

# TRANSFORMING OUR WORLD: HIGHER EDUCATION AND THE AGENDA 2030\*

Received: 19/08/2019 • Accepted: 13/03/2020

DOI: 10.22395/ambiens.v2n4a6

**Stefanie Mallow\*\***

## CONTENIDO

### Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia <i>et al.</i> (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

## Abstract

The United Nations' Agenda 2030 was unanimously adopted in New York in September 2015. For the first time, the work of universities and higher education institutions (HEIs) is specifically mentioned in a UN global development agenda, as a target as well as means of implementation. Reflecting on previous work on the absence of higher education in earlier agendas, this article asks what the inclusion means for universities.

The article further analyses the role universities and HEIs play for the Sustainable Development Goals (SDGs) and Agenda 2030. Using data collected on the Global Portal of Higher Education and Research for Sustainable Development (HESD), created and developed by the International Association of Universities (IAU), the article shows higher education initiatives and best practices in support to the SDGs that are already implemented, stressing the importance of such initiatives. The article argues, that all functions of the university - teaching, research and community engagement - are important for the achievement of the SDGs and that the science-policy interface needs to be further strengthened to make sure we will reach the future we want.

**Keywords:** Higher education; universities; research; sustainable development; SDGs; science-policy interface.

\* Non-research-based reflection article.

\*\* Programme Officer, Higher Education and Research for Sustainable Development, International Association of Universities. UNESCO House, 1 rue Miollis, 75732 Paris cedex 15, France. Phone: +33 1 4568 4863. Email: [s.mallow@iau-aiu.net](mailto:s.mallow@iau-aiu.net) Master in Cultural Anthropology, Uppsala University, Sweden.

## CONTENIDO

Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia <i>et al.</i> (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

## TRANSFORMANDO NUESTRO MUNDO: LA EDUCACIÓN SUPERIOR Y LA AGENDA 2030

### RESUMEN

La Agenda 2030 de las Naciones Unidas fue aprobada por unanimidad en Nueva York, en septiembre de 2015. Por primera vez, el trabajo de las universidades e instituciones de educación superior (IES), se menciona específicamente en una agenda de desarrollo global de las Naciones Unidas, tanto como objetivo y como medio de implementación. Reflexionando sobre el trabajo anterior sobre la ausencia de la educación superior en las agendas anteriores, este artículo se pregunta qué significa la inclusión para las universidades.

El artículo analiza, además, el papel que desempeñan las universidades y las instituciones de educación superior en los Objetivos de Desarrollo Sostenible (ODS) y la Agenda 2030. Utilizando los datos reunidos en el Portal Mundial de la Educación Superior y la Investigación para el Desarrollo Sostenible, creado y desarrollado por la Asociación Internacional de Universidades (AIU).

El artículo muestra iniciativas de enseñanza superior y prácticas óptimas en apoyo de los SDG que ya se aplican, destacando la importancia de esas iniciativas. Sostiene que todas las funciones de la universidad –la docencia, la investigación y la participación de la comunidad- son importantes para el logro de los ODS y que la interfaz científico-normativa, se debe reforzar aún más, para asegurar que alcancemos el futuro que queremos.

**Palabras clave:** Enseñanza superior; universidades; investigación; desarrollo sostenible; ODS; interfaz científico-normativa.

## TRANSFORMANDO O NOSSO MUNDO: O ENSINO SUPERIOR E A AGENDA 2030

### RESUMO

A Agenda 2030 das Nações Unidas foi adotada por unanimidade em Nova York, em setembro de 2015. Pela primeira vez, o trabalho das universidades e das instituições de ensino superior (IES) foi mencionado especificamente na agenda de desenvolvimento global da ONU, como meta e também como implementação. Refletindo sobre trabalhos anteriores acerca da ausência do ensino superior nas agendas anteriores, este artigo indaga o que essa inclusão significa para as universidades. O artigo analisa também o papel que as universidades e as instituições de ensino superior desempenham em relação ao Objetivos de Desenvolvimento Sustentável (ODS) e a Agenda 2030. Foram utilizados dados coletados no Portal Global de Ensino Superior e Pesquisa para o Desenvolvimento Sustentável (HESD), criado e desenvolvido pela Associação Internacional de Universidades (IAU). Este artigo mostra iniciativas de ensino superior e as melhores práticas de apoio aos ODS já implementadas, enfatizando a importância destas. O artigo discute que todas as funções da universidade - ensino, pesquisa e engajamento da comunidade - são importantes para o cumprimento dos ODS e que a relação entre a ciência e a política necessita ser fortalecida para garantir que futuro que queremos seja alcançado (ONU, 2012).

**Palavras chave:** Ensino superior; universidades; pesquisa; desenvolvimento sustentável; ODS; interface ciência-política.

## CONTENIDO

### Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4

### ARTÍCULOS DE TEMA CENTRAL

1 Ambientalização curricular em instituições de ensino superior	10
---	----

### ARTÍCULOS DE SECCIÓN ABIERTA

2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
--	----

Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
---	----

4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
---	----

### DOSSIER

5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
---	----

6 Transforming our world: higher education and the agenda 2030	105
--	-----

### RESEÑAS

7 Hidalgo, Carelia et al. (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122
---	-----

## INTRODUCTION

The United Nations Resolution *Transforming our World: the 2030 Agenda for Sustainable Development*, or commonly known as Agenda 2030, provides guidelines on how to achieve sustainable development within a timespan of fifteen years. Agenda 2030 was unanimously adopted by the UN General Assembly in September 2015, following long discussions and first steps to ensure sustainable development. Sustainable development is often described as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs.' (Brundtland Report, 1987).

The 17 Sustainable Development Goals (SDGs) are part of Agenda 2030. They are 'universal goals and targets which involve the entire world, developed and developing countries alike' (UN, 2015). No one is supposed to be left behind. Through global unity, the Goals aim to find solutions to our (self-made) problems and transform the world to the better for all. Through 169 Targets and 230 Indicators, the SDGs provide concrete examples and measurements tools on how the Global Goals can be reached.

This article looks at Agenda 2030 from a global higher education perspective. It shows how universities and higher education institutions (HEIs) around the world contribute to the achievements of the SDGs and Agenda 2030. Higher education has long been absent in global development agendas, and it is now for the first time mentioned in Agenda 2030. The International Association of Universities (IAU), the leading global association of universities and HEIs founded in 1950, advocated, together with other university association, for the inclusion of higher education in the new Agenda. Higher education can now be found in SDG 4: Quality Education. However, there remains more potential for universities and HEIs to be part of the SDGs that is not fully explored and used yet. This potential becomes clearer when looking at the historical relations of higher education, research and sustainable development.

## 1. BRIEF HISTORY HIGHER EDUCATION FOR SUSTAINABLE DEVELOPMENT

The higher education community has always been aware about developments happening in world politics, and reacted mostly. While IAU started to work officially with sustainable development in 1993, the Association had contributed before that date to the debate and is today the main advocate for higher education and research for sustainable development (HESD) at global level. The work IAU

CONTENIDO		
Tabela de conteúdo • Table of contents		
Créditos	1	
Colaboradores	3	
Editorial	4	
<b>ARTÍCULOS DE TEMA CENTRAL</b>		
1 Ambientalização curricular em instituições de ensino superior	10	
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>		
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28	
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52	
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68	
<b>DOSSIER</b>		
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85	
6 Transforming our world: higher education and the agenda 2030	105	
<b>RESEÑAS</b>		
7 Hidalgo, Carelia <i>et al.</i> (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122	

did in relation to sustainable development gives a good example of the ways higher education reacted (Table 1).

Table 1. Overview UN main steps towards Agenda 2030 and IAU actions (adapted from Lozano *et al.* 2013).

1972	United Nations Conference on the Human Environment, Stockholm Outcome Document: Stockholm Declaration	United Nations
1987	Report: Our Common Future (Brundtland Report)	United Nations
1991	Halifax Declaration: Creating a Common Future: University Action for Sustainable Development; Halifax	IAU
1992	United Nations Conference on Environment and Development (UNCED) (Earth Summit); Rio de Janeiro Outcome Document: Agenda 21	United Nations
1993	IAU Kyoto Declaration on Sustainable Development	IAU
2000	Adoption Millennial Development Goals (MDGs)	United Nations
2000	World Education Forum, Dakar Outcome Document: Dakar Framework for Action: Education for All (EFA)	UNESCO
2000	Start Global Higher Education for Sustainability Partnership (GHESP)	IAU, COPERNICUS, ULSF, UNU, UNESCO
2001	Lüneburg Declaration on Higher Education for Sustainable Development	Leuphana University, EUA, & GHESP
2005 - 2014	UN Decade on Education for Sustainable Development	United Nations & UNESCO
2012	United Nations Conference on Sustainable Development in 2012 (Rio+20), Rio de Janeiro Outcome Document: UN Resolution: The Future We Want	United Nations
2014	IAU Iquitos Statement on Higher Education for Sustainable Development	IAU
2014	World Conference on Education for Sustainable Development (ESD), Aichi-Nagoya Start Global Action Programme on ESD (GAP ESD)	UNESCO
2015	Adoption of Agenda 2030 & SDGs	United Nations

Source: The author.

As can be seen in the table above, higher education reacted constantly to the developments at global Level. Yet, until Agenda 2030, higher education had never been formally included in international development agendas. Neither the Millennium Development Goals (MDGs) from the UN, nor the UNESCO Education for All Framework mentioned higher education (e.g. IAU, 2014b; Owens, 2017). This does not mean that universities and HEIs did not contribute to those earlier Agendas. IAU for

## CONTENIDO

### Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia <i>et al.</i> (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

example started the Higher Education for Education for All (HEEFA) project and universities were a strong agents for the MDGs, contributing knowledge and education (Ajai-Ajagbe, 2014). At the same time HEIS started campus greening initiatives and adopted their own sustainable development agendas (Owens, 2017). IAU adopted the IAU Kyoto Declaration (1993) and the Iquitos Statement (2014) in support of sustainable development and to highlight the important work universities and HEIs are doing. Those efforts led eventually to the inclusion of higher education in Agenda 2030.

Another big difference Agenda 2030 presents compared to previous development agendas is the combination of environment related issues (mostly addressed to developed countries) with matters concerned with human development (supporting developing countries) (Figure 1).

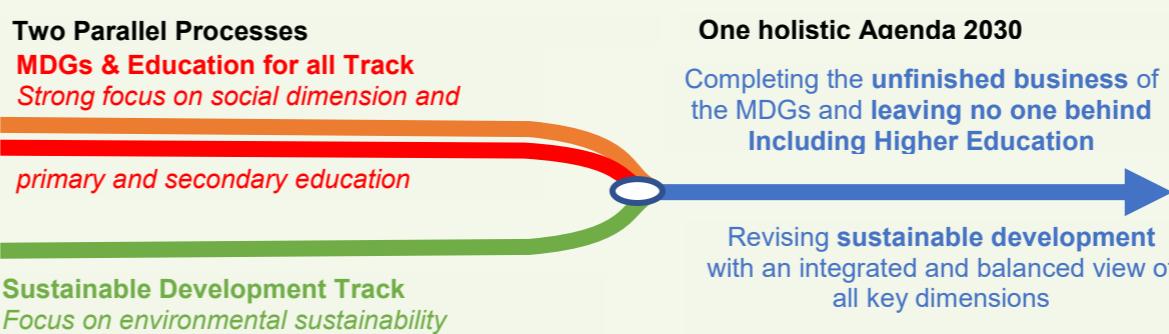


Figure 1. Two processes become one (adapted from Wollaert, 2018).

Before 2015, the two tracks were more separated, today however, the preamble of the Agenda 2030 includes specifically three dimensions of sustainable development: economic, social and environmental. Sustainable development has become in Agenda 2030 a holistic approach, involving all aspects of human life.

## 2. HIGHER EDUCATION AND RESEARCH IN AGENDA 2030

It is our shared belief that only with the full engagement of higher education in the post-2015 Agenda will it be possible to create the intellectual, economic, environmental and cultural conditions required for a sustainable future for all (IAU Iquitos Statement, 2014a, article 3).

Despite its commitment to sustainable development, it was long not clear if higher education would be mentioned in the Agenda 2030. In 2014, IAU gave its November edition of the Magazine *IAU Horizons* the theme 'Post 2015 Development Agenda: Where in the World is Higher Education?'. The

## CONTENIDO

### Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia <i>et al.</i> (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

edition united 18 authors writing about the need to finally include higher education officially in the Agenda and give it more visibility (e.g. Hall, 2014; Ajai-Ajagbe, 2014).

Ultimately, higher education made it into Agenda 2030: the words ‘university’ and ‘higher education’ appear exactly once each in the Goals and Targets, all in SDG 4: Quality Education. This is compared to eight times ‘research’, three mentions of ‘science’ and 12 mentions of ‘education’ (mostly in SDG4). Taken together, the contributions and functions of HEIs can be found in nine Goals (SDGs 2,3,4,7,8,9,13,14 & 17).

Nevertheless, it has often been argued that universities and HEIs can and should contribute to all SDGs, no matter if officially mentioned or not (e.g. McCowan, 2016; IAU, 2014a). Yet, due to the prioritisation of primary and secondary education by development agencies, the World Bank and UNESCO in the past, higher education is still struggling to find its place in the new Global Agenda (Owens, 2017; McCowan, 2016 Heleta & Moodien, 2017). Nevertheless, higher education can add to more than ‘Quality Education’, where it is predominantly associated with, and research can contribute to more goals than just the four in which it is specifically mentioned.

## 3. INTERRELATIONS OF HIGHER EDUCATION AND AGENDA 2030

Higher education and the Global Agenda are connected. Some universities are already transforming their curriculum, research, campuses, and management according to the SDGs; others are beginning. A global study conducted by IAU in 2016 showed, that 89% of the universities replying to the survey knew about the SDGs. Yet, only 34% had already adopted a strategic plan for sustainable development, while 38% were developing one (IAU, 2017). On the other hand, some other universities are influencing the SDGs through conferences and research outcomes. They present results at the High-Level-Political-Forum (HLPF) in New York or host SDG specific conferences, such as the University of Bergen. HEIs are influenced by the Agenda 2030 and influence the Agenda 2030 at the same time.

The Australian branch of the Sustainable Development Solutions Network (SDSN) produced a guide called *Getting started with the SDGs in Universities* (2017). In this guide, the authors highlight further connections universities have with the SDGs and vice versa. They point out that the SDGs need universities for research; for education of future generations of leaders, academics, researchers, and

## CONTENIDO

### Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia <i>et al.</i> (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

teachers; as sustainable industry through campus greening etc.; and finally for the science-policy interface, translating knowledge to politicians and the surrounding society.

At the same time as higher education plays a role for the achievement of the Global Goals, the SDGs can have a transformative impact on HEIs. In this direction, the SDGs increase sustainable development oriented education and research; define a responsible university; offer an impact framework; generate new funding; and support collaborations (Figure 2).

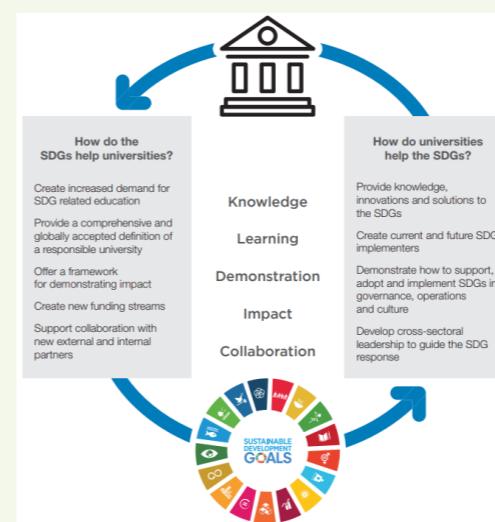


Figure 2. The case for university engagement in the SDGs (SDSN, 2017:7).

In the following, four areas of universities and HEIs in relation to the SDGs will be explored: higher education, research, the relationship to the community around the university, and the science-policy interface. The examples are all taken from the Global Portal on Higher Education and Research for Sustainable Development ([www.iau-hesd.net](http://www.iau-hesd.net)) developed by IAU.

### (Higher) Education for Sustainable Development

SDG Target 4.7 describes what Education for Sustainable Development (ESD) is:

By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development (UN, 2015).

## CONTENIDO

### Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia <i>et al.</i> (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

This is an important target, because it is transversal, necessary not just for the success of SDG 4 but also for the other 16 Goals. It really is about a holistic change in the way people think and act. Higher Education for Sustainable Development (HESD) describes the education at universities and HEIs and the special approach to it.

University students of today will be the leaders, academics, researchers, and teachers of tomorrow. They will shape the future and it has been argued that HEIs are the place where a necessary holistic cultural shift towards sustainability has to happen (Cortese, 2003). HESD is hence a very important task universities and HEIs have in support of the SDGs.

Stephen Sterling, Professor of Sustainability Education in the Centre for Sustainable Futures (CSF) at Plymouth University, developed the 4 C's model to describe how such a holistic change can work: through Campus, Curriculum, and Community a new Culture can be created that will eventually lead to the necessary changes in society (Figure 3).

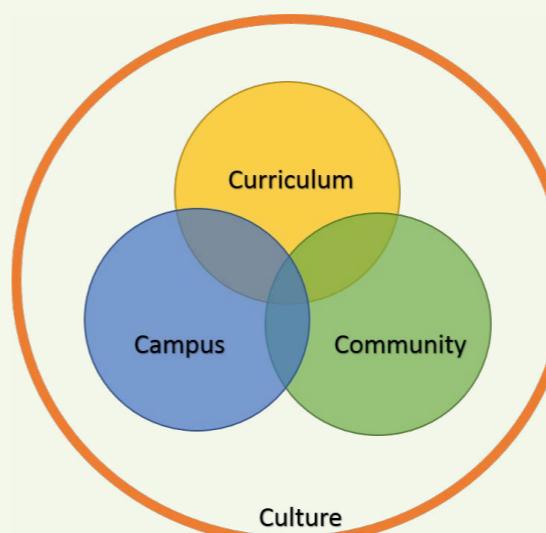


Figure 3. The '4 C' Model (Jones, Selby & Sterling, 2010).

This means that the whole institution is required to engage in education for sustainable development. The Partner Network 2 (PN 2), transforming learning and training environments, of the UNESCO Global Action Programme on ESD advocates as well for the Whole Institution Approach (WIA). PN 2, which includes the university networks ARIUSA and IAU, highlights five dimensions of an institutions where ESD should be implemented: governance/policy/management; curriculum, teaching and

## CONTENIDO

### Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia et al. (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

learning; campus and facilities; community, partnership, outreach and communication; and research, action research. This means, that HESD is not just for students, it includes the whole institution.

Some universities follow this holistic approach already. For example, The University of Bologna produced a recent report mapping all the direct and indirect impact the university has through its missions on the SDGs (University of Bologna, 2016). Yet, as the IAU Survey from 2016 shows, there is still potential to do more, as only 45 % of surveyed universities adopted a WIA.

On the other hand, previous work done during the UN-DESD is showing its impact and students are starting initiatives to change their universities and make them more sustainable. For example, rootAbility in Germany started the *Green Office Movement*, where students lobby for a green university. In the UK, the National Union of Students (NUS) launched the *Green Impact model* with a similar approach. Both examples are trying to make the university more sustainable with the students as the main agents.

In other countries, there are initiatives encouraging staff and students to increase their social responsibility, organized by students or the university. For example, *Clima de Cambios* at PUCP in Peru, a recycling and climate awareness program, or *Tuft's Eco Ambassadors* in the USA, where students teach fellow students about sustainable lifestyles. This shows, that HESD can not only be done as a top-down approach, by teachers or leaders, but also as a bottom-up approach, where students educate the community around them.

### Research for Sustainable Development

Research conducted at universities is arguably the most obvious activity of support of higher education when it comes to the SDGs. Five targets of the Goals explicitly mention the need for more research to achieve this goal: SDG 2, Zero Hunger, advocates for more research in the agricultural sector. SDG 3, Good Health and Well-Being requests more research focused on vaccines and medicines. SDG 7, Clean and Affordable Energy, highlights the need for more clean energy research and technology. SDG 14, Life below water, calls for more research to increase ocean health and marine biodiversity. Additionally, SDG 9, Industry, Innovation and Infrastructure, gives an entire target almost exclusively to research and the research community:

## CONTENIDO

Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia et al. (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending (UN, 2015, SDG 9.5).

SDG 9.5 shows well the importance that the Agenda 2030 gives to research. Nevertheless, while this goal calls for capacity building of industrial sectors in developing countries, it does not mention capacity building for higher education systems. Therefore, the question remains where is research expected to come from, when higher education systems are not strengthened (Heleta & Tohiera, 2017).

HEIs are conducting research related to the SDGs almost everywhere and in often more inclusive ways than suggested by Agenda 2030. In fact, some universities and countries have aligned their research strategy towards the SDGs. In Australia, the University of Technology Sydney maps all of its research according to the SDGs. Other universities started new research project, specifically addressing the SDGs. The University of Ghana for example that recently launched the *Economic Inclusion and Poverty Eradication Project*.

While those are recent changes directly related to Agenda 2030, other research in support of the SDGs might be less conscious or has been established a long time ago. For example, the University of Costa Rica established in 1994 the Centre for Research on Sustainable Development (CIEDES), which has been researching about sustainable development long time before the SDGs were adopted. It is a multidisciplinary research center that studies the interactions of society with the environment.

Another example are *Living Labs* that some universities are turning into in order to support the sustainable development. Living Labs at the university means, that the research conducted in the laboratory is testing real-live sustainability solutions on campus. This can include recycling solutions, transportation systems or water governance. The University of Malaya in Malaysia uses this approach.

Other universities have so-called *Green Labs*. Here, the research itself might not focus specifically on a topic related to sustainable development, but the way research conducted does. For example, the products used are recyclable wherever possible and energy usage is monitored. In *Green Labs*, the underlying principle of how research is conducted is sustainable. Hence, there are multiple ways on how research at the university is supporting Agenda 2030.

## CONTENIDO

### Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia et al. (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

## Translating Sustainable Development from Global to Local & Local to Global

The third mission of universities is described as the commitment universities have towards the communities around them (e.g. Owens, 2017). This does not only relate to the community immediately surrounding the HEI, but also entails a global spectrum. With the changing higher education landscape and increased cooperation at global level, this is more important than ever. As Jaana Puukka writes: 'Universities and other higher education institutions (HEIs) are faced with increasing expectations to drive local and national socio-economic development and address global challenges' (2017:145).

This means that HEIs have a role as translator and as a reactor to new developments on local and global level. The Global Agenda is addressed to all nations and cultures and cultural diversity is multiple times mentioned and appreciated. Universities, as global actors in a local context, can support the SDGs as translators. They can translate the Global Agenda into local action, and at the same time inform the global community about local needs. This can take many different forms, depending on the context of the HEI and the resources available.

One example for this is Griffith University in Australia. Their program *Pacific EcoAdapt* focuses on the effects of climate change in Vanuatu. While researching how to address climate change from a technical aspect, they pay attention to the social and cultural needs of the island population and how to integrate climate change adaption measurements into their culture. Another example can be found in India, where Assam Don Bosco University has a program about Agroforestry and conservation of Biodiversity and uses this research to educate and feed the local community around it. The Autonomous University of Nuevo León in Mexico hosts a local TV station to educate the people in the area about sustainability called *Mundo Sustentable*. All of those initiatives are important, because they translate and transfer Agenda 2030, indirectly and directly, to a local level, in a way that it is useful and understandable to the community and includes their perspectives. It is sustainable development in action.

In this context, it is important that the cultural dimension of sustainable development is taken into account. The term 'culture' made it into Agenda 2030, as well as higher education, for the first time compared to earlier international development agendas, which has been praised by UNESCO (n.d.). In development aid history, there are many examples of how development aid went wrong because the local culture and knowledge were not taken enough into consideration or how the local community was exploited by the global community (e.g. Brock-Utne, 2003; Sillitoe, 2007). This danger exists also

## CONTENIDO

### Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia et al. (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

for the SDGs to encourage culturally inappropriate, or locally not useful approaches. This can also happen in capacity building projects within higher education.

Savo Heleta and Tohiera Moodien explain in their article *SDGs and higher education – Leaving many behind* (2017) that the way the SDGs are currently phrased is a ‘recipe for brain drain’. They claim that Agenda 2030 should have put more emphasis on strengthening local higher education systems instead of calling for more scholarships for developing countries (SDG 4.b). Also Latin American and Caribbean countries have been described as lagging behind in terms of access to the knowledge society. If this is not changed and taken into account more and supported by the global community better, reaching the SDGs will be difficult in those countries (Lovillo & Hurtado, 2014).

Therefore, universities and HEIs in all countries and regions should act as voices for the local realities at a global forum. They should be advocates for the local needs and ensure that in the next global agenda more support and focus will be given to strengthening higher education systems everywhere. It is also important to show to the global level what is needed in the regions, so that further well meant ‘development aid mistakes’ are avoided. At the same time, policy makers and development agencies should work together with local universities and learn from them what they require. Only with local understandings, joint with global efforts, no one will actually be left behind.

### *Engaging the Science-Policy Interface*

The previous described need to translate local needs to the global level can be extremely difficult, due to cultural differences and understandings. Yet, not only local to global can be difficult. Often, researchers and scientists encounter difficulties when trying to communicate with policy makers in their own countries, and vice versa.

There are many articles and books about the science-policy interface (e.g. Carden, 2009), and also about the importance the science-policy in relation to universities and local knowledge to achieve Agenda 2030 (UNESCO, 2015). According to Fred Carden’s book *Knowledge to Policy*(2009), it can be difficult for researchers to influence policy. It is almost like two different worlds coming together. Often, researchers and scientist are biased towards the other and do not take the other side as serious and important as they should. Some examples can be found in the table 2.

## CONTENIDO

Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia <i>et al.</i> (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

Table 2. Stereotypes of researchers and politicians.

Researchers stereotypes towards politicians	Politicians stereotypes towards researchers
<p>They are ideologically closed and are not open minded</p> <p>They are ridiculously impatient.</p> <p>They make decisions irrationally.</p> <p>They do not have self-criticism.</p> <p>They use the investigation to justify what they have already decided.</p> <p>They refuse to give up control.</p> <p>They are lawyers who do not understand research.</p> <p>They are excessively framed by rules.</p> <p>They are short-sighted.</p> <p>They make decisions according to fashion.</p>	<p>They are ideologically closed and are not open minded</p> <p>They take too much time to do nothing</p> <p>They think that they are always right and that they do not need to justify themselves.</p> <p>They do what they want, not what they should.</p> <p>They always want more money.</p> <p>They ignore the complexities of political decision.</p> <p>They promise a lot.</p> <p>They present recommendations that are practically irrelevant, very limited, and obsolete.</p>

Source: Adapted from (Cross & Henke, 2000).

This can have a great impact on the effectiveness of the Agenda 2030. Wu and Shen (2016) for example found, that research done about ESD during the UN-DESD did not match the strategic perspectives UNESCO had. They found, that most research was biased towards certain aspects of sustainability, although this changed after some time. Research and policy was not sufficiently aligned. To avoid this to happen in Agenda 2030, it is important that researchers and policy-makers communicate with each other.

Besides those difficulties, the authors of the Agenda 2030 noted the importance of the policy-science interface and put it into article 83 of the Agenda:

The high-level political forum will also be informed by the Global Sustainable Development Report, which shall strengthen the science-policy interface and could provide a strong evidence-based instrument to support policymakers in promoting poverty eradication and sustainable development (UN, 2015).

However, the way this article is phrased shows, that there are certain reservations towards the actual effectiveness of the science-policy interface. That is why it is even more important for universities and HEIs, as places where research is often conducted, to strive for a dialogue with policy-makers.

HEIs do not only have the task of finding scientific solutions for the SDGs. They also have the task to monitor the process of the targets and indicators and informing decision-makers on the next steps

## CONTENIDO

Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia <i>et al.</i> (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

that are needed to move forward. At the same time as they collect data, they also translate it into an understandable language, for the local community and global policy-makers. While doing this, they educate the future generation of leaders on how to produce such data, how to read it, and ideally how to act accordingly. Universities and HEIs are a unique bridge between the many stakeholders involved in the achievement of Agenda 2030. Yet, they can only live-up to this role if policy makers involve them and request their support.

## 4. CONCLUSIONS

As shown in this article, higher education and Agenda 2030 have many points of contact and HEIs have an important role to play towards the achievement of the SDGs. The SDGs are not perfect, yet they provide a unique chance to change the world to the better. Higher education, can and should play a key role in it. As Hilligje van't Land, secretary general of IAU writes: 'Higher Education is not an end in itself but a means to an end: the creation of the world we want for today and tomorrow.' (2014).

At the same time as recognizing the important role universities and HEIs play, it is important to see them as holistic institutions. The different areas of a HEI should not be put in silos when it comes to the SDGs. Sustainable development is not only the task of curriculum, or teaching, etc., but should be approached holistically. In the preamble of the Agenda 2030 it says that 'The interlinkages and integrated nature of the Sustainable Development Goals are of crucial importance in ensuring that the purpose of the new Agenda is realized.' Same applies to the work of universities and HEIs.

Each university should use its social responsibility in a way that is appropriate to its local reality, the society in which it is embedded and its mission. Yet, we can learn from each other and create partnerships across cultural or disciplinary divides. IAU, for example, creates a global cluster of universities in support of the SDGs. Each SDG will be led by one HEI. Partnerships, or SDG 17, is led by IAU and connects all the SDGs to work jointly on one common goal: the *Future we want* (UN, 2012).

HEIs around the world should see Agenda 2030 as a call to work towards the same goals. Every institute, no matter how small or how big, can contribute something. Sustainability concerns all disciplines and is part of all university levels. Policy-makers, on the other hand, need to use the diverse functions of universities and HEIs more and see them as connectors between the local and the global. Including universities and higher education into Agenda 2030 is not enough: action needs to follow.

## CONTENIDO

### Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia <i>et al.</i> (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

The Agenda 2030 for Sustainable Development needs to become a sustainable agenda that goes beyond the year 2030. Everybody, university leaders, researchers, students, policy-makers, NGOs, etc. should invest in capacity building and in future generation, and now lay the foundation for *our common future* (Brundtland Report, 1987), also beyond the year 2030. What it needs is a holistic cultural shift, towards a society that is based on sustainable thinking and acting. Sustainability needs to stop being something artificial, it cannot be a label and needs to go further than just the SDGs, otherwise there is the risk of just 'greenwashing' universities and other areas of life. Rather sustainable development should be one of the underlying principles of our societies, including higher education. As Albert Einstein said: 'We cannot solve our problems with the same thinking we used when we created them'.

## CONTENIDO

### Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia et al. (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

## REFERENCES

- AJAI-AJAGBE, P. (2014). The world beyond 2015 - Is higher education ready? *IAU Horizons*, 20(3), 25-26.
- BROCK-UTNE, B. (2003). Formulating Higher Education Policies in Africa: The Pressure from External Forces and the Neoliberal Agenda. *Journal of Higher Education in Africa / Revue de l'enseignement supérieur en Afrique*, 1(1), 24-56.
- Brundtland Report. (1987). *Report of the World Commission on Environment and Development: Our Common Future*.
- CARDEN, F. (2009). *Knowledge to Policy: Making the Most of Development Research*. Sage, IDRC.
- CORTESE, A.D. (2003). The critical role of higher education in creating a sustainable future. *Planning for higher education*, 15-22.
- CROSS, M.; HENKE, R. (2000). *Building bridges. Towards effective means of linking scientific research and public policy: Migrants in European cities*.
- HALL, B. L. (2014). Let's make some Noise!: Higher Education and the Post-2015 Development Agenda. *IAU Horizons*, 20(3), 23-24.
- HELETA, S.; TOHIERA, M. (2017). SDGs and higher education – Leaving many behind. *University World News*. Retrieved 04 09, 2018, from <http://www.universityworldnews.com/article.php?story=20170427064053237>
- IAU. (1993). Kyoto Declaration on Sustainable Development. Kyoto.
- IAU. (2014a). *IAU Iquitos Statement on Higher Education for Sustainable Development*. Iquitos.
- IAU. (2014b). Post 2015 Development Agenda: Where in the World is Higher Education? *IAU Horizons*, 20 (3).
- IAU. (2017). *Higher Education Paving the Way to Sustainable Development: A Global Perspective*. Paris: IAU. Retrieved 07 10, 2018, from <http://iau-hesd.net/sites/default/files/documents/higher-education-paving-the-way-to-sd-iau-2017.pdf>
- JONES, P.; SELBY, D.; STERLING, S. (2010). Introduction. In P. Jones, D. Selby, & S. Sterling, *Sustainability Education: Perspectives and Practice across Higher Education* (pp. 1-17). Oxon & New York: Earthscan.
- LOVILLO, R.A.; HURTADO, S.B. (2014). The Role of Higher Education in the Latin American and Caribbean Development Agenda. *IAU Horizons*, 20(3), 37-39.
- LOZANO, R.; LUKMAN, R.; LOZANO, F.J.; HUISINGH, D.; LAMBRECHTS, W. (2013). Declarations for sustainability in higher education: becoming better leaders, through addressing the university system. *Journal of Cleaner Production*, 48, 10-19.
- MCCOWAN, T. (2016). Universities and the post-2015 development agenda: an analytical framework. *Higher Education*, 72, 505-523.
- OWENS, T.L. (2017). Higher education in the sustainable development goals framework. *European Journal of Education*, pp. 414-420.
- PUUKKA, J. (2017). Local and Global Engagement: Balancing Needs at Global, National and Local Level. In GUNI, *Towards a Socially Responsible University: Balancing the Global with the Local* (pp. 145-164). Barcelona.
- SDSN Australia/Pacific. (2017). *Getting started with the SDGs in universities: A guide for universities, higher education institutions, and the academic sector. Australia, New Zealand and Pacific Edition*. Melbourne.
- SILLITOE, P. (2007). *Local Science vs. Global Science: Approaches to Indigenous Knowledge in International Development*. New York, Oxford: Berghan Books.
- UN. (2012). The Future We Want - Outcome document. Rio.
- UN. (2015). A/RES/70/1 Transforming our world : the 2030 Agenda for Sustainable Development. New York.
- UNESCO; ESD Secretariat. (2014). The future of Education for Sustainable Development and the role of higher education institutions. *IAU Horizons*, 20(3), 21-22.
- UNESCO. (2015). *UNESCO Science Report: Towards 2030*. Paris: UNESCO.
- UNESCO. (n.d.). *Sustainable Development Goals for Culture on the 2030 Agenda*. Retrieved 07 10, 2018, from <https://en.unesco.org/sdgs/clt?language=fr>

## CONTENIDO

### Tabela de conteúdo • Table of contents

Créditos	1
Colaboradores	3
Editorial	4
<b>ARTÍCULOS DE TEMA CENTRAL</b>	
1 Ambientalização curricular em instituições de ensino superior	10
<b>ARTÍCULOS DE SECCIÓN ABIERTA</b>	
2 Los residuos sólidos urbanos en un municipio del Estado de Morelos, México: análisis de factores que influyen en su manejo	28
3 Determinación del índice de transición que influye en la definición de la época seca y húmeda en la zona de la ciudad del conocimiento Yachay, Urcuquí, Imbabura, Ecuador	52
4 Impactos ambientales por extracción del litio en salmuera en la Puna Argentina: un llamado a la investigación	68
<b>DOSSIER</b>	
5 Programas institucionais de educação ambiental como base para a formação cidadã numa região amazônica	85
6 Transforming our world: higher education and the agenda 2030	105
<b>RESEÑAS</b>	
7 Hidalgo, Carelia <i>et al.</i> (2017). Ambiente y Universidades Sostenibles. Resultados de indicadores de sostenibilidad en las universidades venezolanas. Barquisimeto: Red Venezolana de Universidades por el Ambiente	122

University of Bologna. (2016). *Report on U.N. Sustainable Development Goals*. Bologna: Alma Mater Studiorum - Università di Bologna.

van't Land, H. (2014). Where in the World is Higher Education in the Post-2015 Development Agenda. *IAU Horizons*, 20(3), 19.

WOLLAERT, P. (2018). An introduction to a universal, integrated and transformative vision for a better world – the SDGs framework. *8th UNICA GREEN Workshop: Implementation of SDGs in*

*Higher Education*. Brussels. Retrieved 07 05, 2018, from [http://www.unica-network.eu/sites/default/files/20180321\\_unica-green\\_cifalflanders.pdf](http://www.unica-network.eu/sites/default/files/20180321_unica-green_cifalflanders.pdf)

WU, Y.-C.J.; SHEN, J.-P. (2016). Higher education for sustainable development: a systematic review. *International Journal of Sustainability in Higher Education*, 17(5), 633-651.