

# University students' perceptions on energy sustainability: A focus on Sam Houston State University

## Introduction

- Humans face a problem that is growing in urgency every day – **energy dependency** (Tercek, 2017).
- With the population of the world expanding every day, we must **develop more sustainable practices** (Stephens, Hernandez, Roman, Graham, & Scholz, 2008).
- In 2015, electrical generation in the U.S. was 4 trillion Kilowatt-hours (Kwh), out of which, 33% was generated from coal, 33% from natural gas, 20% from nuclear, 6% from hydropower, 1% was generated from oil, and **7% was generated from renewable sources such as solar, wind, and biomass** (EIA, 2016).

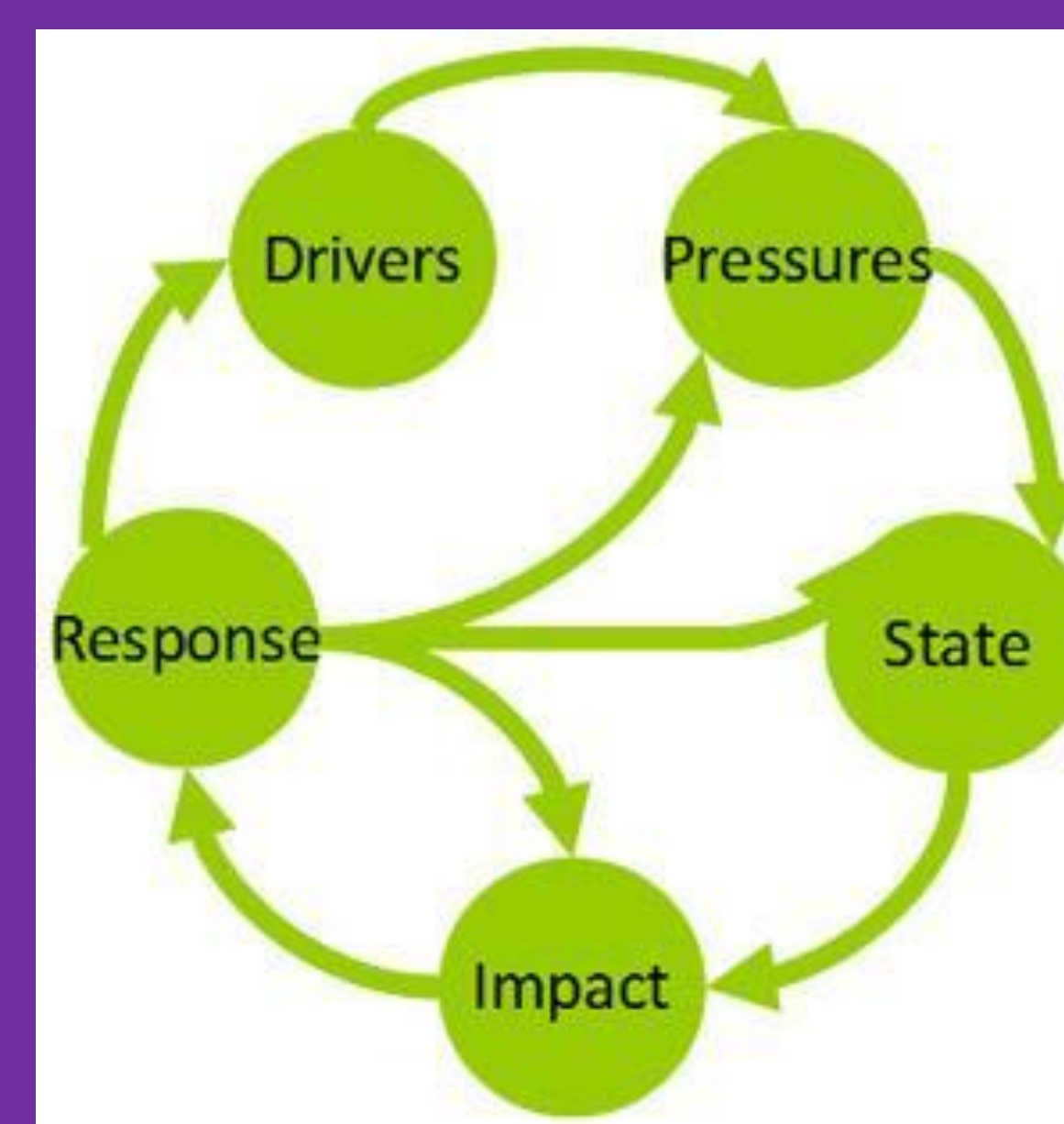
## Conceptual Framework

- **Drivers, Pressure, State of Environment, Impacts, and Responses (DPSIR)** framework was used.
- **DPSIR** is a tool used by decision makers in various **environmental aspects** to **track environmental indicators** and to focus on **identifying environmental problems** that could create policies on **environmental sustainability** (UNEP, 2006).

## Methods

- **Population** - SHSU students in the fall of 2017 ( $N = 20,898$ )
- **Random sample** ( $n = 378$ ; Krecjic & Morgan, 1970)
- Utilized a electronic, **web-based survey** through Qualtrics
- **Panel of experts** ( $n = 5$ )
- **Pilot Test** ( $n = 15$ ) resulted in a Cronbachs alpha coefficient of **.853** for the sustainability scale
- Utilized **5 points of contact** (Dillman, Smyth, and Christian, 2009) for data collection
- **Response rate of 87.57%** ( $n = 331$ )
- **Non-response error was not an issue** with a response rate over 85% (Lindner, Murphy, & Briers, 2001)
- Data was analyzed using **IBM SPSS Statistics 22**

SHSU student perceptions of sustainability		
Topic	M	SD
Being sustainable	1.99	0.90
Energy efficiency	2.01	0.89
Use of renewable energy sources	2.20	0.98
Sustainable procurement	2.35	0.94
Use of operating best practices	2.13	0.96
Development of sustainable infrastructure	2.08	0.93
Development of sustainable growth best practices	2.12	0.95
Education of the public on sustainable energy practices	2.01	0.93



**Brandon McDow, B.S.**  
**P. Ryan Saucier, Ph.D.**  
**Richard K. Ford, Ed.D.**

## Results

- On average, students were **21 years of age** ( $M = 20.62$ ;  $SD = 2.99$ ), with the majority of respondents being **female** (58.0%;  $n = 192$ ), single (94.9%;  $n = 314$ ), of **white ethnicity** (81.6%;  $n = 270$ ), and having **no children** (95.5%;  $n = 316$ ). Most students were also from a **rural area** (37.5%;  $n = 124$ ), were classified as **sophomores** (32.3%;  $n = 107$ ), had a GPA that ranged from **3.3 to 4.0** (42.9%;  $n = 142$ ), and lived in a **house or mobile home** (36.6%;  $n = 121$ ) that was **in Huntsville, TX** (47.4%;  $n = 157$ ).

## Conclusions, Implications, & Recommendations

- Respondents in this study were primarily **single, white, females, from a rural setting** and classified as **collegiate sophomores** at a larger regional university.
- Students' recognition of topics related to sustainable energy usage and procurement as merely **Somewhat Important** implies a greater need for basic education in energy conservation and possibly sustainability.
- This study reinforces the need for an improved mind-set toward **energy procurement and conservation amongst university students** today.
- It is recommended that universities consider teaching best practices in the **core curriculum** concerning **energy production and conservation** to students of all levels, and in all majors.

## References

- References available upon request



**Sam Houston State University**