPONDENCE DATA

**Fax Number:** (847)770-6006

*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*

**Phone:** 847-770-6000

**Email:** patents@rosenbaumip.com

**Correspondent Name:** ROSENBAUM IP, P.C.

**Address Line 1:** 790 ESTATE DRIVE, SUITE 200

**Address Line 4:** DEERFIELD, ILLINOIS 60015

<b>ATTORNEY DOCKET NUMBER:</b>	6317-999
<b>NAME OF SUBMITTER:</b>	DAVID G. ROSENBAUM
<b>SIGNATURE:</b>	/David G. Rosenbaum/
<b>DATE SIGNED:</b>	01/15/2021

#### Total Attachments: 7

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## **ASSIGNMENT AGREEMENT**

**ASSIGNMENT AGREEMENT**, dated as of June 18, 2019 (hereinafter referred to as **EXECUTION DATE**) (hereinafter referred to as **ASSIGNMENT**), by and between **ARCC AIP HOLDINGS, LLC**, a limited liability company organized and existing under and by virtue of the laws of the State of Delaware and having its principal place of business at 2000 Avenue of the Stars, 12th Floor, c/o Ares Management LLC, Los Angeles, California 90067 (hereinafter referred to as **ASSIGNOR**) and **SYNERGY THERMOGEN INC.**, a corporation organized and existing under and by virtue of the laws of the State of Delaware and having its principal place of business at 135 Old Fayetteville Road, Leland, North Carolina 28451 (hereinafter referred to as **ASSIGNEE**).

**WHEREAS**, **ASSIGNOR** represents that it owns certain right, title and interest in each of the patents and patent applications listed in the attached **SCHEDULE A**, together with any reissue, continuation, continuation-in-part or extension thereof (hereinafter referred to as **THE PATENT RIGHTS**);

**WHEREAS**, **ARES CAPITAL CORPORATION** (hereinafter referred to as **ARES**), as the secured party under that certain **LOAN AND SECURITY AGREEMENT** dated as of December 12, 2013, among **ARES**, as lender, and **ALPHABET ENERGY, INC.** and **PTOLEMAIC TECHNOLOGIES, LLC**, as borrower (collectively, hereinafter referred to as the **BORROWER**), exercised its rights and remedies and conducted a secured party public foreclosure sale of certain collateral (which included **THE PATENT RIGHTS**) securing the **BORROWER**'s liabilities pursuant to Section 9-610 of the Uniform Commercial Code (hereinafter referred to as the **SALE**). **ARES** was the winning bidder at the **SALE**. **ARES** assigned its winning bid to purchase **THE PATENT RIGHTS** to the **ASSIGNOR**. The United States Patent and Trademark Office recorded an **ASSIGNMENT AND ASSUMPTION AGREEMENT** of **THE PATENT RIGHTS** in favor of **ASSIGNOR** at Reel/Frame 046860/0360 on August 17, 2018.

**WHEREAS**, **ASSIGNEE** is desirous of acquiring all of **ASSIGNOR**'s right, title and interest in **THE PATENT RIGHTS**; and

**WHEREAS**, **ASSIGNOR** agrees to assign **THE PATENT RIGHTS** to **ASSIGNEE** for \$150,000.00 (hereinafter referred to as the **ASSIGNMENT AMOUNT**).

**NOW, THEREFORE**, for good and valuable consideration, the receipt of which is hereby acknowledged, the parties hereto agree as follows:

**1. ASSIGNMENT.** ASSIGNOR, without recourse and without representation or warranty (other than as expressly provided herein), hereby: (a) sells, assigns, transfers and sets over unto ASSIGNEE, its successors and assigns, its right, title and interest to **THE PATENT RIGHTS**, and (b) transfers all of its rights of action, power, and benefit belonging to or accruing from **THE PATENT RIGHTS** unto ASSIGNEE, including the right to undertake proceedings to recover past and future damages and claim all other relief in respect of any acts of infringement thereof whether such acts shall have been committed before or after the date of this ASSIGNMENT; and ASSIGNEE hereby accepts **THE PATENT RIGHTS** from ASSIGNOR and agrees to pay the ASSIGNMENT AMOUNT on or prior to the EFFECTIVE DATE (as defined in Section 4 herein). ASSIGNOR hereby authorizes and requests any officials whose duty it is to issue patents on applications as aforesaid, to issue all patents for **THE PATENT RIGHTS** to ASSIGNEE in accordance with the terms of this ASSIGNMENT.

**2. REPRESENTATION & WARRANTIES OF ASSIGNOR.** ASSIGNOR (i) represents and warrants that it owns certain rights, title and interest in **THE PATENT RIGHTS** assigned by it hereunder; (ii) covenants that it has not made any assignment, sale, agreement or encumbrance that would conflict with this ASSIGNMENT; and (iii) covenants that it will promptly execute and deliver to ASSIGNEE or its legal representative any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce **THE PATENT RIGHTS** and said equivalents, which may be necessary or desirable to carry out the purposes thereof.

**3. REPRESENTATION & WARRANTIES OF ASSIGNEE.** ASSIGNEE (i) represents and warrants that it is authorized to enter into and perform the terms of this ASSIGNMENT; (ii) acknowledges that ASSIGNOR was assigned its right, title and interest to **THE PATENT RIGHTS** pursuant to, and to the extent provided by the Uniform Commercial Code and the SALE and the assignment from ARES to ASSIGNOR; (iii) confirms that it has relied solely upon its own analysis and evaluation in its decision to enter into this ASSIGNMENT, independently and without reliance upon the ASSIGNOR; and (iv) acknowledges and agrees that ASSIGNOR makes no representation or warranty and assumes no responsibility with respect to any statements, representations or warranties made in or in connection with this ASSIGNMENT or any other instrument or document furnished pursuant hereto except as expressly provided herein.

**4. EFFECTIVE DATE.** The EFFECTIVE DATE of this ASSIGNMENT shall be the date upon the payment of the ASSIGNMENT AMOUNT by ASSIGNEE to ASSIGNOR, to occur within 60

calendar days of the **EXECUTION DATE** of this **ASSIGNMENT** by **ASSIGNOR** and **ASSIGNEE**. If the **EFFECTIVE DATE** does not occur during such 60 calendar day period the **ASSIGNMENT** shall be null and void.

**5. GOVERNING LAW.** THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK (WITHOUT GIVING EFFECT TO THE CONFLICT OF LAWS PRINCIPLES THEREOF, OTHER THAN SECTION 5-1401 OF THE GENERAL OBLIGATIONS LAW).

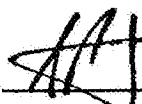
**6. COUNTERPARTS.** This agreement may be executed by the parties hereto in separate counterparts, each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute one and the same instrument. Each counterpart may consist of a number of copies hereof, each signed by less than all, but together signed by all, of the parties hereto.

*[Remainder of Page Intentionally Left Blank]*

IN TESTIMONY WHEREOF, I hereunto set my hand as of the date indicated below.

For ARCC AIP HOLDINGS, LLC

Dated: 6/18/19

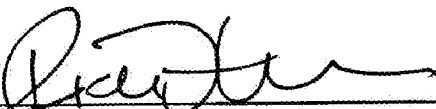
Signature: 

Name: Ian Fitzgerald

Title: Authorized Signatory

For SYNERGY THERMOGEN, INC.

Dated: 6-18-19

Signature: 

Name: RICHARD HAWES

Title: CEO, Synergy Thermogen Inc.

# SCHEDULE A

TITLE	COUNTRY	APPLICATION NO.	STATUS
UNIWAFFER THERMOELECTRIC MODULES	US	12/943,134	ABANDONED
ARRAYS OF LONG NANOSTRUCTURES IN SEMICONDUCTOR MATERIALS AND METHODS THEREOF	US	13/299,179	ISSUED
ARRAYS OF LONG NANOSTRUCTURES IN SEMICONDUCTOR MATERIALS AND METHODS THEREOF	US	14/567,793	ISSUED
LOW THERMAL CONDUCTIVITY MATRICES WITH EMBEDDED NANOSTRUCTURES AND METHODS THEREOF	US	13/308,945	ISSUED
LOW THERMAL CONDUCTIVITY MATRICES WITH EMBEDDED NANOSTRUCTURES ,,,	US	14/203,360	ISSUED
ARRAYS OF FILLED NANOSTRUCTURES WITH PROTRUDING SEGMENTS AND METHODS THEREOF	US	13/331,768	ABANDONED
ARRAYS OF FILLED NANOSTRUCTURES WITH PROTRUDING SEGMENTS AND METHODS THEREOF	US	14/567,813	ABANDONED
ELECTRODE STRUCTURES FOR ARRAYS OF NANOSTRUCTURES ,,,	US	13/364,176	ABANDONED
STRUCTURE AND METHOD FOR A NANOWIRE DEVICE	US-PRV	61/438,709	EXPIRED
MODULAR THERMOELECTRIC UNITS FOR HEAT RECOVERY SYSTEMS ...	US	13/749,470	ISSUED
MODULAR THERMOELECTRIC UNITS FOR HEAT RECOVERY SYSTEMS ...	US	14/686,641	ABANDONED
BULK NANO HOLE STRUCTURES FOR THERMOELECTRIC DEVICES AND METHODS FOR MAKING THE SAME	US	13/760,977	ABANDONED
METHOD AND STRUCTURE FOR THERMOELECTRIC UNICOUPLE ASSEMBLY	US	13/947,400	ISSUED

TITLE	COUNTRY	APPLICATION NO.	STATUS
BULK NANOPOROUS STRUCTURES FOR THERMOELECTRIC DEVICES AND METHODS FOR MAKING THE SAME	US	13/786,090	EXPIRED
BULK NANO-RIBBON AND/OR NANO-POROUS STRUCTURES FOR THERMOELECTRIC DEVICES AND METHODS FOR MAKING THE SAME	US	14/333,197	ISSUED
NANOSTRUCTURED THERMOELECTRIC ELEMENTS AND METHODS OF MAKING THE SAME	US	14/059,362	ISSUED
BULK-SIZE NANOSTRUCTURED MATERIALS AND METHOD FOR MAKING THE SAME BY SINTERING NANOWIRES	US	14/062,803	ABANDONED
STRUCTURES AND METHODS FOR MULTI-LEG PACKAGE THERMOELECTRIC DEVICES	US	14/053,452	ABANDONED
SILICON-BASED THERMOELECTRIC MATERIALS INCLUDING ...	US	14/297,444	ABANDONED
THERMOELECTRIC DEVICES HAVING REDUCED THERMAL STRESS AND ...	US	14/469,404	ISSUED
THERMOELECTRIC DEVICES HAVING REDUCED THERMAL STRESS AND ...	US	14/707,671	ISSUED
FLEXIBLE LEAD FRAME FOR MULTI-LEG PACKAGE ASSEMBLY	US	14/679,837	ABANDONED
FORMATION AND TRANSFER OF ULTRA-LONG SILICON NANOWIRES	US	14/682,471	ABANDONED
THERMOELECTRIC GENERATING UNIT AND METHODS OF MAKING AND USING SAME	US	14/872,681	ABANDONED
THERMOELECTRIC GENERATORS FOR RECOVERING WASTE HEAT FROM ENGINE EXHAUST, AND METHODS OF MAKING AND USING SAME	US	14/872,898	ABANDONED
ELECTRICAL AND THERMAL CONTACTS FOR BULK TETRAHEDRITE	US-PRV	62/098,945	EXPIRED



TITLE	COUNTRY	APPLICATION NO.	STATUS
LOW TEMPERATURE BONDING FOR HIGH TEMPERATURE THERMOELECTRIC ASSEMBLIES	US-PRV	62/129,348	EXPIRED
SURFACE PREPARATION AND METALLIZATION OF MAGNESIUM SILICIDE-BASED BULK MATERIALS	US-PRV	62/138,606	EXPIRED
ELECTRICAL AND THERMAL CONTACTS FOR BULK TETRAHEDRITE MATERIAL	US-PRV	62/208,954	EXPIRED
STRUCTURE AND METHOD FOR FLEXIBLE MULTI-UNIT THERMOELECTRIC PACKAGE	US-PRV	62/216,366	EXPIRED
METHODS OF FABRICATING NANOSTRUCTURES AND NANOWIRES AND DEVICES FABRICATED THEREFROM (NANOSYS LICENSE)	US	7,834,264 B2	ISSUED
NANOSTRUCTURED SILICON WITH USEFUL THERMOELECTRIC PROPERTIES (LBNL [HOLEY SILICON] LICENSE)	US	13/430,558	ABANDONED
THERMOELECTRIC MATERIALS BASED ON TETRAHEDRITE STRUCTURE FOR THE THERMOELECTRIC DEVICES (MSU LICENSE)	US	61/668,766	EXPIRED
THERMOELECTRIC MATERIALS AND METHOD FOR PRODUCING A THERMOELECTRIC DEVICE (MSU LICENSE)	US	61/842,842	EXPIRED
IMPROVED MECHANICAL STRENGTH AND THERMOELECTRIC PERFORMANCE IN METAL CHALCOGENIDE MQ (M=GE, SN, PB AND Q=S, SE, TE) BASED COMPOSITIONS (NWU LICENSE)	US	8,277,677	ISSUED
THERMOELECTRIC COMPOSITION COMPRISING NANOSCALE INCLUSIONS IN A CHALCOGENIDE MATRIX (NWU LICENSE)	US	12/882,580	ISSUED
TIN SELENIDE SINGLE CRYSTALS FOR THERMOELECTRIC APPLICATIONS (NWU LICENSE)	US	14/823,738	ISSUED