#### 504633116 11/08/2017

### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4679834

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	

#### **CONVEYING PARTY DATA**

Name	Execution Date
SEOUNG-BUM SON	04/29/2015
YUFENG ZHAO	04/10/2015
CHUNMEI BAN	04/10/2015
DANIEL RUDDY	04/09/2015
PHILIP A. PARILLA	04/10/2015

#### **RECEIVING PARTY DATA**

Name:	ALLIANCE FOR SUSTAINABLE ENERGY, LLC	
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City:	GOLDEN	
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Postal Code:	80401	

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15806842

#### **CORRESPONDENCE DATA**

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ATTORNEY DOCKET NUMBER: NREL 13-53A		
NAME OF SUBMITTER:	REINA R. BERNFELD	
SIGNATURE:	/REINA R. BERNFELD/	
DATE SIGNED:	11/08/2017	
This document serves as an Oath/Declaration (37 CFR 1.63).		

**Total Attachments: 3** 

PATENT REEL: 044073 FRAME: 0228

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PATENT REEL: 044073 FRAME: 0229

## ASSIGNMENT AND DECLARATION UNDER 37 C.F.R. § 1.63

(For Use with Signed Application Data Sheet) Title of Invention: Magnesium-Based Methods, Systems, and Devices This assignment and declaration are directed to (check one): the application identified above by the attorney docket no. and title of invention PCT International Application Number , filed United States Application No. 14/685,428, filed April 13, 2015 ASSIGNMENT For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, as a belownamed inventor I have sold and assigned, and by these presents hereby sell and assign, unto: Alliance for Sustainable Energy, LLC Name of Assignee: Address of Assignee: 15013 Denver West Parkway, Golden, CO 80401 (hereinafter ASSIGNEE) all my right, title and interest in and to the above-identified invention in any form or embodiment thereof, in the United States and all foreign countries, including applications for patents in the United States and all countries of the world and through the Patent Cooperation Treaty and/or the European Patent Convention, including any and all applications claiming priority thereto such as divisions or continuations thereof, and in and to any and all patents granted in the United States and all countries of the world that may issue on any such applications or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents may be granted as fully and entirely as would have been held and enjoyed by me had this Assignment not been made. I hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue any and all Letters Patent of the United States to said ASSIGNEE, its successors, or assigns in accordance herewith. I warrant and covenant that I have the full and unencombered right to sell and assign the interests herein sold and assigned and that I have not executed and will not execute any document or instrument in conflict herewith. I further covenant and agree that I will communicate to said ASSIGNEE, its successors, legal representatives, or assigns all information known to me relating to said invention or patent application and that I will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings, and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives, or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all patents that may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns, or to assist said ASSIGNEE, its successors, legal representatives, or assigns in obtaining, reissuing, or enforcing patents for said invention. DECLARATION As a below named inventor, I hereby declare that: The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. Land Gran Loon Signature: Inventor:

> PATENT REEL: 044073 FRAME: 0230

# ASSIGNMENT AND DECLARATION UNDER 37 C.F.R. § 1.63 (For Use with Signed Application Data Sheet)

Title of Invention:			
Magnesium-Based M	ethods, Systems, and Devi	ices	
the application in PCT Internation	eclaration are directed to (clidentified above by the attonal Application Numberpplication No.	rney docket no, and title o	
	<u>,</u> £	SSIGNMENT	
For good and valuable named inventor I have	consideration, the receipt a sold and assigned, and by t	nd sufficiency of which at hese presents hereby sell t	re hereby acknowledged, as a below- and assign, unto:
Name of Assignee:	Alliance for Sustainable	Energy, LLC	
Address of Assignee:	15013 Denver West Parl	kway, Golden, CO 8040	1
embodiment thereof, in States and all countries Convention, including in and to any and all pa applications or for said ASSIGNEE, its success	n the United States and all fits of the world and through the any and all applications claustents granted in the United invention, including any areasons, or assigns to the full construction.	oreign countries, including the Patent Cooperation Tree iming priority thereto such States and all countries of all reissues or extension of the term or terms for	dentified invention in any form or g applications for patents in the United raty and/or the European Patent h as divisions or continuations thereof, and f the world that may issue on any such as thereof, to be held and enjoyed by said r which any and all such patents may be d this Assignment not been made.
I hereby authorize and		U.S. Patent and Trademar	k Office to issue any and all Letters Patent
I warrant and covenant	that I have the full and une	ncumbered right to sell ar	nd assign the interests herein sold and instrument in conflict herewith.
assigns all information any papers, make all rip necessary or desirable t invention, to said applic granted therefor or ther	known to me relating to saightful oaths, testify in any leby said ASSIGNEE, its succation including divisions areon, including reissues or e	id invention or patent app. egal proceedings, and per cessors, legal representati and continuations thereof a extensions, in said ASSIG	successors, legal representatives, or lication and that I will execute and deliver form all other lawful acts deemed ves, or assigns to perfect title to said and to any and all patents that may be NEE, its successors, or assigns, or to assist g, reissuing, or enforcing patents for said
DECLARATION	Ĭ		
As a below named inve	entor, I hereby declare that:		
· · · · · · · · · · · · · · · · · · ·	oplication was made or auth		
			med invention in the application.
I hereby acknowledge t fine or imprisonment of	f not more than five (5) yea	rs, or both.	on is punishable under 18 U.S.C. 1001 by
Signature:	2/1/ C		4/10/2615 DATE
Inventor Voten	e Zhao		12A 1 E

**PATENT** REEL: 044073 FRAME: 0231 NREL 13-53

Signature: Inventor: Chunmei Ban

Signature: Daniel Ruddy

Signature: Daniel Ruddy

Philip A Parilla

Worldwide Rights

4/10/15

DATE

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4/10/15

DATE

PATENT REEL: 044073 FRAME: 0232

**RECORDED: 11/08/2017**