THE STATE DEFENSE FORM THROUGH CULTURAL EDUCATION ON ENERGY SAVING

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Abstract – A strong country is a nation that has a united citizen in defending, fighting and protecting the country from all kinds of threats that occur, both military and non-military through awareness of defending the state for the integrity of the territory of Republic of Indonesia (NKRI). The concept of defending the state can be realized through energy-efficient culture education for the sustainability of Indonesia's energy in the future.

This article is intended to apply energy efficient and rational culture through the application of basic energy-saving values which include: (1) development of green education curriculum through energy conservation materials (efficient, wise and energy savvy); (2) developing the concept of energy-saving lifestyle habits in two directions (learning from student to student so that active student participation) such as turning off energy source equipment (tap water, lamp, AC) when they are not used continuously with assistance from educator which will become a positive habit that is embedded from childhood to use energy efficiently and rationally. The energy-saving culture education is not only a normative appeal, but there must be clear regulation on energy saving through cooperation between Ministry of Research and Technology and Ministry of Energy and Mineral Resources and Ministry of Defense. Therefore, the development culture of energy application continuously can be created with commitment from all academic society of education state defenses.

Keywords: defending the state, energy conservation, education

Introduction

Energy is a major source of necessity in the current era of globalization. Increased energy demand that is not balanced with energy production might causes vulnerability to national energy security conditions.

The Indonesia's energy demand is still dominated by fossil energy, especially petroleum in energy mix in Indonesia. The use of the largest energy sector in 2012 was industrial sector (34.8%) followed by household sector (30.7%), transportation (28.8%), commercial (3.3%), and others (2.4 %).[1] When observed from the perspective of energy users, the household sector spends 30.7% of the total energy available. Their position ranks second after the industry (34.8%). The household electricity consumption generally reache its peak at 17.00-22.00. This is because family members have returned home from outside activities. Lighting appliances, televisions, air conditioners (AC) and

[1] BPPT, *Indonesia Energy Outlook 2014, Pusat Teknologi Sumber Daya Energi,* (Jakarta: Badan Pengkajian dan Penerapan Teknologi, 2014), p. 11.

refrigerators, use large amounts of electricity. In addition, the appliance use behaviour also affects the large-consumption of household energy, especially inefficient use for lighting equipment and television.

Meanwhile, the development of New and Renewable Energy (EBT) such as micro-hydro, biogas, geothermal, solar cells, biofuel (biodiesel, bioethanol from crop energy sources) that potentially replace the use of fossil energy, is not yet optimal, integrated and sustainable in management and production for domestic needs. It has not reached the energy mix target (Figure 1) in 2030 where EBT usage reaches 25% and in 2050 EBT reaches 31%[2].

These problems can be overcome with the implementation of state defense programs. State Defense is not only identified with arms (military), but also through non-military approach in accordance with the profession and the field of operation.

State Defense education is part of character building in the form of character development education, which serves as an effort toward a dignified and modern civil society. State Defense education will encourage every individual, especially the younger generation to fight with the attitude and real action by increasing their competence so as to maintain the the State defense[3].

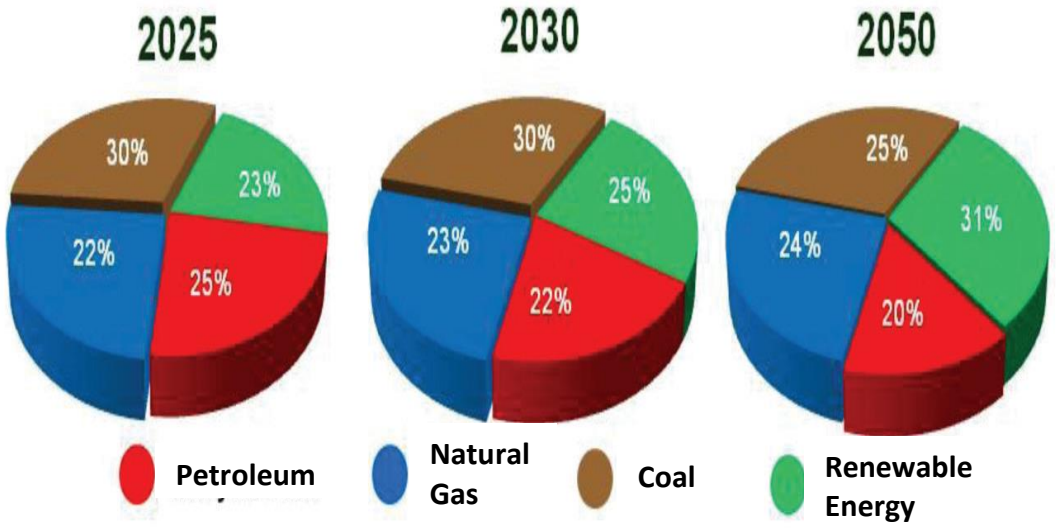

Figure 1. Energy Mix in National Energy Policy
Source: National Board of Energy (DEN), *Indonesia Energy Sustainability. (*Jakarta*:* Sekjen DEN, 2015), p.9

[2] National Board of Energy (DEN), *Indonesia Energy Sustainability. (*Jakarta*:* DEN General Secretary, 2015), p. 9

[3] Anshoriy, Nasruddin, Dkk, *Pendidikan Berwawasan Kebangsaan*, (Yogyakarta: LkiS, 2008), p. 197

One form of State Defense is implemented in energy-efficient cultural education. Energy-efficient cultural education should be incorporated into the Indonesian character education curriculum. Energy-saving education as a form of state defense does not become its own subject, but it is integrated into many relevant subjects and extracurricular activities. Integration of compulsory subjects such as Citizenship, Religious Education, Bahasa Indonesia, Physical Education of Sport and Health, Cultural Arts and Workshops. In extracurricular activities, such as the Environmental group activities, Earth Hour, Earth Sisters, Scouts, Paskibra, Youth Red Cross (PMR).

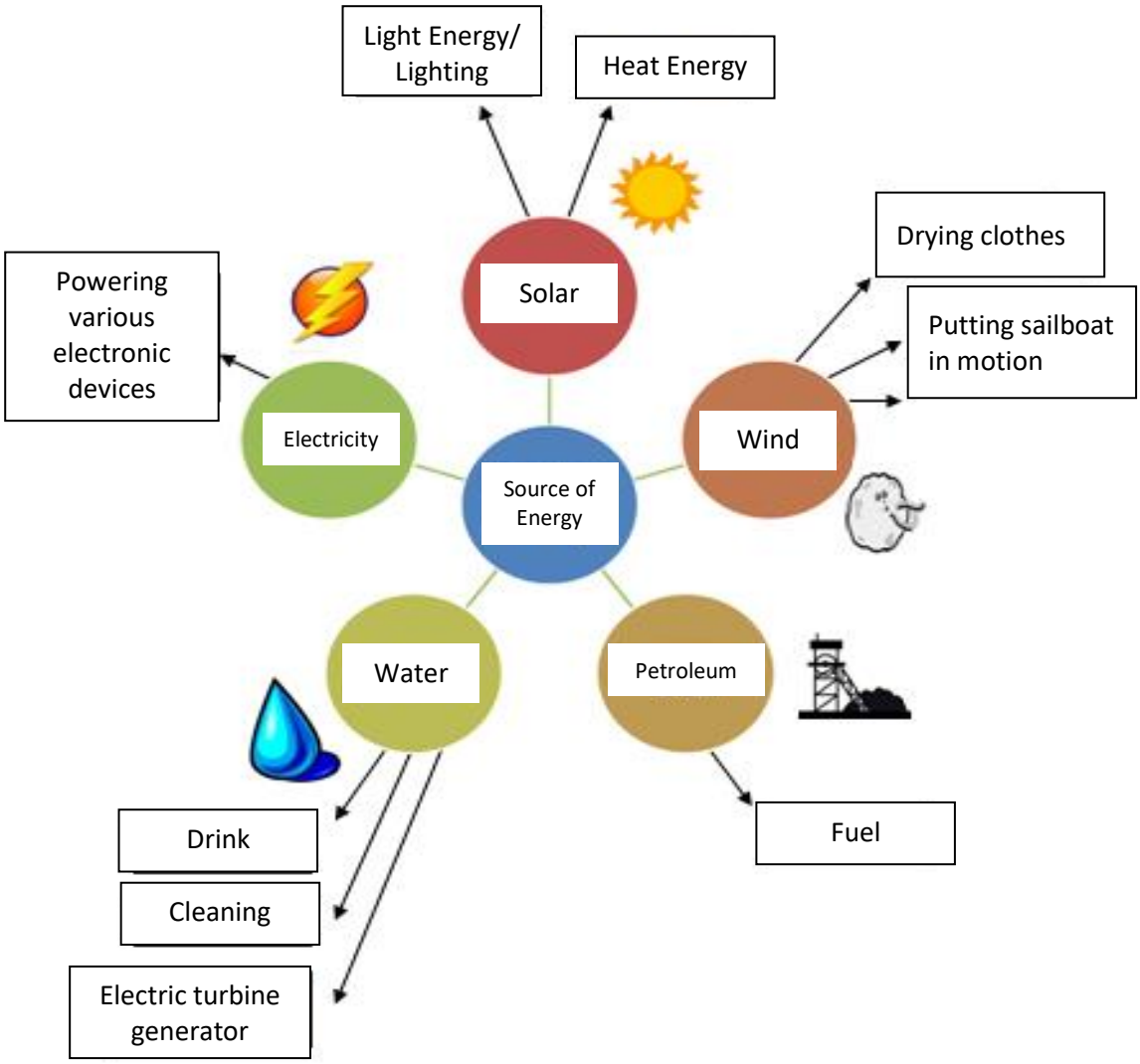

Figure 2. Utilization of Energy Source
Source: Dyah Ekarini, Guide for Practical Energy Saving Lifestyle, (Jakarta: Ministry of ESDM, 2015), p. 3

Government policies and programs on energy conservation are aimed at efficient energy consumption. These efforts are made through energy-saving appliances and energy-saving behavior. Energy-saving education in Indonesia has not been deeply understood by the society. For most people, saving energy is simply aimed at reducing electricity bills, not because an awareness to develop it as a habit. Therefore, there needs to be an integrated activity in the form of energy conservation to control energy consumption in order to achieve efficient and rational energy use (Figure 2) with education of energy-saving cultural values as a form of awareness of state defenses.

Discussion

Energy Conservation

Regulation of the Minister of Energy and Mineral Resources No. 14/2012 on Energy Management stipulates that energy utilization by users of energy sources and energy users must be done efficiently and energy users / energy sources consuming energy greater than or equal to 6,000 equivalents per ton of oil per year must conserve energy through energy management[4].

The goal of energy conservation is to determine the best way to reduce energy use per unit of output (product) and reduce operating costs (production costs). The importance of energy conservation is caused:[5]

a) Lack of consumer awareness of energy efficiency.
b) Complexity of energy user equipment (in industry / commercial).
c) The inspection procedure for energy is more effective and comprehensive.
d) Identification of energy savings can be done carefully
e) Accountability to better energy management
f) Quantification in the load reduction program is more accurate
g) The load reduction / management program is more targeted

Energy conservation activities can be initiated by cultivating the values of educational consciousness of energy-saving cultures that are organized using energy management principles (Figure 3).

[4] RI Ministry of Energy and Minieral Resource, *RI Ministry of Energy and Mineral Resource Regulaition Number 14 of 2012 Regarding Energy Management*, (Jakarta: National Secretariat, 2012), p.3

[5] Bayuaji Kencana, *Sistem Manajemen Energi* (SME), (Jakarta: USAID-Indonesia Clean Energy Development Project, 2013), p. 20.

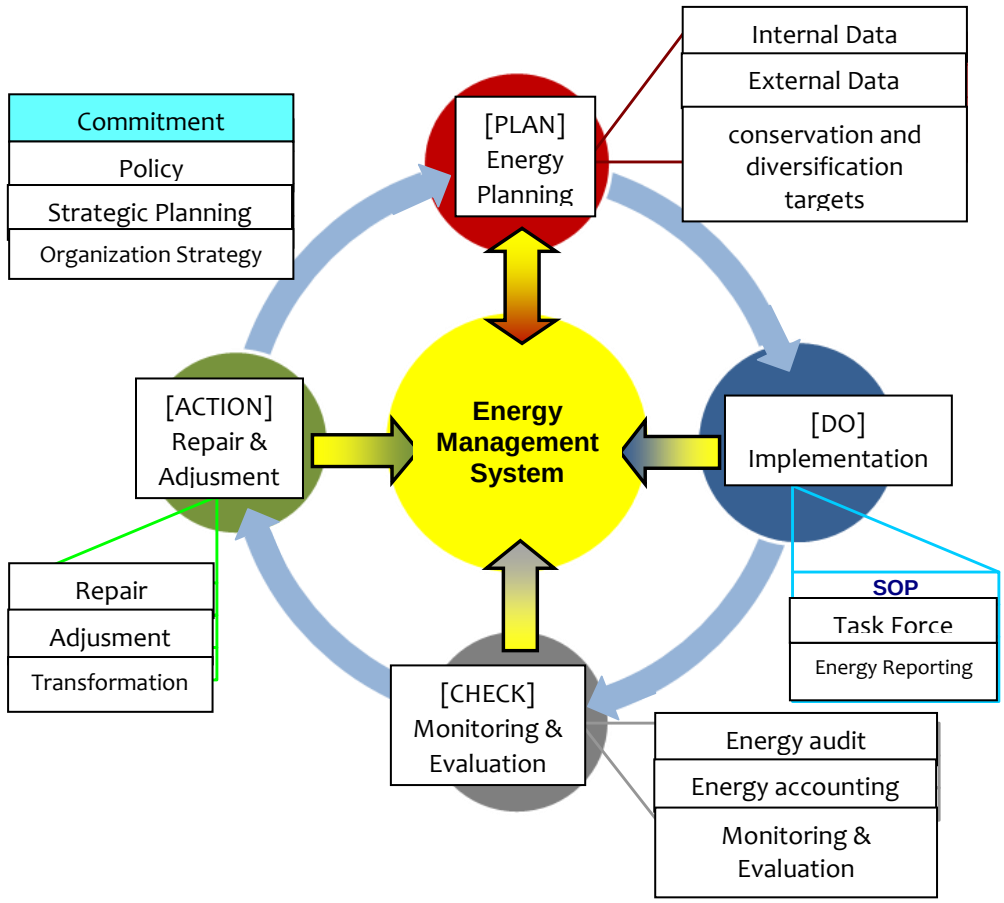

Figure 3. Energy Conservation in Energy Management Systems
Source: PT. Energy Management Indonesia (Persero), Energy Management Introduction. (Jakarta: Ministry of Industry, 2011), p. 7

Stages of Energy Conservation education system as follows:[6]

1. Energy Planning (Plan), covering:
   a. Selection or targeting of energy conservation objectives
   b. Determining strategies for goal plans:
      1) identification of energy use situations
      2) consistency and energy-saving commitment
      3) Funds needed
      4) Equipment required
      5) Organizations required
2. Implementation *(Do)* including:
   a. Program formulation consist of:
      1) Target program to be implemented
      2) The strategy you want to use
      3) Organizational structure and personnel required
   b. Program Implementation consist of:

[6] Marpaung, Parlindungan, *Persiapan Proses Audit Energi*, (Jakarta: Himpunan Ahli Konservasi Energi, 2014), p 12.

1) Increase awareness of educated generation on the importance of energy-saving culture (socialization), through leaflets, posters, stickers and energy-saving cultural competitions
2) Conducting training for educators who will directly participate in the implementation of the program.
3) Conducting a pre-defined program implementation
4) Conducting guidance, supervision and monitoring of trials in cooperation with related institutions (Ministry of Education, Ministry of Energy and Mineral Resources)
5) Prepare equipment and make modifications

3. Monitoring and Evaluation *(Check) Include*:
   a. effective and efficient energy management.
   b. Grow energy-saving culture for all layers of society.
4. Improvement and adjustment (Action) consist of:
   a. Grade priority of monitoring and treatment results.
   b. The focus of energy monitoring and analysis on energy saving opportunities ranges from the largest.

Energy Cultural Education in State Defense

State Defense is an attitude, determination, and the actions of citizens are regular, comprehensive, integrated and continuous based on the love of the homeland, the national awareness of Indonesia, the beliefs and powers of Pancasila as the State ideology[7].

In Indonesia, state defense efforts are strictly regulated in the 1945 Constitution Article 27 paragraph 3 which reads "every citizen shall have the right and obligation to participate in the defense of the state". Thus, every citizen is expected to participate actively in defending the country. Law No. 3 of 2002 on National Defense of the Republic of Indonesia regulates the procedures for the conduct of state defense by the Indonesian National Army (TNI) and by all components of the nation. Efforts to involve all components of the nation in the implementation of Defending the State,

[7] Tim Abdi Guru, *Pendidikan Kewarganegaraan*, (Jakarta: Erlangga, 2006), p. 78.

among others, conducted through the Introduction of State Defense Education[8].

Guidance of Defending the State should be done to strengthen the defense of a country. This is important considering the awareness of defending the state is not innate, but it needs coaching from an early age to adulthood to build and develop the character of Indonesia who love the homeland, willing to sacrifice for the country, believes Pancasila as the state ideology, has awareness of the nation and posess the ability to defend the country both physically and psychologically[9].

Fostering awareness of state defenses can effectively be applied in the educational environment. This guidance is carried out simultaneously, integrated and thorough as well as continues to achieve the expected targets, in the form of psychic goals (intelligent, critical, creative, proactive, disciplined, unyielding and proud as citizens) and physical targets (strong, agile and skilled)[10].

Every individual who possesses the awareness of Defending the State will support systematic, planned, integrated efforts to conserve domestic energy resources and improve the efficiency of its utilization through energy-saving measures that are part of the energy conservation in education[11].

Energy-efficient culture education can be developed through the ministry of cooperation (Ristekdikti, Menhan, ESDM) in inviting government institutions, education and society through awareness of state defense through Green Team action. This action is a behavior change program to be more loving to Indonesia through its efficient role and attitudes in the surrounding environment, in an effort to increase efficiency and conservation in various sectors of final energy users, such as household, commercial, industrial and transportation sectors, sustainably.

The government through the Ministry of Energy and Mineral Resources provides Energy Efficiency and Conservation Clearing House Indonesia (EECCHI) service facility, which is Energy Saving with Changing Behavior (SWITCH), through 6 steps of activities:

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[8] Ryamizard Ryacudu, *Buku Putih Pertahanan Indonesia* (Jakarta: RI Ministry of Defence, 2015), p. 48.

[9] Timbul Siahaan, *Tataran Dasar Bela Negara, (*Jakarta*:* RI Ministry of Defense, 2014), p. 1.

[10] *Ibid.,* p. 2.

[11] Reno Dinda Gita Perdana, *"Implementasi Nilai-Nilai Nasionalisme-Patriotisme dalam Pendidikan Pendahuluan Bela Negara pada UKM Resimen Mahasiswa Satuan 805"*, Wira Cendekia, in http://jurnal-online.um.ac.id/data/artikel, accessed on October 27, 2017.

(1) Obtain support and energy-efficient implementation commitments;
(2) Identify the situation of widely used energy needs;
(3) Energy efficient program planning;
(4) Implementation of energy-efficient program;
(5) Evaluate the results of energy-saving programs as well as the sustainability of energy-saving cultures within organizations[12].

Opportunity to develop the spirit of defending the state in fighting for the sustainability of energy of the future through awareness of saving, wise and intelligent in the application of energy-saving cultural values education for all academic community of education. Both teachers (educators) and their students (educated staff) and application of the concept of application of educational syllabus in the form of superior subjects namely green education in conservation and energy saving.

Teachers in the field of education will be given support and commitment by EECCHI in the form of training materials, workshops, guidebooks and challenges of energy-efficient competition between schools, awarding schools that have academic cultivation who are wise, smart, energy efficient with efficiency energy, so as to apply the method of learning energy-saving cultural values in the school environment.[13]

Educators must have a habit of doing things that are economical in energy use for energy security [14], find out the largest source of energy use from the energy cost identification of energy needs, which is also wasteful, and choose the use of energy-saving labeled appliance in the school environment.

Effective teaching of educators is a teaching that provides examples of consistent action and commitment that sustainable energy is a shared responsibility and will only be achieved if all academicians want the energy sustainability in Indonesia (Suyanto, 2013)[15].

Individuals aged 7-25 have a tendency to behave or act in certain ways with regard to the presence of object

[12] Ditjen EBTKE, "Hemat Energi", *Jurnal Hemat Energi, Ed. 01-April 2014*, p. 7.
[13] *Ibid*., p. 15.
[14] Research and Development Center of Suryadarma University, *Mitra Manajemen,*, (Jakarta: Suryadarma University, 2012), p. 9
[15] Suyanto, dkk, *Menjadi Guru Profesional, Strategi Meningkatkan Kualifikasi dan Kulaitas Guru di Era Global,* (Jakarta: Esensi, 2013), p. 56

attitudes (Konatif) is an appropriate target for the application of energy-saving cultural values.[16]

Teaching since an early age at the school level begins with familiarizing students of Early Childhood Education (PAUD), kindergartens (TK) to do small things that can save energy, such as turning off energy source appliance (water faucette, lights, AC) when not being used continuously with the assistance of educators, so it will become a positive habit that is embedded from childhood.

This activity continues in elementary school, junior high school, high school (SMA / SMK) to college and become a habit (good habit) for the next generation of young people to remind each other and carry out the habit of energy saving through the efficiency of energy use in schools / colleges, in places where energy use is wasteful.

Electricity savings is possible by turning off unused electronic appliances such as lights, computers / laptops, air conditioners, fans. Electricity savings on lamps: (1) attaching the available stickers near the lamp switch; (2) using energy saving lamp (LHE) and reducing the use of light bulb / incandescent. These lamps use 80 percent less energy and are 10 to 10 times more than regular lights. The price is slightly more expensive, still very power efficient; (3) opening the window curtain during the day so that the sunlight can light up the room in the house; (4) cleaning the lamp periodically for maximum illumination; (5) adjust the number of points and power (watts). Using multiple points of light with low power will be more energy efficient and good for eye conditions compared to using 1 point with great power; (6) avoid lighting control at 1 point if the room is very wide[17].

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[16] Ady Ferdian Noor, *"Gerakan Revolusi Mental untuk Meningkatkan Pendidikan Kepribadian Warga Negara", Jurnal PGSD*, March 2016, (Palangkaraya: Universitas Muhammadiyah Palangkaraya, 2016), p. 5.

[17] Dyah Ekarini, *Panduan Praktis Gaya Hidup Hemat Energi,* (Jakarta: Ministry of EaMR, 2015), p. 11.

curtain during the day so that the sunlight can light up to the inside of the house; (4) cleaning the lamp periodically for maximum illumination; (5) adjust the number of points and power (watts). Using multiple points of light with low power will be more energy efficient and good for the eye conditions compared to using 1 point with great power; (6) avoid lighting control at 1 point the room is very wide[18]

Electricity savings on the refrigerator; (1) ensuring the refrigerator door is tightly closed; (2) set the temperature of the refrigerator; (3) fill the refrigerator sufficiently; (4) avoid opening the refrigerator door; (5) inserting food and drink in non-heat conditions; (6) placing the refrigerator away from the heat source area; (7) cleaning the condenser regularly; (8) turn off the refrigerator when not in use[19].

Electricity savings on laptop / computer; (1) turn off the monitor screen when not in use; (2) using low display resolution and brightness; (3) using wallpaper with black color; (4) adjusts monitor power settings automatically in power on / off state; (5) turn off the computer or laptop when not in use[20].

Power savings on washing machine: (1) use washing machine when there are many laundry; (2) use washing machine according to capacity with water as directed; (3) reduce the use of electric dryers [21].

Electricity savings on TV and electronic appliances; (1) choosing the most energy-efficient model; (2) regulate use as required; (3) avoid leaving electronic devices in stand by; (4) to use the timer function as well as possible; (5) using the on / off switch on the socket. Similarly, charging appliances should be removed from its power source when not in use. As well as with water savings, to turn off the water tap when not in use[22].

A form of government appreciation for the implementation of energy-saving cultural values through energy-efficient competition between schools and universities so that schools / colleges are selected to be energy-saving ambassadors and the best role model in energy saving in Indonesia[23].

The Home and School Energy Efficiency Champion (HSEEC) is an

[18] *Ibid.* p. 14.
[19] *Ibid.* p. 18.
[20] *Ibid.* p. 20.
[21] *Ibid.* p. 21.
[22] *Ibid*. p. 23.
[23] Ditjen EBTKE, *op.cit,* p. 16.

example of the energy conservation socialization program implemented by the Ministry of ESDM. The activities are designed in the form of energy efficiency practice competition through changes in energy consumption behavior in households and schools. The competition form was chosen to stimulate the competitiveness of the participants, both at school and college. Various awards, both in the form of government rewards (Figure 4) as well as recognition from fellow participants, complement the activity. HSEEC 2012 activities are followed by 9 schools. School of Santa Laurensia, Madania School, IC Al Muslim High School, SM Al Al Muslim High School, Al Azhar Syifa Budi Senior High School, SDS Model Islamic Village, Global Jaya International School, British International School, Bunda Mulia International School, and 234 household participants from each school. The results of this competition are further examined to review the energy requirements before and after the HSEEC program at each school participating in the HSEEC[24].

The results showed that this program proved to increase the insight of the culture of energy savings increased by an average of 33% and decreased the level of energy consumption [25].

In Indonesia, SMK Al-Muslim Tambun became the pioneer of green education movement (Figure 5). The concept of green education learning is basically recreational, which is now used as a learning material in energy saving.[26]

This implementation received a positive response from the students who routinely formed their own habits of being a caring generation. The school does not want to apply the concept of green education in the same direction which is only from teacher to student but must learn from student to student so that student participation actively realized through two excellent program, which is garbage bank program and energy saving program. Garbage bank program includes waste sorting, garbage deposit to garbage bank, weighing and calculating garbage, to listing garbage. While energy-saving programs include energy-saving habits, such as turning off lights when not in use in the process of learning in the classroom and turn off the fan when done using. The formation of Go Green (energy warrior) army became a form of school appreciation to the students who care and

[24] *Ibid.*
[25] *Ibid.*
[26] *Ibid,* p. 31.

apply the energy-efficient culture of the students. In addition to students, parents are also actively involved in green education programs. The number of worriors are as many as 30 students who are representatives from all classes X to XII every year have regenerated leadership as Go Green Worrior. To maintain consistency and overcome the saturation of the Go Green worrior, the members will strengthen each other and motivate to think about energy sustainability for the beloved country, Indonesia[27].

Go Green Worrior (Figure 6) gets its mandate and duties in hygiene, energy saving, garbage bank, as well as being a go green ambassador in the school environment. In energy saving, Go Green Worriors is in charge of monitoring the classroom, teachers' room, principal room, and other school areas. Go Green Worriors will ensure optimal use of electrical appliances and without waste. If there are still lights or fans on when the room is not in use, Go Green Worrior will turn it off. Go Green Worrior also ensures water are used well and minimizes excessive use. Each afternoon when the lesson ended, the students sorted out the garbage based on the type of waste (organic or non-organic), weighing, and recording the amount of garbage deposited by each class. Most garbage deposit class will be announced as a champion. The waste is sold through cooperation with third parties such as PT Buana Mayestik to be recycled and developed into alternative energy.[28]

The concept of applying the energy culture from individual to other individuals in SMK Al-Muslim Tambun has been effective in shaping awareness, attention and responsibility towards the environment and more energy efficient without losing their sense of comfort in carrying out their activities, training in independence, responsibility, and honesty so as to develop energy-saving culture.

National Multimedia University (UMN) is a university that has a concept of energy-efficient learning, especially on building and managing buildings that are environmentally friendly.[29]

Construction of the building is done in two phases, the first phase uses gas as fuel for power plant, the exhaust gas generator part is used again to move the chiller, and the water is recycled. While in the second phase of building construction using some additional concepts for energy

[27] *Ibid,* p. 32.
[28] *Ibid.,* p. 65.
[29] *Ibid.,* p. 34.

saving. Most of the rooms do not use AC. The New Media Tower building became the green building bench mark in the campus environment. New Media Tower occupies an area of approximately 80,000 square meters and is completed in November 2012. The building is one of 3 buildings in the UMN campus area. The building has 1 basement and 11 floors, and 4 floors of utility building[30].

In order to apply energy efficiency, the mass orientation of the New Media Tower building is strived to pay attention to the direction of sunlight on the building. That way, light and direct sunlight on the mass of the building can be reduced. The outer layer of the building serves to reduce the heat of the sun coming into the building, so the energy consumption for air conditioning can be reduced, and sunlight can enter to illuminate the room inside the building, so that the electricity consumption for the lamp can be reduced. The building is equipped with absorption wells so that the rain that falls into the building is flowed into the well.

The New Media Tower building has 32 infiltration wells. Rain water that fell into the garden, is directly absorbed into the soil. One of the advantages of building has recycled waste water for reuse as water for flushing toilets, watering plants, and make-up cooling towers. While on the outside of the building it is decorated with plants that serve as a source of oxygen (O2). In addition, existing plants also serve to reduce the temperature of air into the building. There is also a garden surrounding the building from 1-3 floors are laid out like a hill that serves as a green open space.[31]

The design of air conditioning system of New Media Building UMN, using Chiller Mc Quay with capacity 260TR for 2 units for all floor.

Cooling Tower with capacity 600TR. FCU (Fan Coil Unit) with capacity of 30,000 - 50,000 Btu / h of 120 units. Chiller used for air cooling, using Refrigerant 134a (R134a). The room temperature is set at the thermostat with a temperature of 24 ° C, with a relative humidity (RH) of 60%. For some rooms such as control room and workspace, use a Split AC with inverter to save electricity. Pumps for cooling towers and chillers, designed using VSD (Variable Speed Driver) to reduce power consumption.[32]

The concept of energy saving through Green building has many benefits.

[30] *Ibid,* p. 35.

[31] *Ibid.*

[32] *Ibid.,* p. 36.

Both in terms of economics, more efficient because it doesn't have to spend hundreds of millions every month for the payment of gas and electricity. Therefore, it is time for college buildings in Indonesia to rely more on passive design that utilizes natural phenomena to cool buildings while utilizing ventilation and natural light.

The Ministry of ESDM has also issued a book on the Lifestyle of Energy: "cut 10%", which evolved in three stages over the period 2015 to 2019, which will involve, connect and mobilize communities, civil organizations, corporations and governments altogether moving toward energy sovereignty.

The "Cut 10%" program is conducted by all parties with the same vision, challenges, opportunities and efforts by organizing behavioral changes at home, offices and industry on a regular basis to inspire and engage the wider public as best practices in the movement changes in our environment, as well as supporting and promoting similar initiatives, both large and small, that helped create more sustainable energy saving programs.[33] Nationally, a 10 percent saving program is easier to do than build a 10 percent energy source because we need to build an equivalent of 10,000 MW and need around Rp. 450 trillion. Options that are now possible are to make efficiencies and turn off unused electronic appliances, especially lighting and air conditioning. Including, using efficient electronic appliances and energy saving labeled/certified.[34]

Effective steps in the development of the "cut 10%" program, among others: (1) Increasing awareness of energy-efficient culture with mass media campaigns and accelerating conversations in social media. Outreach to an energy conservation community involving the Ministry of Energy and Mineral Resources, energy experts, academics, organizational practitioners, community leaders, and inspirational corporate representatives; (2) Multi-stakeholder engagement. The existence of regulations involving the local government of the village, sub-district, city/district to provincial and national by issuing support through the Governor's Regulation, Regional Regulation, as well as public statements on mass media networks and public activities. In addition, it also involves the competitiveness of individuals, communities, organizations, corporations, industries and governments

[33] Dyah Ekarini, *op.cit*, p. 4.
[34] *Ibid*., p. 5.

to be able to share information and experiences related to effective energy-saving practices; (3) Through incentives and regulations, labeling, energy managers, and audits, including rewarding individuals, community groups and local governments who have successfully practiced the energy-saving policies and behaviors expected from the "Cut 10%" campaign; (4) Inviting, persuading, encouraging and empowering all members of societies to participate and make the right choices to change behavior both themselves and their environment, the "Cut 10%" campaign must also be lifely, without any SARA elements, scaring, inflict dilema , or embarrass the other party[35].

Conclusion

The awareness of state defense through the application of energy-saving cultural values includes: (a) application of education syllabus in the form of green education subjects in conservation and energy saving in educational institutions; (b) the development of the energy-efficient living habits concept in two directions (learning from student to student so that the students are the active participant) such as turning off energy source appliances (tap water, lights, air conditioning) when not in use done continuously with the assistance of educators, so it will become a positive habit that is embedded from childhood to use energy efficiently and rationaly; (c) The Government through the Ministry of Energy and Mineral Resources has developed the Energy Saving with Changing Behavior (SWITCH) program and an effective step-by-step guide to the development of a "cut 10%" program in the application of an energy-saving culture.

Suggestions

Things to note: (a) Require the establishment of a curriculum regulated by the Ministry Of Research And Technology Directorate Of Higher Education; (b) The energy conservation program will not work if there is no seriousness of the government. This program is not just a normative appeal, but there must be a clear regulation on energy saving through cooperation between Ministry of Research and Technology of R & D, Ministry of ESDM and Ministry of Defense so that the development of culture of sustainable

[35] *Ibid.*

energy application can be created with commitment from all academic community of education as a form of Defending the State.

Referrences

Books

Anshoriy, Nasruddin, etc. 2008. Pendidikan Berwawasan Kebangsaaan. Yogyakarta: LKS

BPPT. 2014. *Indonesia Energy Outlook 2014. Pusat Teknologi Sumber Daya Energi.* Jakarta: Badan Pengkajian dan Penerapan Teknologi.

Dewan Energi Nasional (DEN). 2015. *Ketahanan Energi Indonesia*. Jakarta: Secretary General of DEN

Ekarini, Dyah. 2015. *Panduan Praktis Gaya Hidup Hemat Energi*. Jakarta: Ministry of ESDM

Kencana, Bayuaji. 2013. *Sistem Manajemen Energi (SME)*. Jakarta: USAID - Indonesia Clean Energy Development Project

Ryacudu, Ryamizard. 2015. *Buku Putih Pertahanan Indonesia*. Jakarta: RI Ministry of Defense.

Marpaung, Parlindungan. 2014. *Persiapan Proses Audit Energi*. Association of Energy Conservation Experts.

PT. Energy Management Indonesia (Persero). 2011. *Pengantar Manajemen Energi*. Jakarta: Ministry of Industry.

Siahaan, Timbul. 2014. *Tataran Dasar Bela Negara.* Jakarta*:* RI Ministry of Defense

Suyanto, etc. 2013. Menjadi Guru Profesional, Strategi Meningkatkan Kualifikasi dan Kualitas Guru di Era Global. Jakarta: Esensi.

Tim Abdi Guru. 2006. Pendidikan Kewarganegaraan. Jakarta: Erlangga.

Journals

Directorate General EBTKE. 2014. *Hemat Energi Ed. April 1, 2014*. Jakarta: Ministry of ESDM.

Noor, Ady Ferdian. Gerakan Revolusi Mental untuk Meningkatkan Pendidikan Kepribadian Warga Negara, *Jurnal PGSD*, March 2016. Palangkaraya: Muhammadiyah University Palangkaraya

Center for Research and Development of Suryadarma University. 2012. *Mitra Manajemen*. Jakarta: Suryadarma University

Law

RI Minister of Energy and Mineral Resources. 2012. *Ministerial Regulation and Mineral Resources No. 14/2012 on Energy Management*. Jakarta: National Secretariat

Website

Perdana, Reno Dinda Gita. *"Implementasi Nilai-Nilai Nasionalisme-Patriotisme dalam Pendidikan Pendahuluan Bela Negara pada UKM Resimen Mahasiswa Satuan 805 "WIRA CENDEKIA"* di Universitas Negeri Malang. Online Journal Malang National University, http://jurnal-online.um.ac.id/data/artikel, Accessed on October 27, 201